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CABLE & WIRE CATALOGUE

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Walton Cables
Cables & Wire Catalogue

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ABOUT US

Walton Cables is the house of Innovation and masterminding. It is a brand of Walton Hi-Tech Industries PLC, the leading electrical & electronic product manufacturer of south east asia. This enormous manufacturing facility is located just beside the capital city Dhaka at Chandra, Gazipur, where the cables production facility spreads over 3,00,000 base sq. feet.

Walton Cables is a combination of cutting-edge technologies with state of the art machineries. We have the industry's foremost integral Cables R&D department to fabricate tailor-made products in accordance with the actual demand of consumer. Besides we have the only facility in the industry to have accomplished Chemical & Metallurgical laboratories. We have sharply set our standard of sourcing all the metals from LME registered brands and other raw materials from globally acclaimed manufacturers. This combination of latest technology machining instrumentation, testing facilities and finest quality raw materials ensure top notch product quality and reliability.

The fundamentality of our business is to ensure the adequacy of product in the market with easy accessibility of diversified product line to the mass. With our high production capacity and a very strong sales & distribution network, we can considerably minimize the risk for our clients in terms of timely delivery of best quality products with a highly committed approach. Walton Cables always endeavours to fully satisfy its customers by providing them with high quality products, efficient delivery and prompt customer services.

VISION

To be the best cable manufacturing company in south east Asia, with our focus, providence, proficiency & prudence and to be the reflection of consumer's trust.

MISSION

Ensuring world-class standard quality through innovation, providing customer-centric, outstanding & leadership roles to our workforce. To add value to our customers by providing superior quality and safe cable products following international standards through state-of-the-art technology.

LET'S PUT IT TO THE TEST

A fundamental part of our cable manufacturing business is to ensure quality is present across every process. This is accomplished by strict monitoring of production processes, from the procurement of raw materials to the delivery of the completed product. It includes making sure our products live up to all relevant standards and regulations as well as the specific requirement stated by our customers and that includes rigorous and tests.

To ensure all cables will have a long service life we make geometrical tests. We perform electrical tests to secure that the cables will endure and continue to deliver power. We, for example, check the resistance in different temperatures, water absorption and long-term endurance. And to confirm the cables can withstand harsh conditions, we make mechanical tests such as tensile strength, elongation, pressure and cold bend.

We are committed to deliver quality products at all times.

SAFE & SECURED CABLES

Society and its inhabitants demand infinite amounts of electricity and that means lots of cables. Even though they might look very alike on the outside, cables can vary tremendously in terms of quality and safety. To make sure our cables live up to all relevant standards we also have a fire laboratory at our plant. In these facilities we make extensive tests to ensure that our cables are safe to use.

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ONE STORE FOR ALL YOUR CABLE NEEDS

No worries. Regardless of what cables you're looking for, we have them for sure. A full market Offer ranging from construction, House wiring cable, power, telecom, Data & Overhead Conductors. And if not, we'll invent them. Plus, we provide you with all the services you might need – before, during and after.

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SYMBOLS OF INTERNATIONAL ORGANIZATIONS

Institute	Country(ies) Represented	Symbol
BSTI (Bangladesh Standard & Testing Institution)	Bangladesh	
BDS (Bangladesh Standard)	Bangladesh	
BS (British Standard)	United Kingdom	
BSI (British Standards Institution)	United Kingdom	
ASTM (American Society of Testing and Materials)	United States	
NEMA (National Electrical Manufacturers Association)	United States	
ANSI (American National Standards Institute)	United States America	
GB (Guojia Blaozhun)	Chinese Standards	
ICEA (Insulated Cable Engineers Association)	United States	
IEE (Institute of Electrical Engineers, UK)	United States	
IEEE (Institute of Electrical and Electronics Engineers, USA)	United States America	
JIS (Japanese Industrial Standards)	Japan	
JJEC (Japanese Electrotechnical Committee)	Japan	
SA (Standards Australia)	Australia	
BV (Bureau Veritas, France)	France	
CSA (Canadian Standards Association)	Canada	
CEBEC (Comite Electrotechnique Belge Service de la Marque)	Belgium	
DEMKO (Danmarks Electriske Materailkontrol)	Denmark	
SETI (Electrical Inspectorate Sakiniementie)	Finland	
CENELEC (European Committee for Electrotechnical Standards)	See Note 1.	
IEC (International Electrotechnical Commission)	More than 60 around the world	
ISO (International Standards Organization)	More than 60 around the world	
IMQ (Istituto Italiano del Marchio di Qualità)	Italy	
KEMA, KEUR (NV tot Keuring van Elektrotechnische Materialen)	Netherlands	
NEMKO (Norges Electriske Materallknotroll)	Norway	
SEMKO (Svenska Electriska Materielkontrollanstalten)	Sweden	
SEV (Schweizerischen Electrotechnischen Verein)	Switzerland	
UL (Underwriters Laboratories)	USA	
UTE (Union Technique de L'Électricité)	France	
VDE (Verband Deutscher Elektrotechnischer)	Germany	
RoHS	European Union	

WALTON
Cables

TABLE OF CONTENTS

WALTON Cables

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

Taking precautions is as important as putting out the fire.

Chapter 1: LFFR House Wiring Cable

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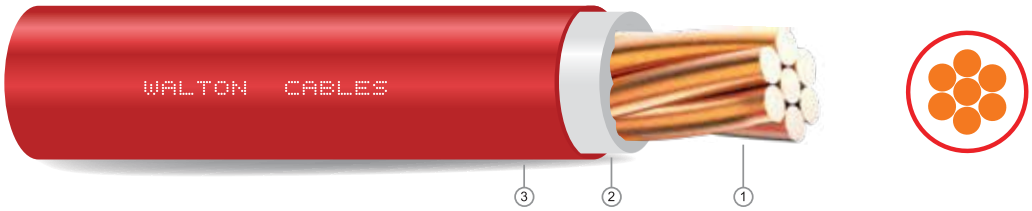
STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900,BS 6004 BS EN 50525, IEC 60227-3 IEC 60228, GB/T5023.3	IEC 60228, CLASS-1, 2 V.G: 300/500V & 450/750V	BYA-LFFR/BYA-FRLS/BAYA-LFFR BAYA-FRLS/ZR-BV/ZR-BLV LFFR-PVC or FRLS-PVC INSULATED SKIN COATED HOUSE WIRING CABLES



① Solid/Stranded copper or Al Conductor (Class-1 or 2)

② PVC LFFR/FRLS PVC Insulation

③ PVC LFFR/FRLS PVC Skin Coated

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Harmonic Code	Nom. Thickness of Insulation	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in conduit at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amp	Amp	Amp	Amp
1 x 0.75 re	1/0.98	H05V-U	0.6	2.1	2.5	12.7	-	24.5	-	10	-	10	-
1 x 1.0 re	1/1.13	H05V-U	0.7	2.5	3.0	15.6	-	18.1	-	13	-	13	-
1 x 1.0 rm	3/0.65	H05V-R	0.7	2.5	3.0	16.5	-	18.1	-	13	-	13	-
1 x 1.3 rm	3/0.74	H07V-R	0.7	2.6	3.2	20.0	-	14.03	-	15	-	15	-
1 x 1.5 re	1/1.38	H07V-U	0.7	2.6	3.2	21.0	12	12.1	18.1	16	11	16	11
1 x 1.5 rm	7/0.52	H07V-R	0.7	2.7	3.3	21.6	13	12.1	18.1	16	11	16	11
1 x 2.0 rm	3/0.91	H07V-R	0.8	3.1	3.8	29.2	17	9.11	15.18	20	13	20	13
1 x 2.5 re	1/1.78	H07V-U	0.8	3.2	3.9	32	17	7.41	12.1	22	15	22	15
1 x 2.5 rm	7/0.67	H07V-R	0.8	3.3	4.0	33	19	7.41	12.1	22	15	22	15
1 x 3.0 rm	7/0.74	H07V-R	0.8	3.5	4.3	39	21	5.99	9.84	26	17	26	17
1 x 4.0 rm	7/0.85	H07V-R	0.8	3.8	4.6	49.5	25	4.61	7.41	30	20	30	20
1 x 4.5 rm	7/0.91	H07V-R	0.8	3.9	4.7	55	28	3.89	6.51	32	21	32	21
1 x 6.0 rm	7/1.04	H07V-R	0.8	4.3	5.2	70	34	3.08	4.61	38	25	38	25
1 x 7.0 rm	7/1.12	H07V-R	1.0	4.5	5.8	83	41	2.61	4.29	42	27	42	27
1 x 9.5 rm	7/1.32	H07V-R	1.0	5.4	6.5	112	52	1.86	3.09	50	32	50	32
1 x 10 rm	7/1.35	H07V-R	1.0	5.6	6.7	115	53	1.83	3.08	52	34	52	34
1 x 14.5 rm	7/1.63	H07V-R	1.0	6.2	7.5	163	72	1.23	2.03	65	40	65	40
1 x 16 rm	7/1.70	H07V-R	1.0	6.4	7.8	177	77	1.15	1.91	70	45	70	45
1 x 16 rm	19/1.04	H07V-R	1.0	6.5	8.0	178	79	1.15	1.91	70	45	70	45
1 x 25 rm	7/2.14	H07V-R	1.2	8.1	9.7	275	116	0.727	1.20	91	60	91	60
1 x 25 rm	19/1.30	H07V-R	1.2	8.2	9.9	276	117	0.727	1.20	91	60	91	60
1 x 35 c.c	Min. 6 wire	H07V-R	1.2	9.0	10.9	373	153	0.524	0.868	112	73	112	73
1 x 50 c.c	Min. 6 wire	H07V-R	1.4	10.8	12.8	532	216	0.387	0.641	136	88	136	88
1 x 70 c.c	Min. 12 wire	H07V-R	1.4	12.1	14.6	732	285	0.268	0.443	173	112	173	112
1 x 95 c.c	Min. 15 wire	H07V-R	1.6	14.1	17.1	985	382	0.193	0.320	216	140	216	140
1 x 120 c.c	Min. 18/15 wire	H07V-R	1.6	15.6	18.8	1227	470	0.153	0.253	244	158	244	158
1 x 150 c.c	Min. 18/15 wire	H07V-R	1.8	17.3	20.9	1535	572	0.124	0.206	-	-	-	-
1 x 185 c.c	Min. 30 wire	H07V-R	2.0	19.3	23.3	1891	705	0.0991	0.104	-	-	-	-
1 x 240 c.c	Min. 34/30 wire	H07V-R	2.2	22.0	26.2	2458	910	0.0754	0.125	-	-	-	-
1 x 300 c.c	Min. 34/30 wire	H07V-R	2.4	24.5	29.6	3055	1125	0.0601	0.100	-	-	-	-
1 x 400 c.c	Min. 53 wire	H07V-R	2.6	27.5	33.2	4078	1505	0.0470	0.0778	-	-	-	-
1 x 500 c.c	Min. 53 wire	H07V-R	2.8	30.5	36.9	5048	1865	0.0366	0.0605	-	-	-	-
1 x 630 c.c	Min. 53 wire	H07V-R	2.8	34.0	41.1	6363	2310	0.0283	0.0469	-	-	-	-

Technical Specifications

- Min. bending radius 6 to 8xD
- 70° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V 450/750V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

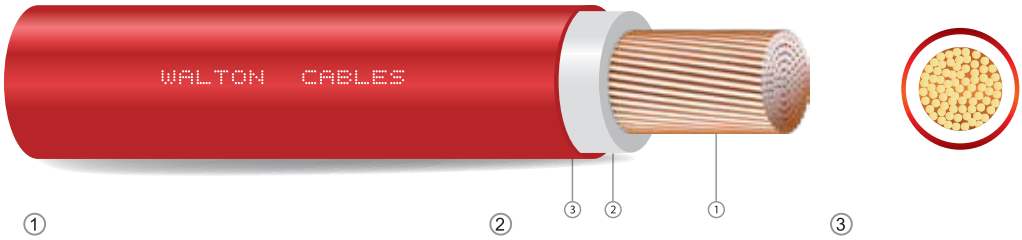
1. In closed and dry areas, switch and distribution boards
2. Used for moving installations and equipments

NOTE:

HO5V-U = PVC Insulated Non Sheathed Single Wire/Solid/re/class-1 Conductor 300/500V
HO5V-R = PVC Insulated Non Sheathed cable/RM/class-2 Conductor 300/500V
HO7V-U = PVC Insulated Non Sheathed cable/re/class-1 Conductor 450/750V
BV = General purpose single core non sheathed copper cable
BLV = General purpose single core aluminium conductor non sheathed cable
H07V-R = PVC Insulated non sheathed cable/RM/class-2 conductor 450/750V

V.G = Voltage Grade
C.C = Circular Compacted
FR/ZR = Flame Retardant
FRLS = Flame Retardant Low Smoke

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900,BS 6004 BS EN 50525, IEC 60227-3 IEC 60228, GB/T5023.3	IEC 60228, CLASS-5 V.G: 300/500V & 450/750V	BYAF-LFFR/BYAF-FRLS/ZR-RV LFFR-PVC or FRLS-PVC INSULATED SKIN COATED FLEXIBLE HOUSE WIRING CABLES



① Flexible Copper Conductor Class-5

② PVC LFFR/FRLS PVC Insulated

③ PVC FR/FRLS PVC Skin Coated

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Harmonic Code	Insulation Thickness	Overall Diameter		Approx. weight of cable	Max. DC resistance of conductor at 20°C	Current rating in conduit at 35°C	Current rating in air at 35oC
				Lower Limit	Upper Limit	Cu	Cu	Cu	Cu
mm2	No./mm	-	mm	mm	mm	kg/km	Ohm/Km	Amps	Amps
1 x 0.75 rm (flex.)	24/0.2	H05V-K	0.6	2.1	2.6	13.0	26.00	11	11
1 x 1.0 rm (flex.)	32/0.20	H05V-K	0.7	2.6	3.1	18.0	19.50	13	13
1 x 1.5 rm (flex.)	30/0.25	H07V-K	0.7	2.8	3.4	22.0	13.30	16	16
1 x 2.5 rm (flex.)	50/0.25	H07V-K	0.8	3.4	4.1	33.6	7.98	22	22
1 x 4.0 rm (flex.)	56/0.30	H07V-K	0.8	3.9	4.8	50	4.95	31	31
1 x 6.0 rm (flex.)	84/0.30	H07V-K	0.8	4.4	5.3	71	3.30	39	39
1 x 10 rm (flex.)	80/0.40	H07V-K	1.0	5.7	6.8	117	1.91	53	53
1 x 16 rm (flex.)	126/0.40	H07V-K	1.0	6.7	8.1	180	1.21	71	71
1 x 25 rm (flex.)	196/0.40	H07V-K	1.2	8.4	10.2	279	0.780	92	92
1 x 35 rm (flex.)	276/0.40	H07V-K	1.2	9.7	11.7	378	0.554	113	113
1 x 50 rm (flex.)	396/0.40	H07V-K	1.4	11.5	13.9	538	0.386	137	137
1 x 70 rm (flex.)	360/0.50	H07V-K	1.4	13.2	16.0	740	0.272	175	175
1 x 95 rm (flex.)	475/0.50	H07V-K	1.6	15.1	18.2	993	0.206	218	218
1 x 120 rm (flex.)	608/0.50	H07V-K	1.6	16.7	20.2	1240	0.161	246	246
1 x 150 rm (flex.)	756/0.50	H07V-K	1.8	18.6	22.5	1548	0.129	278	278
1 x 185 rm (flex.)	925/0.50	H07V-K	2.0	20.6	24.9	1910	0.106	319	319
1 x 240 rm (flex.)	1220/0.50	H07V-K	2.2	23.5	28.4	2473	0.0801	378	378

Technical Specifications

- Min. bending radius 4-6xD
- 70° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V 450/750V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. In closed and dry areas, switch and distribution boards
2. Used for moving installations and equipments

NOTE:

HO5V-K= PVC Insulated Non Sheathed Flexible cable Class-5 Conductor 300/500V
HO7V-K=PVC Insulated Non Sheathed Flexible cable Class-5 Conductor 450/750V
BVR/RV= General Purpose Single Core Flexible Non Sheathed Copper cable
FR/ZR= flame Retardant,
FRLS= Flame Retardant Low Smoke
F= Flexible
V.G= Voltage Grade

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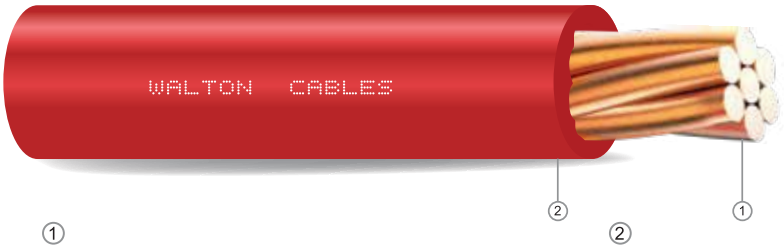
STANDARDS	CONDUCTOR	CONSTRUCTION
BS EN 50525, BS 7211 BS 7655, IEC 60228 IEC 61034, IEC 60754 IEC 60332	IEC 60228 CLASS-1, 2 V.G: 450/750V	BHA/BYA-LSZH/BYA-LSHF LOW SMOKE ZERO HALOGEN INSULATED SINGLE CORE NON SHEATHED HOUSE WIRING CABLES



① Solid/Stranded Cu/Al Conductor, Class 1 or 2

② LSZH Low Smoke Zero Halogen Insulation

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Harmonic Code	Nom. Thickness of Insulation	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
1 x 1.0 re	1/1.13	H05Z-U	0.7	2.5	3.0	16.0	-	18.1	-	14	-	17	-
1 x 1.5 re	1/1.38	H07Z-U	0.7	2.6	3.3	22.0	12	12.1	18.1	17	12	21	14
1 x 1.5 rm	7/0.52	H07Z-R	0.7	2.7	3.4	23	13	12.1	18.1	17	12	21	14
1 x 2.5 re	1/1.78	H07Z-U	0.8	3.2	4.0	32	17	7.41	12.1	23	16	29	19
1 x 2.5 rm	7/0.67	H07Z-R	0.8	3.3	4.1	33	19	7.41	12.1	23	16	29	19
1 x 4.0 rm	7/0.85	H07Z-R	0.8	3.8	4.7	51	25	4.61	7.41	31	21	39	25
1 x 6.0 rm	7/1.04	H07Z-R	0.8	4.3	5.4	71	34	3.08	4.61	40	26	49	32
1 x 10 rm	7/1.35	H07Z-R	1.0	5.6	7.0	117	53	1.83	3.08	54	36	67	43
1 x 16 rm	7/1.70	H07Z-R	1.0	6.4	8.0	179	77	1.15	1.91	73	47	89	57
1 x 25 rm	7/2.14	H07Z-R	1.2	8.1	10.1	276	116	0.727	1.20	96	63	116	76
1 x 35 c.c	Min. 6 wire	H07Z-R	1.2	9.0	11.3	373	153	0.524	0.868	118	76	143	92
1 x 50 c.c	Min. 6 wire	H07Z-R	1.4	10.6	13.2	532	216	0.387	0.641	143	92	172	110
1 x 70 c.c	Min. 12 wire	H07Z-R	1.4	12.1	15.1	732	285	0.268	0.443	182	118	217	144
1 x 95 c.c	Min. 15 wire	H07Z-R	1.6	14.1	17.6	985	382	0.193	0.320	227	147	266	173
1 x 120 c.c	Min. 18/15 wire	H07Z-R	1.6	15.6	19.4	1227	470	0.153	0.253	256	166	306	198
1 x 150 c.c	Min. 18/15 wire	H07Z-R	1.8	17.3	21.6	1535	572	0.124	0.206	-	-	350	228
1 x 185 c.c	Min. 30 wire	H07Z-R	2.0	19.3	24.1	1891	705	0.0991	0.104	-	-	400	260
1 x 240 c.c	Min. 34 wire	H07Z-R	2.2	22.0	27.5	2458	910	0.0754	0.125	-	-	475	310
1 x 300 c.c	Min. 34 wire	H07Z-R	2.4	24.5	30.6	3055	1125	0.0601	0.100	-	-	550	360
1 x 400 c.c	Min. 53 wire	H07Z-R	2.6	27.5	34.3	4078	1505	0.0470	0.0778	-	-	668	440
1 x 500 c.c	Min. 53 wire	H07Z-R	2.8	30.5	38.2	5048	1865	0.0366	0.0605	-	-	792	515
1 x 630 c.c	Min. 53 wire	H07Z-R	2.8	34.0	42.5	6363	2310	0.0283	0.0469	-	-	900	585

Technical Specifications

- Min. bending radius 6-8xD
- 90° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 450/750V — Rated voltage Uo/U
- TOXIC GAS — Low Smoke EN 61034
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Fire fighting Unit
- Open Air
- In Conduit

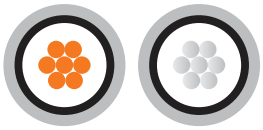
Application

Installation in surface mounted or embedded conduits or similar closed systems.
Low level of smoke emission and corrosive gases in case of fire with zero halogen.

NOTE:
HO5Z-U= LSHF-Insulated Non Sheathed Single Wire/Solid/re/class-1 Conductor 300/500V
HO7Z-U= LSHF-Insulated Non Sheathed Single Wire/Solid/re/class-1 Conductor 450/750V
HO7Z-R= LSHF-Insulated Non Sheathed conductor/RM/class-2 Conductor 450/750V
LSZH= Low Smoke Zero Halogen
LSHF= Low Smoke Halogen Free
V.G= Voltage Grade
C.C = Circular Compacted

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS EN 50525 BS 6004, IEC 60228 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYM-FR/BAYM-FR/ZR-BV/ZR-BLVV FR PVC Insulated with Skin Coated & PVC Sheathed Single Core Cable



① Solid/Stranded Cu/Al Conductor, Class-1 or 2

② PVC — FR PVC Insulation

③ FR-PVC — Skin Coated

④ PVC — PVC Sheathed

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
1 x 1.0 re	1/1.13	0.6	0.8	3.8	4.5	25	-	18.1	-	13	-	16	-
1 x 1.0 rm	3/0.65	0.6	0.8	3.8	4.5	26	-	18.1	-	13	-	16	-
1 x 1.3 rm	3/0.74	0.7	0.8	4.2	4.9	34	-	14.03	-	15	-	19	-
1 x 1.5 re	1/1.38	0.7	0.8	4.2	4.9	32	-	12.1	-	16	-	20	-
1 x 1.5 rm	7/0.52	0.7	0.8	4.2	4.9	33	-	12.1	-	16	-	20	-
1 x 1.5 rm	3/0.80	0.7	0.8	4.2	4.9	33	-	12.1	-	16	-	20	-
1 x 2.0 rm	3/0.91	0.7	0.8	4.6	5.4	44	-	9.11	-	20	-	26	-
1 x 2.5 re	1/1.78	0.8	0.8	4.8	5.8	45	-	7.41	-	22	-	28	-
1 x 2.5 rm	7/0.67	0.8	0.8	4.8	5.8	46	-	7.41	-	22	-	28	-
1 x 3.0 rm	7/0.74	0.8	0.8	5.1	6.1	60	-	5.99	-	26	-	31	-
1 x 4.0 rm	7/0.85	0.8	0.9	5.4	6.8	73	48	4.61	7.41	30	21	37	25
1 x 4.5 rm	7/0.91	0.8	0.9	5.6	7.0	81	52	3.89	6.51	32	22	39	26
1 x 6.0 rm	7/1.04	0.8	0.9	6.0	7.4	96	59	3.08	4.61	38	26	47	32
1 x 7.0 rm	7/1.12	0.8	0.9	6.5	7.8	107	64	2.61	4.29	42	27	51	33
1 x 9.5 rm	7/1.32	1.0	0.9	7.0	8.7	145	82	1.86	3.09	50	32	61	40
1 x 10 rm	7/1.35	1.0	0.9	7.2	8.8	147	84	1.83	3.08	52	36	63	43
1 x 14.5 rm	7/1.63	1.0	1.0	8.0	10.0	206	113	1.23	2.03	65	40	79	50
1 x 16 rm	7/1.70	1.0	1.0	8.4	10.5	218	117	1.15	1.91	70	46	85	55
1 x 25 rm	7/2.14	1.2	1.1	10.0	12.5	328	169	0.727	1.20	91	59	110	72
1 x 35 c.c	Min. 6 wire	1.2	1.1	11.0	13.5	432	211	0.524	0.868	112	73	136	88

Technical Specifications

- Min. bending radius 6-8xD
- 70° C — Max. operating temperature
- 2KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
FR = Flame Retardant
V.G. = Voltage Grade
C.C = Circular Compacted

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS EN 50525 BS 6004, IEC 60228 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYM-FR/BAYM-FR/ZR-BV/ZR-BLVV FR PVC Insulated with Skin Coated & PVC Sheathed Two Core Cable

① Solid/Stranded Cu/Al Conductor, Class-1 or 2

② PVC — FR PVC Insulation

③ FR-PVC — Skin Coated

④ PVC — PVC Inner Sheath

⑤ PVC — PVC Outer Sheath

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
2 x 1.0 re	1/1.13	0.6	1.2	7.6	8.8	93	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	1.2	7.6	8.8	102	-	18.1	-	13	-	15	-
2 x 1.5 re	1/1.38	0.7	1.2	8.4	10.0	119	-	12.1	-	15	-	18	-
2 x 1.5 rm	7/0.52	0.7	1.2	9.0	10.2	121	-	12.1	-	15	-	18	-
2 x 1.5 rm	3/0.80	0.7	1.2	9.0	10.2	121	-	12.1	-	15	-	18	-
2 x 2.5 re	1/1.78	0.8	1.2	9.6	11.5	165	-	7.41	-	21	-	26	-
2 x 2.5 rm	7/0.67	0.8	1.2	10.4	11.8	167	-	7.41	-	21	-	26	-
2 x 4.0 rm	7/0.85	0.8	1.2	10.5	12.5	228	178	4.61	7.41	29	20	33	23
2 x 6.0 rm	7/1.04	0.8	1.2	11.5	14.0	294	219	3.08	4.61	36	25	43	30
2 x 10 rm	7/1.35	1.0	1.4	15.0	17.5	485	359	1.83	3.08	50	35	60	42
2 x 16 rm	7/1.70	1.0	1.4	16.5	20.0	673	471	1.15	1.91	67	43	80	52
2 x 25 rm	7/2.14	1.2	1.4	20.5	24.0	1004	685	0.727	1.20	76	49	88	57
2 x 35 c.c	Min. 6 wire	1.2	1.6	23.0	27.5	1345	906	0.524	0.868	93	60	108	70

Technical Specifications

- Min. bending radius 6-8xD
- 70° C — Max. operating temperature
- 2KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

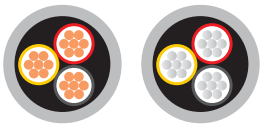
- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
FR = Flame Retardant
V.G. = Voltage Grade
C.C = Circular Compacted

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS EN 50525 BS 6004, IEC 60228 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYM-FR/BAYM-FR/ZR-BV/ZR-BLVV FR PVC Insulated with Skin Coated & PVC Sheathed Three Core Cable



① Solid/Stranded Cu/Al Conductor, Class-1 or 2

② PVC — FR PVC Insulation

③ FR-PVC — Skin Coated

④ PVC — PVC Inner Sheath

⑤ PVC — PVC Outer Sheath

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
3 x 1.0 re	1/1.13	0.6	1.2	7.8	9.2	106	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	1.2	7.8	9.2	115	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	1.2	8.8	10.5	139	-	12.1	-	15	-	16	-
3 x 1.5 rm	7/0.52	0.7	1.2	9.2	10.8	142	-	12.1	-	15	-	16	-
3 x 1.5 rm	3/0.80	0.7	1.2	9.2	10.8	142	-	12.1	-	15	-	16	-
3 x 2.5 re	1/1.78	0.8	1.2	10.0	12.0	195	-	7.41	-	20	-	22	-
3 x 2.5 rm	7/0.67	0.8	1.2	10.5	12.5	198	-	7.41	-	20	-	22	-
3 x 4.0 rm	7/0.85	0.8	1.2	11.0	13.0	268	193	4.61	7.41	27	19	30	21
3 x 6.0 rm	7/1.04	0.8	1.4	12.5	15.5	386	273	3.08	4.61	33	23	37	26
3 x 10 rm	7/1.35	1.0	1.4	15.5	19.0	590	400	1.83	3.08	46	32	51	36
3 x 16 rm	7/1.70	1.0	1.4	18.0	21.5	856	553	1.15	1.91	58	38	67	44
3 x 25 rm	7/2.14	1.2	1.6	22.0	26.0	1272	794	0.727	1.20	66	43	77	50
3 x 35 sm	Min. 6 wire	1.2	1.6	24.5	29.0	1685	1023	0.524	0.868	81	53	90	59

Technical Specifications

- Min. bending radius 6-8xD
- 70° C — Max. operating temperature
- 2KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

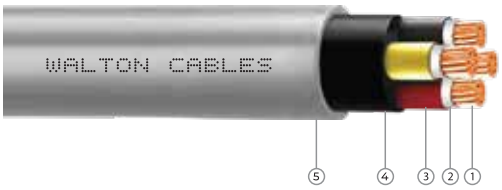
- Home Use
- Outdoor Installation
- Open Air
- In Conduit

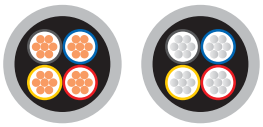
Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
FR = Flame Retardant
V.G. = Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS EN 50525 BS 6004, IEC 60228 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYM-FR/BAYM-FR/ZR-BV/ZR-BLVV FR PVC Insulated with Skin Coated & PVC Sheathed Four Core Cable





① Solid/Stranded Cu/Al Conductor, Class-1 or 2

② PVC — FR PVC Insulation

③ FR-PVC — Skin Coated

④ PVC — PVC Inner Sheath

⑤ PVC — PVC Outer Sheath

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
4 x 1.0 re	1/1.13	0.6	1.2	8.4	9.8	124	-	18.1	-	11	-	12	-
4 x 1.0 rm	3/0.65	0.6	1.2	8.4	9.8	151	-	18.1	-	11	-	12	-
4 x 1.5 re	1/1.38	0.7	1.2	9.6	11.5	164	-	12.1	-	15	-	16	-
4 x 1.5 rm	7/0.52	0.7	1.2	10.0	12.0	168	-	12.1	-	15	-	16	-
4 x 1.5 rm	3/0.80	0.7	1.2	10.0	12.0	168	-	12.1	-	15	-	16	-
4 x 2.5 re	1/1.78	0.8	1.2	11.0	13.0	230	-	7.41	-	20	-	22	-
4 x 2.5 rm	7/0.67	0.8	1.2	11.5	13.5	235	-	7.41	-	20	-	22	-
4 x 4.0 rm	7/0.85	0.8	1.4	12.0	14.5	342	241	4.61	7.41	27	19	30	21
4 x 6.0 rm	7/1.04	0.8	1.4	14.0	17.0	464	314	3.08	4.61	33	23	37	26
4 x 10 rm	7/1.35	1.0	1.4	17.0	20.5	719	466	1.83	3.08	46	32	51	36
4 x 16 rm	7/1.70	1.0	1.4	20.0	23.5	1051	647	1.15	1.91	58	38	67	44
4 x 25 rm	7/2.14	1.2	1.6	24.0	28.5	1600	963	0.727	1.20	66	43	77	50
4 x 35 sm	Min. 6 wire	1.2	1.6	27.0	32.0	2085	1202	0.524	0.868	81	53	90	59

Technical Specifications

- Min. bending radius 6-8xD
- 70° C — Max. operating temperature
- 2KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
FR = Flame Retardant
V.G. = Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS 6004 BS EN 50525, BS 7655 IEC 60228, IEC 60332 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYFY-FR/BYFY-FRLS/BAYFY/BAYFY-FRLS FR/FRLS PVC Insulated with Skin Coated & PVC Sheathed Flat Two Core Cable

① Cu./Alu. Conductor (Class-1,2)

② PVC — FR/FRLS PVC Insulation

③ PVC — FR/FRLS-PVC Skin Coated

④ PVC — PVC Outer Sheath

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
2 x 1.0 re	1/1.13	0.6	0.9	4.0x6.2	4.7x7.4	55	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	0.9	4.0x6.3	4.8x7.6	60	-	18.1	-	13	-	15	-
2 x 1.3 rm	3/0.74	0.7	0.9	4.2x6.9	5.4x8.7	70	54	14.03	22.95	15	9	17	11
2 x 1.5 re	1/1.38	0.7	0.9	4.4x7.0	5.4x8.4	73	55	12.1	18.1	16	13	18	15
2 x 1.5 rm	3/0.80	0.7	0.9	4.5x7.2	5.5x8.6	77	58	12.1	18.1	16	13	18	15
2 x 1.5 rm	7/0.52	0.7	0.9	4.5x7.3	5.5x8.7	78	59	12.1	18.1	16	13	18	15
2 x 2.0 rm	3/0.91	0.7	0.9	5.2x8.5	6.3x9.8	93	66	9.11	15.18	20	14	23	16
2 x 2.5 re	1/1.78	0.8	1.0	5.2x8.4	6.2x9.8	104	76	7.41	12.1	22	16	26	20
2 x 2.5 rm	7/0.67	0.8	1.0	5.3x8.6	6.3x10.0	108	79	7.41	12.1	22	16	26	20
2 x 3.0 rm	7/0.74	0.8	1.0	5.6x9.4	6.5x10.6	129	91	5.99	9.84	24	17	28	21
2 x 4.0 rm	7/0.85	0.8	1.0	5.6x9.6	7.2x11.5	154	104	4.61	7.41	30	22	33	26
2 x 4.5 rm	7/0.91	0.8	1.0	5.9x10.2	7.2x11.7	167	110	3.89	6.51	32	23	38	27
2 x 6.0 rm	7/1.04	0.8	1.1	6.4x10.5	8.0x13.0	210	133	3.08	4.61	37	27	43	35
2 x 10 rm	7/1.35	1.0	1.2	7.8x13.0	9.6x16.0	328	201	1.83	3.08	50	37	60	47
2 x 16 rm	7/1.70	1.0	1.3	9.0x15.5	11.0x18.5	474	271	1.15	1.91	66	49	80	62

Technical Specifications

- Min. bending radius 6xD
- 70° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

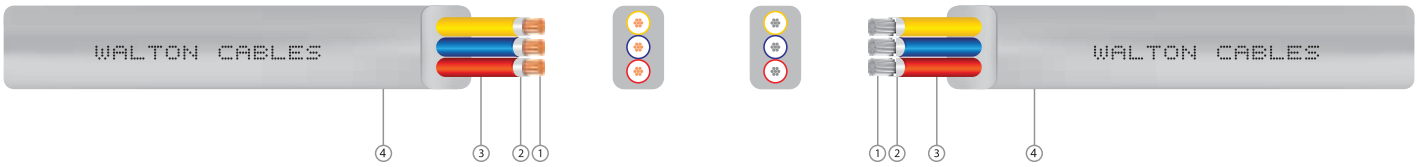
- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
V.G = Voltage Grade
FR = Flame Retardant
FRLS = Flame Retardant Low Smoke

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS 6004 BS EN 50525, BS 7655 IEC 60228, IEC 60332 JB/T8734.2-2012	IEC 60228 CLASS-1, 2 V.G: 300/500V	BYFY-FR/BYFY-FRLS/BAYFY/BAYFY-FRLS FR/FRLS PVC Insulated with Skin Coated & PVC Sheathed Flat Three Core Cable



① Cu./Alu. Conductor (Class-1,2)

② PVC — FR/FRLS PVC Insulation

③ PVC — FR/FRLS-PVC Skin Coated

④ PVC — PVC Outer Sheath

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in conduit at 35°C		Current rating in air at 35°C	
				Lower Limit	Upper Limit	Cu	AL	Cu	AL	Cu	AL	Cu	AL
No. x mm2	No./mm		mm	mm	mm	kg/km	kg/km	Ohm/Km	Ohm/Km	Amps	Amps	Amps	Amps
3 x 1.0 re	1/1.13	0.6	0.9	4.0x8.4	4.7x9.8	78	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	0.9	4.1x8.5	4.8x10.0	85	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	0.9	4.4x9.8	5.4x11.5	104	77	12.1	18.1	15	12	16	13
3 x 1.5 rm	7/0.52	0.7	0.9	4.5x10.0	5.5x11.6	111	82	12.1	18.1	15	12	16	13
3 x 2.5 re	1/1.78	0.8	1.0	5.2x11.5	6.2x13.5	152	106	7.41	12.1	20	16	22	17
3 x 2.5 rm	7/0.67	0.8	1.0	5.4x11.8	6.4x13.8	164	116	7.41	12.1	20	16	22	17
3 x 4.0 rm	7/0.85	0.8	1.0	5.8x13.5	7.4x16.5	232	157	4.61	7.41	33	24	30	25
3 x 6.0 rm	7/1.04	0.8	1.1	6.4x15.0	8.0x18.0	308	194	3.08	4.61	37	30	37	30
3 x 10 rm	7/1.35	1.0	1.2	7.8x19.0	9.6x22.5	480	290	1.83	3.08	48	35	48	35
3 x 16 rm	7/1.70	1.0	1.3	9.0x22.0	11.0x26.5	698	396	1.15	1.91	64	47	64	47

Technical Specifications

- Min. bending radius 6xD
- 70° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

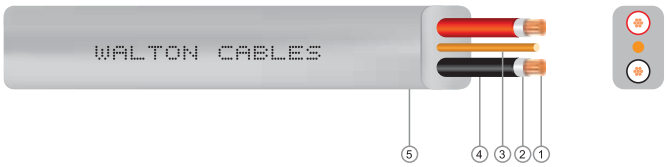
- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
V.G = Voltage Grade
FR = Flame Retardant
FRLS = Flame Retardant Low Smoke

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 900, BS 6004 BS EN 50525, BS 7655 IEC 60228, IEC 60332 JB/T8734.2-2012	IEC 60228 CLASS-1, 2	BYFYE-FR/BYFYE-FRLS FR PVC Insulated Skin Coated & PVC Sheathed Flat Two Core Cable with ECC



① Solid/Stranded Copper Conductor-Class-1 or 2

② PVC — FR/FRLS PVC Insulation

③ ECC — Plain Cu Solid Conductor

④ PVC — FR/FRLS PVC Skin Coating

⑤ PVC — PVC Outer Sheathing

No of Cores x Nom. Cross sectional area	No./Nominal diameter of each wire	No./Nominal diameter of each ECC wire	Nom. Thickness of Insulation	Nom. Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Max. DC resistance of conductor at 20°C	Current rating in conduit at 35°C	Current rating in air at 35°C
					Lower Limit	Upper Limit	Cu	Cu	Cu	Cu
No. x mm2	No./mm	No./mm	mm	mm	mm	mm	kg/km	Ohm/Km	Amps	Amps
2 x 1.0 re	1/1.13	1/1.13	0.6	0.9	4.0x7.2	4.7x8.6	68	18.1	13	15
2 x 1.5 re	1/1.38	1/1.13	0.7	0.9	4.4x8.2	5.4x9.6	85	12.1	16	18
2 x 2.5 re	1/1.78	1/1.13	0.8	1.0	5.2x9.8	6.2x11.5	119	7.41	22	26
2 x 4.0 rm	7/0.85	1/1.38	0.8	1.0	5.6x10.5	7.2x13.0	175	4.61	30	33
2 x 6.0 rm	7/1.04	1/1.78	0.8	1.1	6.4x12.5	8.0x15.0	245	3.08	37	43
2 x 10 rm	7/1.35	7/0.85	1.0	1.2	7.8x15.5	9.6x19.0	368	1.83	50	60
2 x 16 rm	7/1.70	7/1.04	1.0	1.3	9.0x18.0	11.0x22.5	536	1.15	66	80

Technical Specifications

- Min. bending radius 6xD
- 70° C — Max. operating temperature
- 2KV/2.5KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed Installation in dry or damp premises
2. clipped direct to a surface or on a cable tray
3. Also used in non-Metallic conduit (PVC/PE)

NOTE:
V.G = Voltage Grade
FR = Flame Retardant
FRLS = Flame Retardant Low Smoke
ECC = Earth Continuity Conductor

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Chapter 2: FR-Flexible Cable

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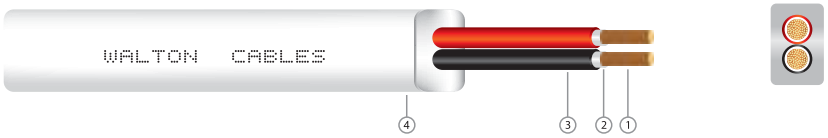
STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6500 VDE-0250, IEC 60227 GB/T 5023.5	IEC 60228 CLASS- 5 V.G: 300/500V	FLAT TWIN CORE CORD (F/T)-FR TWO CORE CABLE



① Flexible conductor (Class-5)

② PVC Flame Retardant PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC PVC Outer Sheath

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Type	Insulation Thickness	Nominal Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35°C		Max. DC Resistance at 20°C
					Lower Limit	Upper Limit		in conduit	in air	
mm2			mm	mm	mm	mm	kg/km	amps	amps	Ohm/Km
2 x 0.4 rm	14/0.193	H05VVH2-F	0.6	0.8	3.3x5.4	4.3x6.9	35	3	4	47.33
2 x 0.5 rm	16/0.20	H05VVH2-F	0.6	0.8	3.5x5.6	4.4x7.0	44	3	4	39.00
2 x 0.65 rm	23/0.193	H05VVH2-F	0.6	0.8	3.6x5.9	4.5x7.1	46	5	6	28.79
2 x 0.75 rm	24/0.20	H05VVH2-F	0.6	0.8	3.7x6.0	4.5x7.2	48	6	7	26.00

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

Used as connection cables, in dry and humid places that there are not much mechanical compulsion which are generally used in household equipments.

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6500 VDE-0250, IEC 60227 JB 8734.3-2012	IEC 60228 CLASS- 5 V.G: 300/500V	TWISTED TWIN CORE CABLE (T/T)-FR/RVS TWO CORE CABLE

① Flexible conductor (Class-5)

② PVC FR- PVC Insulation

③ PVC FR-PVC Skin Coating

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Nominal Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35°C		Max. DC Resistance at 20°C
			Lower Limit	Upper Limit		in conduit	in air	
mm2		mm	mm	mm	kg/km	amps	amps	Ohm/Km
2 x 0.4 rm	14/0.193	0.6	2.0	2.4	16	2	3	47.33
2 x 0.5 rm	16/0.20	0.6	2.1	2.5	18	3	4	39.00
2 x 0.65 rm	23/0.193	0.6	2.2	2.6	22	5	6	28.79
2 x 0.75 rm	24/0.20	0.6	2.2	2.7	24	6	7	26.00
2 x 1.0 rm	32/0.20	0.6	2.4	2.8	30	9	10	19.50
2 x 1.2 rm	40/0.193	0.6	2.5	3.0	34	11	13	16.56
2 x 2.0 rm	70/0.193	0.7	3.2	3.7	56	16	18	9.46

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

Used as connection cables, in dry and humid places that there are not much mechanical compulsion which are generally used in household equipments.

NOTE

RVS= Copper Conductor PVC Insulated Twisted Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6004 VDE-0250 & IEC 60227	IEC 60228 CLASS- 5 V.G: 300/500V	FR-PVC INSULATED SKIN COATED SINGLE CORE FLEXIBLE CABLE

① Flexible conductor (Class-5)

② PVC FR- PVC Insulation

③ PVC FR-PVC Skin Coating

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Type	Insulation Thickness	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35°C		Max. DC Resistance at 20°C
				Lower Limit	Upper Limit		in conduit	in air	
mm2			mm	mm	mm	kg/km	amps	amps	mm
1 x 0.4 rm	14/0.193	H05V-F	0.6	2.0	2.4	8	2	3	47.33
1 x 0.5 rm	16/0.20	H05V-F	0.6	2.1	2.5	9	3	4	39.00
1 x 0.65 rm	23/0.193	H05V-F	0.6	2.2	2.6	11	5	6	28.79
1 x 0.75 rm	24/0.20	H05V-F	0.6	2.2	2.7	12	6	7	26.00
1 x 1.0 rm	32/0.20	H05V-F	0.6	2.4	2.8	15	9	10	19.50
1 x 1.2 rm	40/0.193	H05V-F	0.6	2.5	3.0	17	11	13	16.56
1 x 2.0 rm	70/0.193	H05V-F	0.7	3.2	3.7	28	16	18	9.46
1 x 3.0 rm	110/0.193	H05V-F	0.8	3.7	4.5	43	22	24	6.01

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 to 2.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

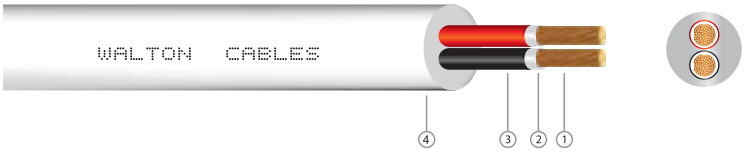
Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

These types are permitted for the inner wiring of equipment, distributor and switchboards and also for protective laying to the lightings with a nominal voltage up to 500 V

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6500 IEC 60227 GB/T5023.5-2008	IEC 60228 Class- 5 V.G: 300/500V	Flexible Cord-FR/RVV/YSLY FR-PVC Insulated Skin Coated & PVC Sheathed Flexible Cable



① Flexible conductor (Class-5)

② PVC FR- PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC PVC Sheathed

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Type	Insulation Thickness	Nominal Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35 °C		Max. DC Resistance at 20°C
					Lower Limit	Upper Limit		in conduit	in air	
mm2			mm		mm	mm	kg/km	amps	amps	Ohm/Km
2 x 0.4 rm	14/0.193	H05VV-F	0.6	0.8	5.3	6.7	49	3	4	47.33
2 x 0.5 rm	16/0.20	H05VV-F	0.6	0.8	5.4	6.8	54	3	4	39.00
2 x 0.65 rm	23/0.193	H05VV-F	0.6	0.8	5.6	7.1	60	6	7	28.79
2 x 0.75 rm	24/0.20	H05VV-F	0.6	0.8	5.7	7.2	64	7	8	26.00
2 x 1.0 rm	32/0.20	H05VV-F	0.6	0.8	5.9	7.5	74	10	11	19.50
2 x 1.2 rm	40/0.193	H05VV-F	0.6	0.8	6.5	7.9	78	13	15	16.56
2 x 1.5 rm	30/0.25	H05VV-F	0.7	0.8	6.8	8.6	99	15	17	13.30
2 x 2.0 rm	70/0.193	H05VV-F	0.7	0.9	8.2	9.5	127	18	20	9.46
2 x 2.5 rm	50/0.25	H05VV-F	0.8	1.0	8.4	10.6	151	20	22	7.98
2 x 3.0 rm	110/0.193	H05VV-F	0.8	1.1	9.8	11.2	174	24	26	6.01
2 x 4.0 rm	56/0.30	H05VV-F	0.8	1.1	10.5	11.8	200	25	27	4.95

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 to 2.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

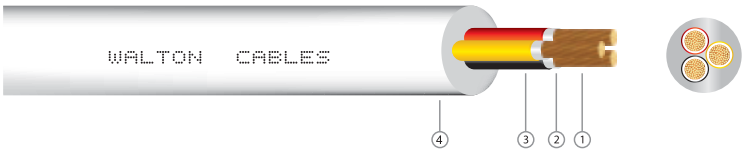
Application

Used in dry and humid areas that there are not much mechanical compulsion in which, generally used in household equipment.

NOTE

YSLY/RVV= FR-PVC Insulated & PVC Sheathed Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6500 IEC 60227 GB/T5023.5-2008	IEC 60228 Class- 5 V.G: 300/500V	Flexible Cord-FR/RVV/YSLY FR-PVC Insulated Skin Coated & PVC Sheathed Flexible Cable



① Flexible conductor (Class-5)

② PVC FR- PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC PVC Sheathed

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Type	Insulation Thickness	Nominal Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35 °C		Max. DC Resistance at 20°C
					Lower Limit	Upper Limit		in conduit	in air	
mm2			mm		mm	mm	kg/km	amps	amps	Ohm/Km
3 x 0.4 rm	14/0.193	H05VV-F	0.6	0.8	5.6	7.1	57	2	3	47.33
3 x 0.5 rm	16/0.20	H05VV-F	0.6	0.8	5.8	7.3	64	3	4	39.00
3 x 0.65 rm	23/0.193	H05VV-F	0.6	0.8	5.9	7.4	70	6	7	28.79
3 x 0.75 rm	24/0.20	H05VV-F	0.6	0.8	6.0	7.6	75	7	8	26.00
3 x 1.0 rm	32/0.20	H05VV-F	0.6	0.8	6.3	8.0	88	10	11	19.50
3 x 1.2 rm	40/0.193	H05VV-F	0.6	0.9	6.8	8.6	100	13	15	16.56
3 x 1.5 rm	30/0.25	H05VV-F	0.7	0.9	7.4	9.4	124	15	17	13.30
3 x 2.0 rm	70/0.193	H05VV-F	0.7	1.0	8.8	10.2	155	18	20	9.46
3 x 2.5 rm	50/0.25	H05VV-F	0.8	1.0	9.2	11.4	184	20	22	7.98
3 x 3.0 rm	110/0.193	H05VV-F	0.8	1.1	10.5	11.9	215	24	26	6.01
3 x 4.0 rm	56/0.30	H05VV-F	0.8	1.2	11.2	12.7	254	25	27	4.95

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 to 2.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

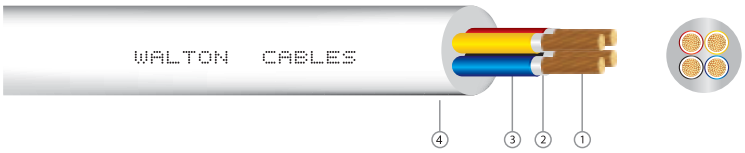
Application

Used in dry and humid areas that there are not much mechanical compulsion in which, generally used in household equipment.

NOTE

YSLY/RVV= FR-PVC Insulated & PVC Sheathed Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 899, BS 6500 IEC 60227 GB/T5023.5-2008	IEC 60228 Class- 5 V.G: 300/500V	Flexible Cord-FR/RVV/YSLY FR-PVC Insulated Skin Coated & PVC Sheathed Flexible Cable



① Flexible conductor (Class-5)

② PVC FR- PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC PVC Sheathed

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Type	Insulation Thickness	Nominal Thickness of Sheath	Overall Diameter		Approx. Wt. of cable	Current rating in air at 35 °C		Max. DC Resistance at 20°C
					Lower Limit	Upper Limit		in conduit	in air	
mm2			mm		mm	mm	kg/km	amps	amps	Ohm/Km
4 x 0.4 rm	14/0.193	H05VV-F	0.6	0.8	6.2	7.7	68	2	3	47.33
4 x 0.5 rm	16/0.20	H05VV-F	0.6	0.8	6.3	7.8	76	3	4	39.00
4 x 0.65 rm	23/0.193	H05VV-F	0.6	0.8	6.5	8.2	86	6	7	28.79
4 x 0.75 rm	24/0.20	H05VV-F	0.6	0.8	6.6	8.3	92	7	8	26.00
4 x 1.0 rm	32/0.20	H05VV-F	0.6	0.9	7.1	9.0	112	10	11	19.50
4 x 1.2 rm	40/0.193	H05VV-F	0.6	0.9	7.9	9.4	124	13	15	16.56
4 x 1.5 rm	30/0.25	H05VV-F	0.7	1.0	8.4	10.5	158	15	17	13.30
4 x 2.0 rm	70/0.193	H05VV-F	0.7	1.0	9.6	11.2	188	18	20	9.46
4 x 2.5 rm	50/0.25	H05VV-F	0.8	1.1	10.1	12.5	228	20	22	7.98
4 x 3.0 rm	110/0.193	H05VV-F	0.8	1.2	11.8	13.4	274	24	26	6.01
4 x 4.0 rm	56/0.30	H05VV-F	0.8	1.2	12.3	13.9	315	25	27	4.95

Technical Specification

- Min. bending radius 4-5 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 300/500V Rated voltage Uo/U
- 1.5 to 2.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

Used in dry and humid areas that there are not much mechanical compulsion in which, generally used in household equipment.

NOTE

YSLY/RVV= FR-PVC Insulated & PVC Sheathed Flexible Cable

TECHNICAL PART AND DERATING FACTOR FOR HOUSE WIRING CABLE

CURRENT CARRYING CAPACITY OF CABLES MADE ACCORDING TO BDS 900, BS EN 50525 & BS 6004

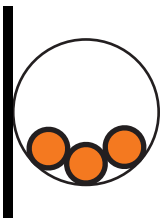
Defined Conditions:
i. Ambient air temperature is 35°C.
ii. Horizontal clearance between the systems is around 150mm and not less than six times the individual diameter for both single and multicore cables.
iii. The vertical clearance between systems (for 1-core) & between cables (for multicore) is not less than 150mm.
iv. If the number of cables / systems are more than four they are installed in horizontal plane.

RATING FACTORS FOR HOUSEWIRING / DOMESTIC CABLES

RATING FACTORS FOR AMBIENT TEMPERATURE

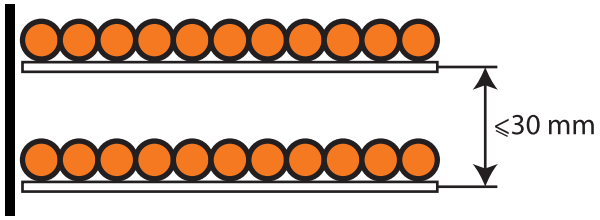
Temperature	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Factor	1.08	1.05	1.03	1.0	0.97	0.94	0.91	0.80

Group Rrating Factors for Installation through pipes/conduits on walls



No. of circuits (Composed each on 2 or 3 loaded single cables)								
2	3	4	5	6	7	8	9	10
0.83	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48

Group Rrating Factors for Installation over cable trays



No.of Trays	No.of circuits (Composed each on 2 or 3 loaded single cables)	
	2	3
1	0.97	0.96
2	0.93	0.89
3	0.9	0.86

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Chapter 3: FR-PVC insulated & PVC sheathed unarmoured/armoured Low voltage power cable

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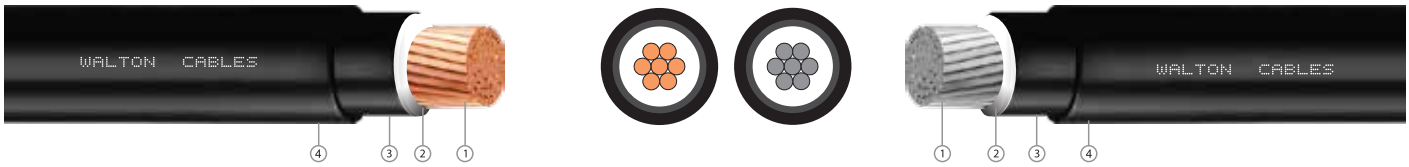
STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-FR/YY-FR/AYY-FR/NAYY-FR/ZR-VV/ZR-VLV FR-PVC Insulated & PVC Sheathed Single Core Cable



① Conductor- Cu/ Alu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No.xmm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
1 x 1.5 re	1/1.38	0.8	1.8	6.6	65	-	12.1	-	27	-	22	-
1 x 1.5 rm	7/0.52	0.8	1.8	6.8	68	-	12.1	-	27	-	22	-
1 x 2.5 re	1/1.78	0.8	1.8	7.2	80	-	7.41	-	36	-	30	-
1 x 2.5 rm	7/0.67	0.8	1.8	7.4	86	-	7.41	-	36	-	30	-
1 x 4.0 rm	7/0.85	1.0	1.8	8.2	113	88	4.61	7.41	47	37	39	31
1 x 6.0 rm	7/1.04	1.0	1.8	8.7	140	102	3.08	4.61	59	48	50	41
1 x 10 rm	7/1.35	1.0	1.8	9.7	190	126	1.83	3.08	78	60	69	53
1 x 16 rm	7/1.70	1.0	1.8	10.7	262	158	1.15	1.91	100	78	94	73
1 x 16 rm	19/1.04	1.0	1.8	11.0	268	160	1.15	1.91	100	78	94	73
1 x 25 rm	7/2.14	1.2	1.8	12.4	375	216	0.727	1.20	130	101	125	97
1 x 25 rm	19/1.30	1.2	1.8	12.8	385	220	0.727	1.20	130	101	125	97
1 x 35 cc	min. 6	1.2	1.8	13.7	472	262	0.524	0.868	155	120	160	124
1 x 50 cc	min. 6	1.4	1.8	15.6	610	342	0.387	0.641	185	144	195	151
1 x 70 cc	min. 12	1.4	1.8	17.3	846	425	0.268	0.443	225	175	245	190
1 x 95 cc	min. 15	1.6	1.8	19.4	1095	542	0.193	0.320	270	210	300	232
1 x 120 cc	min. 18/15	1.6	1.8	21.0	1338	638	0.153	0.253	310	240	350	272
1 x 150 cc	min. 18/15	1.8	1.8	23.1	1640	790	0.124	0.206	350	270	405	314
1 x 185 cc	min. 30	2.0	2.0	25.6	2026	954	0.0991	0.164	390	302	460	357
1 x 240 cc	min. 34/30	2.2	2.0	28.6	2640	1194	0.0754	0.125	450	349	555	430
1 x 300 cc	min. 34/30	2.4	2.0	31.3	3250	1451	0.0601	0.100	515	386	640	448
1 x 400 cc	min. 53	2.6	2.2	35.3	4220	1880	0.0470	0.0778	585	439	770	540
1 x 500 cc	min. 53	2.8	2.2	38.0	5283	2320	0.0366	0.0605	680	510	900	630
1 x 630 cc	min. 53	2.8	2.2	42.0	6515	2775	0.0283	0.0469	800	600	1030	721
1 x 800 cc	min. 53	2.8	2.4	46.2	8162	3190	0.0221	0.0367	945	708	1160	812
1 x 1000 cc	min. 53	3.0	2.6	51.1	10285	3350	0.0176	0.0291	1095	821	1310	917

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

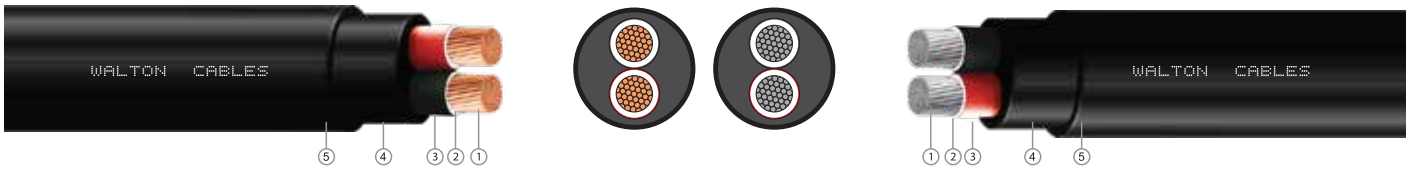
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV=FR-PVC Insulated & PVC Sheathed Copper Cable, ZR-VLV=FR-PVC Insulated & PVC Sheathed Aluminium Cable, CC = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-FR/YY-FR/AYY-FR/NAYY-FR/ZR-VV/ZR-VLV FR-PVC Insulated & PVC Sheathed Two Core Cable



① Conductor- Cu/ Alu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC PVC Inner Sheath

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm2	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 1.5 re	1/1.38	0.8	1.8	11.2	165	-	12.1	-	25	-	19	-
2 x 1.5 rm	7/0.52	0.8	1.8	11.6	170	-	12.1	-	25	-	19	-
2 x 2.5 re	1/1.78	0.8	1.8	12.4	205	-	7.41	-	34	-	27	-
2 x 2.5 rm	7/0.67	0.8	1.8	12.8	215	-	7.41	-	34	-	27	-
2 x 4.0 rm	7/0.85	1.0	1.8	14.5	305	265	4.61	7.41	44	33	35	29
2 x 6.0 rm	7/1.04	1.0	1.8	15.6	375	315	3.08	4.61	55	41	45	38
2 x 10 rm	7/1.35	1.0	1.8	17.5	509	398	1.83	3.08	74	56	62	51
2 x 16 rm	7/1.70	1.0	1.8	19.5	691	518	1.15	1.91	97	73	84	64
2 x 25 rm	7/2.14	1.2	1.8	23.5	1030	700	0.727	1.20	125	96	110	85
2 x 35 cc	min. 6	1.2	1.8	25.5	1265	815	0.524	0.868	150	114	140	108
2 x 50 cc	min. 6	1.4	1.8	28.1	1689	1058	0.387	0.641	178	137	170	131
2 x 70 cc	min. 12	1.4	1.8	31.7	2210	1300	0.268	0.443	216	166	213	165
2 x 95 cc	min. 15	1.6	1.8	36.5	2950	1745	0.193	0.320	259	200	261	202
2 x 120 cc	min. 18/15	1.6	1.8	39.7	3590	2080	0.153	0.253	298	228	305	237
2 x 150 cc	min. 18/15	1.8	1.8	43.4	4380	2510	0.124	0.206	336	256	352	273
2 x 185 cc	min. 30	2.0	2.0	48.0	5375	3052	0.0991	0.164	374	287	400	311

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

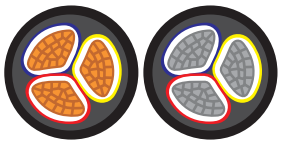
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV=FR-PVC Insulated & PVC Sheathed Copper Cable, ZR-VLV=FR-PVC Insulated & PVC Sheathed Aluminium Cable CC=Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-FR/YY-FR/AYY-FR/NAYY-FR/ZR-VV/ZR-VLV FR-PVC Insulated & PVC Sheathed Three Core Cable



① Conductor- Cu/ Alu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC PVC Inner Sheath

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 1.5 re	1/1.38	0.8	1.8	11.8	195	-	12.1	-	22	-	16	-
3 x 1.5 rm	7/0.52	0.8	1.8	12.2	200	-	12.1	-	22	-	16	-
3 x 2.5 re	1/1.78	0.8	1.8	12.7	250	-	7.41	-	30	-	23	-
3 x 2.5 rm	7/0.67	0.8	1.8	13.2	260	-	7.41	-	30	-	23	-
3 x 4.0 rm	7/0.85	1.0	1.8	15.0	360	260	4.61	7.41	38	30	32	25
3 x 6.0 rm	7/1.04	1.0	1.8	16.4	460	305	3.08	4.61	48	39	41	34
3 x 10 rm	7/1.35	1.0	1.8	18.5	625	379	1.83	3.08	64	49	56	43
3 x 16 rm	7/1.70	1.0	1.8	21.0	920	480	1.15	1.91	83	64	75	58
3 x 25 rm	7/2.14	1.2	1.8	25.0	1320	652	0.727	1.20	110	86	98	76
3 x 35 sm	min. 6	1.2	1.8	24.2	1400	804	0.524	0.868	130	101	120	93
3 x 50 sm	min. 6	1.4	1.8	25.9	1815	1045	0.387	0.641	155	120	150	116
3 x 70 sm	min. 12	1.4	2	29.2	2444	1325	0.268	0.443	190	148	190	148
3 x 95 sm	min. 15	1.6	2.1	33.4	3350	1735	0.193	0.320	225	175	230	179
3 x 120 sm	min. 18/15	1.6	2.2	36.3	4110	2040	0.153	0.253	260	202	270	210
3 x 150 sm	min. 18/15	1.8	2.3	39.5	5100	2475	0.124	0.206	295	229	305	237
3 x 185 sm	min. 30	2.0	2.5	43.5	6260	3040	0.0991	0.164	330	257	350	272
3 x 240 sm	min. 34/30	2.2	2.7	48.8	7900	3795	0.0754	0.125	385	299	410	318
3 x 300 sm	min. 34/30	2.4	2.9	54.1	10000	4700	0.0601	0.100	425	329	470	364
3 x 400 sm	min. 53	2.6	3.1	62.8	15471	7897	0.0470	0.0778	458	375	503	398

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

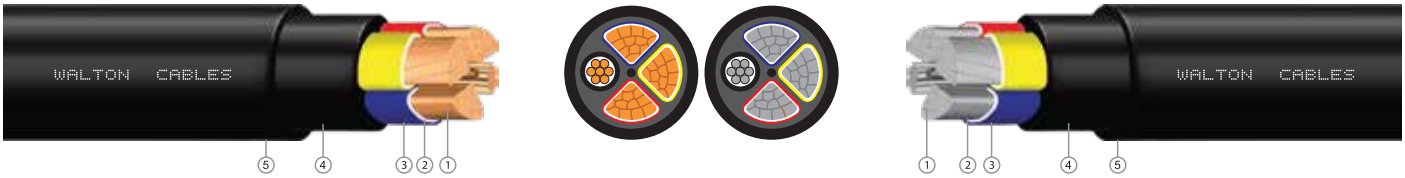
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV=FR-PVC Insulated & PVC Sheathed Copper Cable, ZR-VLV=FR-PVC Insulated & PVC Sheathed Aluminium Cable, sm=Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-FR/YY-FR/AYY-FR/NAYY-FR/ZR-VV/ZR-VLV FR-PVC Insulated & PVC Sheathed Three & Half Core Cable



① Conductor- Cu/ Alu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC PVC Inner Sheath

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm / 10 rm	7/1.70 7/1.35	1.0 1.0	1.8	22.5	1053	685	1.15 / 1.83	1.91 / 3.08	83	64	75	58
3 x 25 rm / 16 rm	7/2.14 7/1.70	1.2 1.0	1.8	27.0	1400	910	0.727 / 1.15	1.20 / 1.91	110	86	98	76
3 x 35 sm / 16 rm	min. 6 7/1.70	1.2 1.0	1.8	26.2	1580	920	0.524 / 1.15	0.868 / 1.91	130	101	120	93
3 x 50 sm / 25 rm	min. 6 7/2.14	1.4 1.2	1.9	28.5	2180	1200	0.387 / 0.727	0.641 / 1.20	155	120	150	116
3 x 70 sm / 35 cc	min. 12 min. 6	1.4 1.2	2.0	32.5	2910	1505	0.268 / 0.524	0.443 / 0.868	190	148	190	148
3 x 95 sm / 50 cc	min. 15 min. 6	1.6 1.4	2.2	38.0	3950	2000	0.193 / 0.387	0.320 / 0.641	225	175	230	179
3 x 120 sm / 70 cc	min. 18/15 min. 12	1.6 1.4	2.3	40.8	5050	2390	0.153 / 0.268	0.253 / 0.443	260	202	270	210
3 x 150 sm / 70 cc	min. 18/15 min. 12	1.8 1.4	2.4	45.0	6020	2830	0.124 / 0.268	0.206 / 0.443	295	229	305	237
3 x 185 sm / 95 cc	min. 30 min. 15	2.0 1.6	2.6	50.5	7450	3510	0.0991 / 0.193	0.164 / 0.320	330	257	350	272
3 x 240 sm / 120 cc	min. 34/30 min. 18/15	2.2 1.6	2.8	56.0	9650	4360	0.0754 / 0.153	0.125 / 0.253	385	299	410	318
3 x 300 sm / 150 cc	min. 34/30 min. 18/15	2.4 1.8	3.0	63.0	12100	5404	0.0601 / 0.124	0.100 / 0.206	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

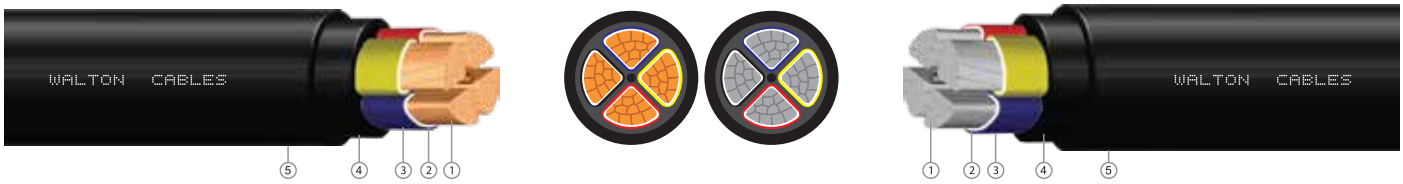
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV=FR-PVC Insulated & PVC Sheathed Copper Cable, ZR-VLV=FR-PVC Insulated & PVC Sheathed Aluminium Cable, sm=Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-FR/YY-FR/AYY-FR/NAYY-FR/ZR-VV/ZR-VLV FR-PVC Insulated & PVC Sheathed Four Core Cable



① Conductor- Cu/ Alu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC PVC Inner Sheath

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 1.5 re	1/1.38	0.8	1.8	12.5	230	-	12.1	-	22	-	16	-
4 x 1.5 rm	7/0.52	0.8	1.8	13.0	235	-	12.1	-	22	-	16	-
4 x 2.5 re	1/1.78	0.8	1.8	14.0	305	-	7.41	-	30	-	23	-
4 x 2.5 rm	7/0.67	0.8	1.8	14.6	312	-	7.41	-	30	-	23	-
4 x 4.0 rm	7/0.85	1.0	1.8	16.2	430	290	4.61	7.41	38	30	32	25
4 x 6.0 rm	7/1.04	1.0	1.8	17.5	540	345	3.08	4.61	48	39	41	34
4 x 10 rm	7/1.35	1.0	1.8	20.0	760	480	1.83	3.08	64	49	56	43
4 x 16 rm	7/1.70	1.0	1.8	23.2	1135	660	1.15	1.91	83	64	75	58
4 x 25 rm	7/2.14	1.2	1.8	27.6	1600	900	0.727	1.20	110	86	98	76
4 x 35 sm	min. 6	1.2	1.8	26.4	1800	985	0.524	0.868	130	101	120	93
4 x 50 sm	min. 6	1.4	1.9	29.0	2460	1310	0.387	0.641	155	120	150	116
4 x 70 sm	min. 12	1.4	2.1	33.5	3250	1700	0.268	0.443	190	148	190	148
4 x 95 sm	min. 15	1.6	2.2	38.4	4400	2190	0.193	0.320	225	175	230	179
4 x 120 sm	min. 18/15	1.6	2.4	41.0	5500	2605	0.153	0.253	260	202	270	210
4 x 150 sm	min. 18/15	1.8	2.5	45.2	6800	3210	0.124	0.206	295	229	305	237
4 x 185 sm	min. 30	2.0	2.7	50.5	8350	3890	0.0991	0.164	330	257	350	272
4 x 240 sm	min. 34/30	2.2	2.9	56.0	10700	4925	0.0754	0.125	385	299	410	318
4 x 300 sm	min. 34/30	2.4	3.1	64.0	13200	5950	0.0601	0.100	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

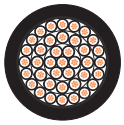
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV=FR-PVC Insulated & PVC Sheathed Copper Cable, ZR-VLV=FR-PVC Insulated & PVC Sheathed Aluminium Cable, sm=Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYY-1-FR/ZR-KVV FR-PVC Insulated & PVC Sheathed Multi Core Control Cable



① Conductor-Cu Class- 1, 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ Binder PVC/PE Tape

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Insulation Thickness	Nominal Thickness of Sheath	Approx. Overall Diameter	Approx. Wt. of cable	Current rating at 30°C in ground	Current rating at 35°C in air
					CU	CU	CU
No.xmm²	No./mm	mm	mm	mm	kg/km	amps	amps
5 x 1.5 re	1/1.38	0.8	1.8	12.6	210	18	13
7 x 1.5 re	1/1.38	0.8	1.8	13.5	260	16	12
10 x 1.5 re	1/1.38	0.8	1.8	16.5	360	13	10
12 x 1.5 re	1/1.38	0.8	1.8	17.0	405	12	9
16 x 1.5 re	1/1.38	0.8	1.8	18.6	510	11	8
21 x 1.5 re	1/1.38	0.8	1.8	20.5	640	9	7
24 x 1.5 re	1/1.38	0.8	1.8	22.5	720	9	7
30 x 1.5 re	1/1.38	0.8	1.8	24.0	860	8	6
5 x 2.5 re	1/1.78	0.8	1.8	13.6	289	24	19
7 x 2.5 re	1/1.78	0.8	1.8	14.5	360	21	17
10 x 2.5 re	1/1.78	0.8	1.8	18.3	490	18	14
12 x 2.5 re	1/1.78	0.8	1.8	18.8	567	16	13
16 x 2.5 re	1/1.78	0.8	1.8	20.8	727	14	11
21 x 2.5 re	1/1.78	0.8	1.8	23.2	920	13	10
24 x 2.5 re	1/1.78	0.8	1.8	25.5	1040	12	9
30 x 2.5 re	1/1.78	0.8	1.8	26.9	1250	10	8
5 x 4 rm	7/0.85	1.0	1.8	16.8	402	31	25
7 x 4 rm	7/0.85	1.0	1.8	18.2	544	27	22
10 x 4 rm	7/0.85	1.0	1.8	22.8	750	23	19
12 x 4 rm	7/0.85	1.0	1.8	23.7	855	21	17

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

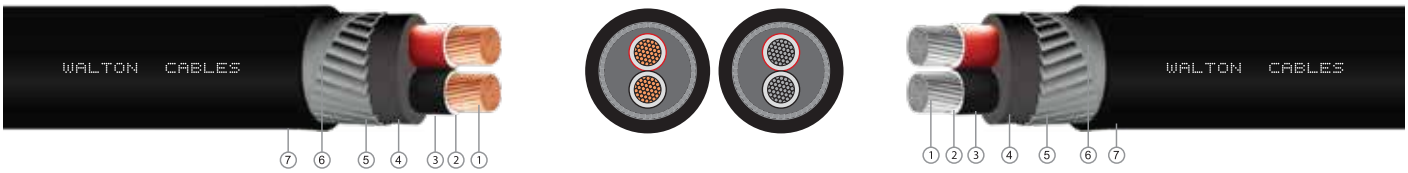
Application

1. Electric power controling system 2. Signal controling unit 3. Low voltage controling

NOTE

ZR-KVV=FR-PVC Insulated & PVC Sheathed multicore Copper control cable, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYFGbY-FR/NAYFGbY-FR/YFGY-FR/AYFGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Two Core Flat Steel Wire Armour Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Flat Steel Wire Armour

⑥ Binder Steel Tape Binder

⑦ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 10 rm	7/1.35	1.0	4 x 0.8	1.8	20.5	890	760	1.83	3.08	74	56	62	51
2 x 16 rm	7/1.70	1.0	4 x 0.8	1.8	22.6	1085	881	1.15	1.91	97	73	84	64
2 x 25 rm	7/2.14	1.2	4 x 0.8	1.8	25.9	1485	1179	0.727	1.20	125	96	110	85
2 x 35 cc	min. 6	1.2	4 x 0.8	1.8	27.4	1765	1319	0.524	0.868	150	114	140	108
2 x 50 cc	min. 6	1.4	4 x 0.8	1.8	30.8	2245	1610	0.387	0.641	178	137	170	131
2 x 70 cc	min. 12	1.4	4 x 0.8	1.9	33.8	2850	1989	0.268	0.443	216	166	213	165
2 x 95 cc	min. 15	1.6	4 x 0.8	2.1	38.5	3710	2515	0.193	0.320	259	200	261	202
2 x 120 cc	min. 18/15	1.6	4 x 0.8	2.2	42.5	4465	2910	0.153	0.253	298	228	305	237
2 x 150 cc	min. 18/15	1.8	4 x 0.8	2.3	46.3	5365	3490	0.124	0.206	336	256	352	273
2 x 185 cc	min. 30	2.0	4 x 0.8	2.4	50.5	6395	4100	0.0991	0.164	374	287	400	311

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

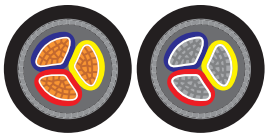
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, cc = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYFGbY-FR/NAYFGbY-FR/YFGY-FR/AYFGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Three Core Flat Steel Wire Armour Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Flat Steel Wire Armour

⑥ Binder Steel Tape

⑦ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20 °C		Current rating in ground at 30 °C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 10 rm	7/1.35	1.0	4 x 0.8	1.8	21.5	995	780	1.83	3.08	64	49	56	43
3 x 16 rm	7/1.70	1.0	4 x 0.8	1.8	24.0	1273	970	1.15	1.91	83	64	75	58
3 x 25 rm	7/2.14	1.2	4 x 0.8	1.8	27.0	1790	1261	0.727	1.20	110	86	98	76
3 x 35 sm	min. 6	1.2	4 x 0.8	1.8	26.0	1895	1319	0.524	0.868	130	101	120	93
3 x 50 sm	min. 6	1.4	4 x 0.8	1.9	28.0	2500	1600	0.387	0.641	155	120	150	116
3 x 70 sm	min. 12	1.4	4 x 0.8	2.0	31.0	3115	1963	0.268	0.443	190	148	190	148
3 x 95 sm	min. 15	1.6	4 x 0.8	2.2	36.4	4325	2478	0.193	0.320	225	175	230	179
3 x 120 sm	min. 18/15	1.6	4 x 0.8	2.3	39.0	5220	2835	0.153	0.253	260	202	270	210
3 x 150 sm	min. 18/15	1.8	4 x 0.8	2.4	43.0	6375	3336	0.124	0.206	295	229	305	237
3 x 185 sm	min. 30	2.0	4 x 0.8	2.6	47.0	7650	3995	0.0991	0.164	330	257	350	272
3 x 240 sm	min. 34/30	2.2	4 x 0.8	2.8	53.0	9650	4864	0.0754	0.125	385	299	410	318
3 x 300 sm	min. 34/30	2.4	4 x 0.8	3.0	58.5	12080	5819	0.0601	0.100	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

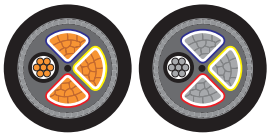
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYFGbY-FR/NAYFGbY-FR/YFGY-FR/AYFGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Three & Half Core Flat Steel Wire Armour Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Flat Steel Wire Armour

⑥ Binder Steel Tape

⑦ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm / 10 rm	7/1.70 7/1.35	1.0 1.0	4 x 0.8	1.8	24.9	1525	1100	1.15 / 1.83	1.91 / 3.08	83	64	75	58
3 x 25 rm / 16 rm	7/2.14 7/1.70	1.2 1.0	4 x 0.8	1.8	28.9	2010	1434	0.727 / 1.15	1.20 / 1.91	110	86	98	76
3 x 35 sm / 16 rm	min. 6 7/1.70	1.2 1.0	4 x 0.8	1.8	28.3	2130	1402	0.524 / 1.15	0.868 / 1.91	130	101	120	93
3 x 50 sm / 25 rm	min. 6 7/2.14	1.4 1.2	4 x 0.8	1.9	32.2	3060	1803	0.387 / 0.727	0.641 / 1.20	155	120	150	116
3 x 70 sm / 35 cc	min. 12 min. 6	1.4 1.2	4 x 0.8	2.1	36.1	3950	2175	0.268 / 0.524	0.443 / 0.868	190	148	190	148
3 x 95 sm / 50 cc	min. 15 min. 6	1.6 1.4	4 x 0.8	2.2	41.0	5110	2775	0.193 / 0.387	0.320 / 0.641	225	175	230	179
3 x 120 sm / 70 cc	min. 18/15 min. 12	1.6 1.4	4 x 0.8	2.3	44.4	6490	3323	0.153 / 0.268	0.253 / 0.443	260	202	270	210
3 x 150 sm / 70 cc	min. 18/15 min. 12	1.8 1.4	4 x 0.8	2.4	48.3	7300	3723	0.124 / 0.268	0.206 / 0.443	295	229	305	237
3 x 185 sm / 95 cc	min. 30 min. 15	2.0 1.6	4 x 0.8	2.6	53.5	9050	5018	0.0991 / 0.193	0.164 / 0.320	330	257	350	272
3 x 240 sm / 120 cc	min. 34/30 min. 18/15	2.2 1.6	4 x 0.8	2.8	59.5	11100	5812	0.0754 / 0.153	0.125 / 0.253	385	299	410	318
3 x 300 sm / 150 cc	min. 34/30 min. 18/15	2.4 1.8	4 x 0.8	3.0	68.0	14400	7009	0.0601 / 0.124	0.100 / 0.206	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

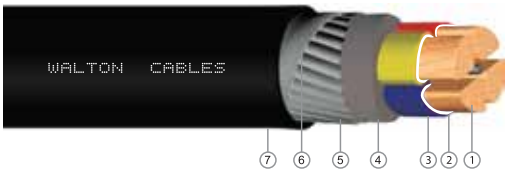
Application

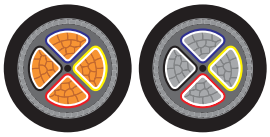
1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYFGbY-FR/NAYFGbY-FR/YFGY-FR/AYFGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Two Core Flat Steel Wire Armour Cable





① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Flat Steel Wire Armour

⑥ Binder Steel Tape

⑦ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 10 rm	7/1.35	1.0	4 x 0.8	1.8	23.2	1205	945	1.83	3.08	64	49	56	43
4 x 16 rm	7/1.70	1.0	4 x 0.8	1.8	26.0	1560	1153	1.15	1.91	83	64	75	58
4 x 25 rm	7/2.14	1.2	4 x 0.8	1.8	30.0	2100	1500	0.727	1.20	110	86	98	76
4 x 35 sm	min. 6	1.2	4 x 0.8	1.8	29.2	2400	1580	0.524	0.868	130	101	120	93
4 x 50 sm	min. 6	1.4	4 x 0.8	2.0	32.8	3280	2165	0.387	0.641	155	120	150	116
4 x 70 sm	min. 12	1.4	4 x 0.8	2.1	37.5	4285	2614	0.268	0.443	190	148	190	148
4 x 95 sm	min. 15	1.6	4 x 0.8	2.3	42.0	5500	3227	0.193	0.320	225	175	230	179
4 x 120 sm	min. 18/15	1.6	4 x 0.8	2.4	44.4	6800	3687	0.153	0.253	260	202	270	210
4 x 150 sm	min. 18/15	1.8	4 x 0.8	2.6	48.5	8180	4365	0.124	0.206	295	229	305	237
4 x 185 sm	min. 30	2.0	4 x 0.8	2.7	54.0	10250	5134	0.0991	0.164	330	257	350	272
4 x 240 sm	min. 34/30	2.2	4 x 0.8	3.0	60.8	12900	6292	0.0754	0.125	385	299	410	318
4 x 300 sm	min. 34/30	2.4	4 x 0.8	3.2	67.5	15400	7394	0.0601	0.100	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

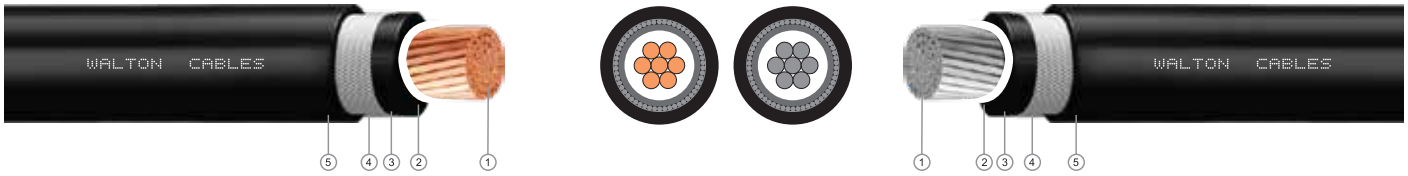
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYRaY-FR/NAYRaY-FR/YRaY-FR/AYRaY-FR FR-PVC Insulated & PVC Sheathed Round Alu. armoured Single Core Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ Ar. Round Al. Armour

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nom. Diameter of Round AL wire armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
1 x 35 cc	min. 6	1.2	1.25	1.8	17.3	615	290	0.524	0.868	155	120	160	124
1 x 50 cc	min. 6	1.4	1.25	1.8	19.3	770	370	0.387	0.641	185	144	195	151
1 x 70 cc	min. 12	1.4	1.25	1.8	20.8	1000	455	0.268	0.443	225	175	245	190
1 x 95 cc	min. 15	1.6	1.25	1.8	23.3	1265	570	0.193	0.320	270	210	300	232
1 x 120 cc	min. 18/15	1.6	1.6	1.8	25.5	1575	680	0.153	0.253	310	240	350	272
1 x 150 cc	min. 18/15	1.8	1.6	1.8	27.5	1915	800	0.124	0.206	350	270	405	314
1 x 185 cc	min. 30	2.0	1.6	1.8	29.5	2325	950	0.0991	0.164	390	302	460	357
1 x 240 cc	min. 34/30	2.2	1.6	1.9	32.3	2920	1195	0.0754	0.125	450	349	555	430
1 x 300 cc	min. 34/30	2.4	2.0	2.0	36.0	3620	1485	0.0601	0.100	515	386	640	448
1 x 400 cc	min. 53	2.6	2.0	2.1	40.1	4675	1873	0.0470	0.0778	585	439	770	540
1 x 500 cc	min. 53	2.8	2.0	2.2	43.6	5725	2270	0.0366	0.0605	680	510	900	630
1 x 630 cc	min. 53	2.8	2.0	2.4	47.2	7025	2760	0.0283	0.0469	800	600	1030	721
1 x 800 cc	min. 53	2.8	2.5	2.5	54.4	8920	3465	0.0221	0.0367	945	708	1160	812
1 x 1000 cc	min. 53	3.0	2.5	2.7	59.3	11020	4250	0.0176	0.0291	1095	821	1310	917

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

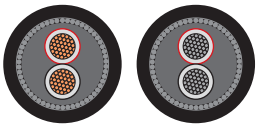
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

FR = Flame Retardant, CC = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYRGY-FR/YRGY-FR/NAYRGY-FR/AYRGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Round Steel Wire Armoured Two Core Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Round Steel Armour

⑥ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 10 rm	7/1.35	1.0	1.25	1.8	20.5	913	786	1.83	3.08	74	56	62	51
2 x 16 rm	7/1.70	1.0	1.25	1.8	23.0	1165	950	1.15	1.91	97	73	84	64
2 x 25 rm	7/2.14	1.2	1.6	1.8	26.5	1675	1360	0.727	1.20	125	96	110	85
2 x 35 cc	min. 6	1.2	1.6	1.9	29.0	1985	1535	0.524	0.868	150	114	140	108
2 x 50 cc	min. 6	1.4	1.6	2.0	32.2	2515	1875	0.387	0.641	178	137	170	131
2 x 70 cc	min. 12	1.4	2.0	2.1	36.3	3369	2470	0.268	0.443	216	166	213	165
2 x 95 cc	min. 15	1.6	2.0	2.3	41.5	4345	3140	0.193	0.320	259	200	261	202
2 x 120 cc	min. 18/15	1.6	2.0	2.4	45.0	5140	3600	0.153	0.253	298	228	305	237
2 x 150 cc	min. 18/15	1.8	2.5	2.6	49.5	6548	4620	0.124	0.206	336	256	352	273
2 x 185 cc	min. 30	2.0	2.5	2.7	54.5	7735	5380	0.0991	0.164	374	287	400	311

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

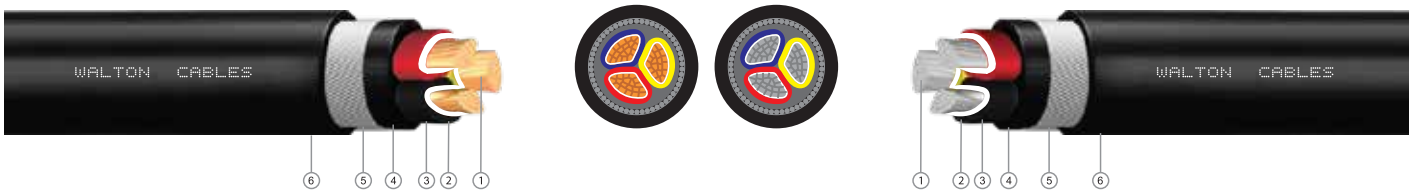
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, cc = compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYRGY-FR/YRGY-FR/NAYRGY-FR/AYRGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Round Steel Wire Armoured Three Core Cable



① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Round Steel Armour

⑥ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 10 rm	7/1.35	1.0	1.25	1.8	21.8	1030	835	1.83	3.08	64	49	56	43
3 x 16 rm	7/1.70	1.0	1.6	1.8	25.0	1425	1110	1.15	1.91	83	64	75	58
3 x 25 rm	7/2.14	1.2	1.6	1.8	28.5	1925	1450	0.727	1.20	110	86	98	76
3 x 35 sm	min. 6	1.2	1.6	1.8	27.8	2080	1415	0.524	0.868	130	101	120	93
3 x 50 sm	min. 6	1.4	1.6	2.0	30.7	2650	1698	0.387	0.641	155	120	150	116
3 x 70 sm	min. 12	1.4	2.0	2.1	34.6	3700	2362	0.268	0.443	190	148	190	148
3 x 95 sm	min. 15	1.6	2.0	2.2	39.0	4750	2942	0.193	0.320	225	175	230	179
3 x 120 sm	min. 18/15	1.6	2.0	2.3	42.1	5660	3382	0.153	0.253	260	202	270	210
3 x 150 sm	min. 18/15	1.8	2.5	2.5	47.3	7265	4413	0.124	0.206	295	229	305	237
3 x 185 sm	min. 30	2.0	2.5	2.7	50.5	8660	5149	0.0991	0.164	330	257	350	272
3 x 240 sm	min. 34/30	2.2	2.5	2.9	57.0	10819	6245	0.0754	0.125	385	299	410	318
3 x 300 sm	min. 34/30	2.4	2.5	3.1	61.0	12993	7204	0.0601	0.100	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYRGY-FR/YRGY-FR/NAYRGY-FR/AYRGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Round Steel Wire Armoured Three & Half Core Cable

① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Round Steel Armour

⑥ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm/ 10 rm	7/1.70 7/1.35	1.0 1.0	1.6	1.8	26.3	1640	1230	1.15 / 1.83	1.91 / 3.08	83	64	75	58
3 x 25 rm/ 16 rm	7/2.14 7/1.70	1.2 1.0	1.6	1.8	30.8	2180	1550	0.727 / 1.15	1.20 / 1.91	110	86	98	76
3 x 35 sm/ 16 rm	min. 6 7/1.70	1.2 1.0	1.6	1.9	30.1	2465	1698	0.524 / 1.15	0.868 / 1.91	130	101	120	93
3 x 50 sm/ 25 rm	min. 6 7/2.14	1.4 1.2	2.0	2.0	33.5	3250	2140	0.387 / 0.727	0.641 / 1.20	155	120	150	116
3 x 70 sm/ 35 cc	min. 12 min. 6	1.4 1.2	2.0	2.1	38.7	4310	2752	0.268 / 0.524	0.443 / 0.868	190	148	190	148
3 x 95 sm/ 50 cc	min. 15 min. 6	1.6 1.4	2.0	2.3	43.3	5601	3480	0.193 / 0.387	0.320 / 0.641	225	175	230	179
3 x 120 sm/ 70 cc	min. 18/15 min. 12	1.6 1.4	2.5	2.5	48.0	7159	4435	0.153 / 0.268	0.253 / 0.443	260	202	270	210
3 x 150 sm/ 70 cc	min. 18/15 min. 12	1.8 1.4	2.5	2.6	51.2	8347	5049	0.124 / 0.268	0.206 / 0.443	295	229	305	237
3 x 185 sm/ 95 cc	min. 30 min. 15	2.0 1.6	2.5	2.7	56.1	10000	5888	0.0991 / 0.193	0.164 / 0.320	330	257	350	272
3 x 240 sm/ 120 cc	min. 34/30 min. 18/15	2.2 1.6	2.5	2.9	62.3	12383	7049	0.0754 / 0.153	0.125 / 0.253	385	299	410	318
3 x 300 sm/ 150 cc	min. 34/30 min. 18/15	2.4 1.8	2.5	3.1	68.2	15100	8380	0.0601 / 0.124	0.100 / 0.206	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYRGY-FR/YRGY-FR/NAYRGY-FR/AYRGY-FR /ZR-VV32/ZR-VLV32 FR-PVC Insulated & PVC Sheathed Round Steel Wire Armoured Four Core Cable

① Conductor- Cu/ Alu Class- 2

② PVC FR-PVC Insulated

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Ar. Round Steel Armour

⑥ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 10 rm	7/1.35	1.0	1.25	1.8	23.6	1230	975	1.83	3.08	64	49	56	43
4 x 16 rm	7/1.70	1.0	1.6	1.8	26.9	1698	1295	1.15	1.91	83	64	75	58
4 x 25 rm	7/2.14	1.2	1.6	1.8	31.2	2320	1688	0.727	1.20	110	86	98	76
4 x 35 sm	min. 6	1.2	1.6	1.8	30.1	2620	1733	0.524	0.868	130	101	120	93
4 x 50 sm	min. 6	1.4	1.6	2.0	34.5	3525	2257	0.387	0.641	155	120	150	116
4 x 70 sm	min. 12	1.4	2.0	2.1	39.5	4675	2892	0.268	0.443	190	148	190	148
4 x 95 sm	min. 15	1.6	2.0	2.2	45.2	6450	4044	0.193	0.320	225	175	230	179
4 x 120 sm	min. 18/15	1.6	2.0	2.3	48.6	7640	4601	0.153	0.253	260	202	270	210
4 x 150 sm	min. 18/15	1.8	2.5	2.5	52.0	9150	5348	0.124	0.206	295	229	305	237
4 x 185 sm	min. 30	2.0	2.5	2.7	58.3	11050	6369	0.0991	0.164	330	257	350	272
4 x 240 sm	min. 34/30	2.2	2.5	2.9	63.0	13850	7751	0.0754	0.125	385	299	410	318
4 x 300 sm	min. 34/30	2.4	2.5	3.1	70.1	17300	9581	0.0601	0.100	425	329	470	364

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily installation.

NOTE

ZR-VV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Copper Cable, ZR-VLV32=FR-PVC Insulated & PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271 GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2)kV	NYCY/YCY FR-PVC Insulated PVC Sheathed Concentric Conductor Screened Three Core Cable

① Conductor- Cu Class- 2

② PVC FR-PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC Inner Sheath

⑤ Scr. Annealed Cu Wire

⑥ Binder Cu Tape

⑦ PVC PVC Outer Sheath

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	No./Dia. of each Concentric Wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable	Max. DC resistance of conductor at 20°C	Current rating in ground at 30°C	Current rating in air at 35°C
No. x mm²	No./mm	mm	No./mm	mm	mm	Kg/Km	Ω/km	Amps	Amps
3 x 16 rm/16C	7/1.70	1.0	19/1.04	1.8	23.0	1070	1.15/1.15	83	75
3 x 25 rm/16C	7/2.14	1.2	19/1.04	1.8	27.0	1469	0.727/1.15	110	98
3 x 35 sm/16C	min. 6	1.2	19/1.04	1.8	26.2	1623	0.524/1.15	130	120
3 x 50 sm/25C	min. 6	1.4	29/1.04	1.9	30.4	2266	0.387/0.727	155	150
3 x 70 sm/35C	min. 12	1.4	35/1.13	2.1	33.7	3011	0.268/0.524	190	190
3 x 95 sm/50C	min. 15	1.6	50/1.13	2.2	38.4	4005	0.193/0.387	225	230
3 x 120 sm/70C	min. 18/15	1.6	70/1.13	2.4	42.1	5031	0.153/0.268	260	270
3 x 150 sm/70C	min. 18/15	1.8	70/1.13	2.5	45.3	6013	0.124/0.268	295	305
3 x 185 sm/95C	min. 30	2.0	67/1.35	2.6	50.1	7458	0.0991/0.193	330	350
3 x 240 sm/120C	min. 34/30	2.2	65/1.53	2.8	55.8	9497	0.0754/0.153	385	410
3 x 300 sm/150C	min. 34/30	2.4	72/1.63	3.2	61.3	11730	0.0601/0.124	425	470

Technical Specification

- Min. bending radius 10 x D
- 160°C Max. short circuit temperature
- 70°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations

NOTE

sm = Sector Shaped, V.G.= Voltage Grade, C = Concentric wire

WALTON
Cables

Chapter 4:
NYY Flexible Cable

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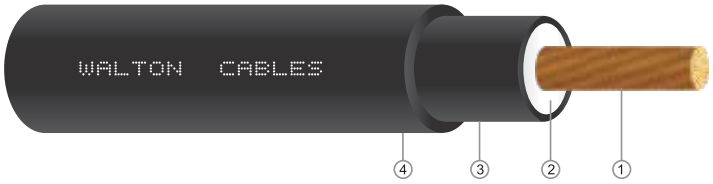
STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271	IEC 60228 Class-5 V.G: 0.6kV / 1 kV (1.2) kV	NYYF/YYF/ZR-VVF FR PVC Insulated PVC Sheathed Flexible Single Core Cable



① Flexible Copper (Class-5)

② PVC Flame Retardant PVC Insulation

③ PVC Black FR-PVC Coating

④ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
1 x 1.5 rm	30/0.25	0.8	1.8	7.2	71	13.30	27	22
1 x 2.5 rm	50/0.25	0.8	1.8	7.8	86	7.98	36	30
1 x 4.0 rm	56/0.30	1.0	1.8	8.5	105	4.95	47	39
1 x 6.0 rm	84/0.30	1.0	1.8	9.1	135	3.30	59	50
1 x 10 rm	80/0.40	1.0	1.8	10.2	185	1.91	78	69
1 x 16 rm	126/0.40	1.0	1.8	11.6	263	1.21	100	94
1 x 25 rm	196/0.40	1.2	1.8	13.3	370	0.780	130	125
1 x 35 rm	276/0.40	1.2	1.8	14.8	486	0.554	155	160
1 x 50 rm	396/0.40	1.4	1.8	17.2	675	0.386	185	195
1 x 70 rm	360/0.50	1.4	1.8	19.0	890	0.272	225	245
1 x 95 rm	475/0.50	1.6	1.8	21.0	1160	0.206	270	300
1 x 120 rm	608/0.50	1.6	1.8	22.6	1435	0.161	310	350
1 x 150 rm	756/0.50	1.8	1.8	25.0	1765	0.129	350	405
1 x 185 rm	925/0.50	2.0	2.0	27.5	2200	0.106	390	460
1 x 240 rm	1221/0.50	2.2	2.0	30.0	2750	0.0801	450	555
1 x 300 rm	1525/0.50	2.4	2.0	33.0	3400	0.0641	515	640
1 x 400 rm	2013/0.50	2.6	2.2	38.5	4450	0.0486	585	770
1 x 500 rm	1769/0.60	2.8	2.2	41.5	5545	0.0384	680	900
1 x 630 rm	3209/0.50	2.8	2.2	46.0	6935	0.0287	800	1030

Technical Specification

- Min. bending radius 8 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

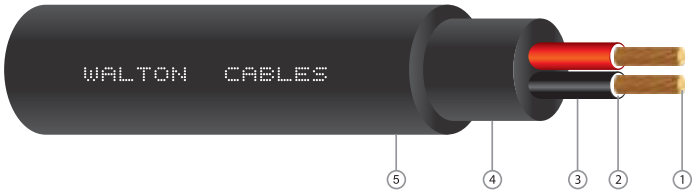
Application

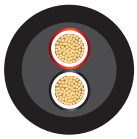
1. Electric Power Plants
2. Industrial Plants
3. Transformer Stations
4. Metropolitan networks and in other electric plants for fixed temporarily installation.

NOTE

V.G= =Voltage Grade, kV = Killo Volt, FR = Flame Retardant

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271	IEC 60228 Class-5 V.G: 0.6kV / 1 kV (1.2) kV	NYYF/YYF/ZR-VVF FR PVC Insulated PVC Sheathed Flexible Two Core Cable





① Flexible Copper (Class-5)

② PVC — FR PVC Flame Retardant PVC

③ PVC — FR-PVC Skin Coating

④ PVC — PVC Inner Sheath

⑤ PVC — Extruded PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
2 x 1.5 rm	30/0.25	0.8	1.8	12.5	196	13.30	25	20
2 x 2.5 rm	50/0.25	0.8	1.8	13.6	242	7.98	35	30
2 x 4.0 rm	56/0.30	1.0	1.8	15.0	315	4.95	45	38
2 x 6.0 rm	84/0.30	1.0	1.8	16.8	400	3.30	57	46
2 x 10 rm	80/0.40	1.0	1.8	18.4	525	1.91	76	65
2 x 16 rm	126/0.40	1.0	1.8	22.0	750	1.21	100	86
2 x 25 rm	196/0.40	1.2	1.8	26.2	1135	0.78	128	115
2 x 35 rm	276/0.40	1.2	1.8	28.0	1320	0.554	153	145

Technical Specification

- Min. bending radius 8 x D
- 160° C — Max. short circuit temperature
- 70° C — Max. operating temperature
- 0.6/1 KV — Rated voltage Uo/U
- 3.5 KV — AC test voltage
- Pb — Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

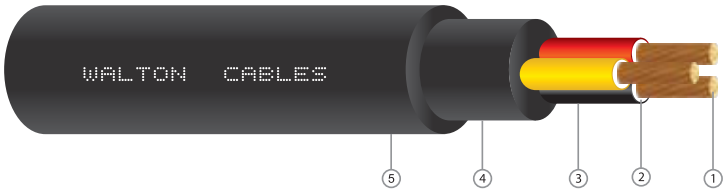
Application

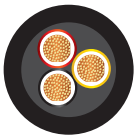
1. Electric Power Plants
2. Industrial Plants
3. Transformer Stations
4. Metropolitan networks and in other electric plants for fixed temporarily installation.

NOTE

V.G= =Voltage Grade, kV = Killo Volt, FR = Flame Retardant

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271	IEC 60228 Class-5 V.G: 0.6kV / 1 kV (1.2) kV	NYYF/YYF/ZR-VVF FR PVC Insulated PVC Sheathed Flexible Three Core Cable





① Flexible Copper (Class-5)

② PVC — FR PVC Flame Retardant PVC

③ PVC — FR-PVC Skin Coating

④ PVC — PVC Inner Sheath

⑤ PVC — Extruded PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
3 x 1.5 rm	30/0.25	0.8	1.8	12.6	218	13.30	23	18
3 x 2.5 rm	50/0.25	0.8	1.8	14.2	290	7.98	31	25
3 x 4.0 rm	56/0.30	1.0	1.8	16.1	382	4.95	40	33
3 x 6.0 rm	84/0.30	1.0	1.8	17.6	480	3.30	49	44
3 x 10 rm	80/0.40	1.0	1.8	19.8	655	1.91	66	58
3 x 16 rm	126/0.40	1.0	1.8	22.6	890	1.21	85	80
3 x 25 rm	196/0.40	1.2	1.8	26.0	1220	0.78	111	105
3 x 35 rm	276/0.40	1.2	1.8	29.0	1575	0.554	133	130
3 x 50 rm	396/0.40	1.4	1.8	33.5	2110	0.386	158	152
3 x 70 rm	360/0.50	1.4	2.0	38.0	2920	0.272	192	193
3 x 95 rm	475/0.50	1.6	2.1	42.8	3715	0.206	230	235
3 x 120 rm	608/0.50	1.6	2.2	46.8	4600	0.161	265	273
3 x 150 rm	756/0.50	1.8	2.3	53.0	5730	0.129	298	309

Technical Specification

- Min. bending radius 8 x D
- 160° C — Max. short circuit temperature
- 70° C — Max. operating temperature
- 0.6/1 KV — Rated voltage Uo/U
- 3.5 KV — AC test voltage
- Pb — Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

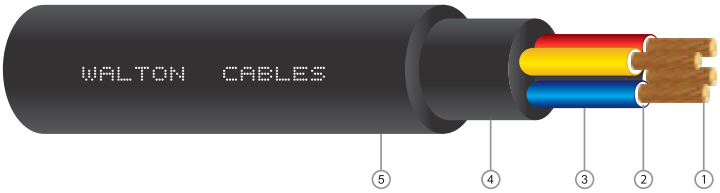
Application

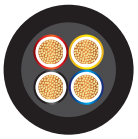
1. Electric Power Plants
2. Industrial Plants
3. Transformer Stations
4. Metropolitan networks and in other electric plants for fixed temporarily installation.

NOTE

V.G= =Voltage Grade, kV = Killo Volt, FR = Flame Retardant

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0271	IEC 60228 Class-5 V.G: 0.6kV / 1 kV (1.2) kV	NYYF/YYF/ZR-VVF FR PVC Insulated PVC Sheathed Flexible Four Core Cable





① Flexible Copper (Class-5)

② PVC — FR PVC Flame Retardant PVC

③ PVC — FR-PVC Skin Coating

④ PVC — PVC Inner Sheath

⑤ PVC — Extruded PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
4 x 1.5 rm	30/0.25	0.8	1.8	13.6	260	13.30	23	18
4 x 2.5 rm	50/0.25	0.8	1.8	15.0	335	7.98	31	25
4 x 4.0 rm	56/0.30	1.0	1.8	17.4	455	4.95	40	33
4 x 6.0 rm	84/0.30	1.0	1.8	19.1	575	3.30	49	44
4 x 10 rm	80/0.40	1.0	1.8	21.5	795	1.91	66	58
4 x 16 rm	126/0.40	1.0	1.8	24.5	1080	1.21	85	80
4 x 25 rm	196/0.40	1.2	1.8	28.5	1550	0.78	111	105
4 x 35 rm	276/0.40	1.2	1.8	32.0	2020	0.554	133	130
4 x 50 rm	396/0.40	1.4	1.9	37.0	2800	0.386	158	152
4 x 70 rm	360/0.50	1.4	2.1	42.5	3750	0.272	192	193
4 x 95 rm	475/0.50	1.6	2.2	47.5	4800	0.206	230	235
4 x 120 rm	608/0.50	1.6	2.4	51.0	5980	0.161	265	273
4 x 150 rm	756/0.50	1.8	2.5	58.0	7430	0.129	298	309

Technical Specification

- Min. bending radius 8 x D
- 160° C — Max. short circuit temperature
- 70° C — Max. operating temperature
- 0.6/1 KV — Rated voltage Uo/U
- 3.5 KV — AC test voltage
- Pb — Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric Power Plants
2. Industrial Plants
3. Transformer Stations
4. Metropolitan networks and in other electric plants for fixed temporarily installation.

NOTE

V.G= =Voltage Grade, kV = Killo Volt, FR = Flame Retardant

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 6346 VDE-0276-603	IEC 60228 V.G: 0.6kV / 1 kV (1.2) kV	NYY-1F (FR)/ZR-VVF Multi Core Flexible Control Cable FR PVC Insulated PVC Sheathed

① Flexible Copper (Class-5)

② PVC FR PVC Flame Retardant PVC

③ PVC FR-PVC Skin Coating

④ PVC PVC Inner Sheath

⑤ PVC Extruded PVC Outer Sheath

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Insulation Thickness	Nominal Thickness of Sheath	Approx. Overall Diameter	Approx. Wt. of cable	Current rating at 30°C in ground	Current rating at 35°C in air
					CU	CU	CU
mm2	mm	mm	mm	mm	kg/km	amps	amps
5 x 1.5 rm	30/0.25	0.8	1.8	12.8	220	20	15
7 x 1.5 rm	30/0.25	0.8	1.8	13.7	270	18	14
10 x 1.5 rm	30/0.25	0.8	1.8	16.7	375	15	12
12 x 1.5 rm	30/0.25	0.8	1.8	17.2	420	14	11
16 x 1.5 rm	30/0.25	0.8	1.8	19.0	530	13	10
21 x 1.5 rm	30/0.25	0.8	1.8	20.8	660	11	9
24 x 1.5 rm	30/0.25	0.8	1.8	23.0	760	10	9
30 x 1.5 rm	30/0.25	0.8	1.8	24.2	900	9	8
5 x 2.5 rm	50/0.25	0.8	1.8	13.8	295	26	21
7 x 2.5 rm	50/0.25	0.8	1.8	15.0	370	23	19
10 x 2.5 rm	50/0.25	0.8	1.8	18.8	505	20	16
12 x 2.5 rm	50/0.25	0.8	1.8	19.4	580	18	15
16 x 2.5 rm	50/0.25	0.8	1.8	21.4	740	16	13
21 x 2.5 rm	50/0.25	0.8	1.8	23.7	940	15	12
24 x 2.5 rm	50/0.25	0.8	1.8	26.2	1080	14	11
30 x 2.5 rm	50/0.25	0.8	1.8	27.8	1290	12	10
5 x 4 rm	56/0.30	1.0	1.8	16.9	420	33	27
7 x 4 rm	56/0.30	1.0	1.8	18.3	550	29	24
10 x 4 rm	56/0.30	1.0	1.8	23.1	770	25	21
12 x 4 rm	56/0.30	1.0	1.8	23.9	890	23	19

Technical Specification

- Min. bending radius 8 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

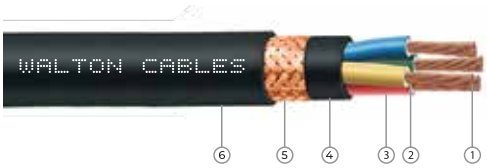
1. Electric equipment and station control circuit
2. Transmit control signals or mesaure signal operations

NOTE

V.G= =Voltage Grade, kV = Killo Volt, FR = Flame Retardant

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
BS EN 50525, IEC 60227-7 BS 6500, GB/T5023: 2008	IEC 60228, Class-5 V.G.: 300/500V	Flexible Shield-FR/ YSLYCY / RVVP / KVVRP FR-PVC Insulated PVC Sheathed & Cu/ATC braided Shield Flexible Cable



① Flexible Copper Class-5

② PVC FR-PVC

③ PVC FR-Skin Coating

④ PVC Inner PVC

⑤ SHIELD Cu/ATC braiding

⑥ PVC FR-PVC Outer Sheath

Nominal Cross Section Area of Conductor	No. / Nom. Diameter of each wire	Nominal thickness of Insulation	Diameter of each Copper braided wire	Nom. Thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable	Maximum D.C resistance of conductor at 20°C	Current Carrying Capacity in conduit at 35°C	Current Carrying Capacity in air at 35°C
No. x mm2	No./mm	mm	mm	mm	mm	Kg/Km	Ω/km	Amps	Amps
2 x 0.50 rm	16/0.20	0.6	0.191	0.9	9.0	105	39.00	3	4
2 x 0.75 rm	24/0.20	0.6	0.191	0.9	9.4	122	26.00	7	8
2 x 1.0 rm	32/0.20	0.6	0.191	0.9	9.8	135	19.50	10	11
2 x 1.5 rm	30/0.25	0.7	0.191	1.0	10.9	165	13.30	15	17
2 x 2.5 rm	50/0.25	0.8	0.191	1.1	12.5	230	7.98	20	22
2 x 4.0 rm	56/0.30	0.8	0.191	1.2	14.2	300	4.95	25	27
3 x 0.50 rm	16/0.20	0.6	0.191	0.9	9.3	120	39.00	3	4
3 x 0.75 rm	24/0.20	0.6	0.191	0.9	9.8	135	26.00	7	8
3 x 1.0 rm	32/0.20	0.6	0.191	1.0	10.4	152	19.50	10	11
3 x 1.5 rm	30/0.25	0.7	0.191	1.0	11.4	188	13.30	15	17
3 x 2.5 rm	50/0.25	0.8	0.191	1.1	13.2	264	7.98	20	22
3 x 4.0 rm	56/0.30	0.8	0.191	1.2	15.0	350	4.95	25	27
4 x 0.50 rm	16/0.20	0.6	0.191	0.9	10.0	134	39.00	3	4
4 x 0.75 rm	24/0.20	0.6	0.191	1.0	10.7	158	26.00	7	8
4 x 1.0 rm	32/0.20	0.6	0.191	1.0	11.1	176	19.50	10	11
4 x 1.5 rm	30/0.25	0.7	0.191	1.1	12.5	232	13.30	15	17
4 x 2.5 rm	50/0.25	0.8	0.191	1.2	14.6	326	7.98	20	22
4 x 4.0 rm	56/0.30	0.8	0.191	1.3	16.5	445	4.95	25	27

Technical Specifications

- Min. bending radius 6xD
- 70° C — Max. operating temperature
- 2.0 to 2.5 KV — AC test voltage
- 160°C — Max. short circuit temperature
- 300/500V — Rated voltage Uo/U
- Flame propagation test on single cable -EN 60332-1
- Pb — Lead Free

Installation Condition

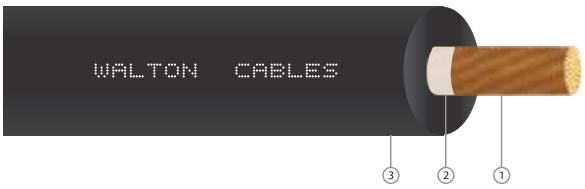
- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

1. Fixed or variable installation in dry or damp premises
2. Used as signalling / communication cable
3. Clipped direct to a surface or on a cable tray

NOTE:
V.G = Voltage Grade
FR = Flame Retardant
ATC = Annealed Tinned Copper
***Core colors are available as per standard or customer requisition

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, IEC 60502-1, IS 9857	Class-6 IEC 60228 V.G: 200V	WELDING CABLE (CU/PVC)



① Fine-stranded Copper (Class-6)

② Binder PVC/PE

③ Covering Black PVC

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of covering	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity at max. duty cycle of 60%
Core x mm²	no./mm	mm	mm	kg/km	Ω/km	amps
1 x 16 rm	511/0.20	2.0	10.5	245	1.21	125
1 x 25 rm	770/0.20	2.0	12.3	326	0.78	169
1 x 35 rm	1064/0.20	2.0	13.4	430	0.554	215
1 x 50 rm	703/0.30	2.0	15.3	575	0.386	264
1 x 70 rm	988/0.30	2.2	18.0	790	0.272	330
1 x 95 rm	1335/0.30	2.2	19.6	935	0.206	405
1 x 120 rm	1690/0.30	2.2	22.0	1295	0.161	473
1 x 150 rm	2072/0.30	2.2	23.0	1450	0.129	545
1 x 185 rm	1460/0.40	2.2	25.0	1780	0.106	615

Technical Specifications

- Min. bending radius 8 x D
- 160° C — Max. short circuit temperature
- 70° C — Max. operating temperature
- 200V — Rated voltage
- 2.5 KV — AC test voltage
- Pb — Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Generally used for welding purpose.
2.0 Works in dry/wet conditions in indoor or outdoor environment.

NOTE

V.G= =Voltage Grade, V = Volt

STANDARDS	CONDUCTOR	CONSTRUCTION
IS 694, IEC 60502-1, IEC 60228	CLASS-5 FLEXIBLE AS PER IEC 60228 V.G: 1100V	FLAT FLEXIBLE SUBMERSIBLE Flexible Cu/FR-PVC Insulation/ PVC Outer Sheath

① Flexible conductor (Class-5)

② PVC Flame Retardant PVC Insulation

③ PVC FR-PVC Skin Coating

④ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diamension (WxT) of Cable	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity at 35°C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps
3 x 1.5 rm	30/0.25	0.8	1.15	12.8 x 6.0	135	13.3	15
3 x 2.5 rm	50/0.25	0.8	1.15	14.6 x 6.4	175	7.98	19
3 x 4.0 rm	56/0.30	1.0	1.15	16.8 x 7.4	253	4.95	27
3 x 6.0 rm	84/0.30	1.0	1.15	18.7 x 7.9	324	3.3	33
3 x 10 rm	80/0.40	1.0	1.40	23.7 x 9.9	525	1.91	44
3 x 16 rm	126/0.40	1.0	1.40	28.0 x 11.4	775	1.21	59
3 x 25 rm	196/0.40	1.2	2.00	35.5 x 14.7	1240	0.78	76
3 x 35 rm	276/0.40	1.2	2.00	39.5 x 16.2	1600	0.554	95
3 x 50 rm	396/0.40	1.4	2.20	45.5 x 18.3	2200	0.386	120
4 x 1.5 rm	30/0.25	0.8	1.30	15.8 x 6.0	165	13.3	15
4 x 2.5 rm	50/0.25	0.8	1.30	18.0 x 6.5	218	7.98	19
4 x 4.0 rm	56/0.30	1.0	1.45	21.0 x 7.6	320	4.95	27
4 x 6.0 rm	84/0.30	1.0	1.50	24.3 x 7.9	426	3.3	33
4 x 10 rm	80/0.40	1.0	1.80	29.7 x 9.9	675	1.91	44
4 x 16 rm	126/0.40	1.0	1.95	36.0 x 11.8	1000	1.21	59
4 x 25 rm	196/0.40	1.2	2.00	45.1 x 14.7	1596	0.78	76
4 x 35 rm	276/0.40	1.2	2.00	50.1 x 16.2	2080	0.554	95
4 x 50 rm	396/0.40	1.4	2.20	58.1 x 18.3	2860	0.386	120

Technical Specification

- Min. bending radius 8 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 1100V Rated voltage
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

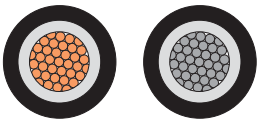
1.0 Submersible Cables are used in pumps, underwater lighting & floating switches.
2.0 Used for agriculture, irrigation and for domestic installation.
3.0 Can be used in dry, moisture and wet environment.
4.0 Used as supply and control cables.

WALTON
Cables

Chapter 5:
XLPE Insulated & Pvc sheathed Unarmoured/armoured Low Voltage Power Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY/A2XY/ZR-YJV/ZR-YJLV XLPE Insulated PVC Sheathed Single Core Cable



① Solid/Stranded Cu/Alu Conductor (Class-1 or Class-2)

② XLPE Cross linked polyethylene

③ PVC PVC

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulatior	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
1 x 1.5 re	1/1.38	0.7	1.4	6.1	50	-	12.1	-	36	-	30	-
1 x 1.5 rm	7/0.52	0.7	1.4	6.2	52	-	12.1	-	36	-	30	-
1 x 2.5 re	1/1.78	0.7	1.4	6.5	63	-	7.41	-	47	-	39	-
1 x 2.5 rm	7/0.67	0.7	1.4	6.6	65	-	7.41	-	47	-	39	-
1 x 4.0 rm	7/0.85	0.7	1.4	7.3	95	55	4.61	7.41	59	47	50	39
1 x 6.0 rm	7/1.04	0.7	1.4	7.9	107	66	3.08	4.61	78	64	69	56
1 x 10 rm	7/1.35	0.7	1.4	8.8	155	85	1.83	3.08	100	77	94	72
1 x 16 rm	7/1.70	0.7	1.4	9.9	227	112	1.15	1.91	130	101	125	97
1 x 16 rm	19/1.04	0.7	1.4	10.0	230	113	1.15	1.91	130	101	125	97
1 x 25 rm	7/2.14	0.9	1.4	11.0	324	160	0.727	1.20	155	120	160	125
1 x 25 rm	19/1.30	0.9	1.4	11.1	328	162	0.727	1.20	155	120	160	125
1 x 35 cc	min. 6	0.9	1.4	12.1	425	200	0.524	0.868	185	144	195	150
1 x 50 cc	min. 6	1.0	1.4	13.6	584	258	0.387	0.641	225	175	245	190
1 x 70 cc	min. 12	1.1	1.4	15.4	788	335	0.268	0.443	270	210	300	233
1 x 95 cc	min. 15	1.1	1.5	17.1	1041	430	0.193	0.320	310	240	350	272
1 x 120 cc	min. 18/15	1.2	1.5	18.8	1292	531	0.153	0.253	350	272	405	315
1 x 150 cc	min. 18/15	1.4	1.6	21.0	1611	640	0.124	0.206	390	302	460	357
1 x 185 cc	min. 30	1.6	1.6	23.0	1976	775	0.0991	0.164	450	350	555	430
1 x 240 cc	min. 34/30	1.7	1.7	25.6	2528	985	0.0754	0.125	515	400	640	498
1 x 300 cc	min. 34/30	1.8	1.8	28.3	3136	1210	0.0601	0.100	585	463	770	537
1 x 400 cc	min. 53	2.0	1.9	32.0	4130	1525	0.0470	0.0778	680	509	900	626
1 x 500 cc	min. 53	2.2	2.0	35.4	5134	1890	0.0366	0.0605	800	592	1030	731
1 x 630 cc	min. 53	2.4	2.2	39.5	6415	2420	0.0283	0.0469	945	696	1160	837
1 x 800 cc	min. 53	2.6	2.3	45.0	8116	3000	0.0221	0.0367	1095	821	1310	942
1 x 1000 cc	min. 53	2.8	2.4	50.0	10096	3650	0.0176	0.0291	1270	952	1480	1064

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

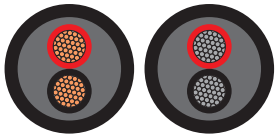
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV=XLPE Insulated & FR-PVC Sheathed Copper Cable, ZR-YJLV=XLPE Insulated & FR-PVC Sheathed Aluminium Cable, CC = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY/A2XY/ZR-YJV/ZR-YJLV XLPE Insulated PVC Sheathed Two Core Cable



① Solid/Stranded Cu/Alu Conductor (Class-1 or Class-2)

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ PVC PVC

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulatior	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 1.5 re	1/1.38	0.7	1.8	11.0	155	-	12.1	-	34	-	27	-
2 x 1.5 rm	7/0.52	0.7	1.8	11.2	162	-	12.1	-	34	-	27	-
2 x 2.5 re	1/1.78	0.7	1.8	12.0	185	-	7.41	-	44	-	35	-
2 x 2.5 rm	7/0.67	0.7	1.8	12.5	195	-	7.41	-	44	-	35	-
2 x 4.0 rm	7/0.85	0.7	1.8	13.6	276	187	4.61	7.41	55	34	45	31
2 x 6.0 rm	7/1.04	0.7	1.8	14.8	349	218	3.08	4.61	74	40	62	40
2 x 10 rm	7/1.35	0.7	1.8	16.6	478	271	1.83	3.08	97	55	84	53
2 x 16 rm	7/1.70	0.7	1.8	18.1	654	341	1.15	1.91	125	73	110	70
2 x 25 rm	7/2.14	0.9	1.8	21.5	996	457	0.727	1.20	150	94	140	96
2 x 35 cc	min. 6	0.9	1.8	23.7	1274	576	0.524	0.868	180	114	190	117

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

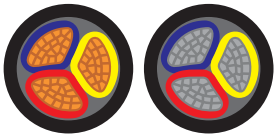
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or temporarily color installation.

NOTE

ZR-YJV=XLPE Insulated & FR-PVC Sheathed Copper Cable, ZR-YJLV=XLPE Insulated & FR-PVC Sheathed Aluminium Cable, CC = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY/A2XY/ZR-YJV/ZR-YJLV XLPE Insulated PVC Sheathed Three Core Cable



① Solid/Stranded Cu/Alu Conductor (Class-1 or Class-2)

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ PVC LF FR PVC

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulatior	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 1.5 re	1/1.38	0.7	1.8	11.5	182	-	12.1	-	30	-	23	-
3 x 1.5 rm	7/0.52	0.7	1.8	11.8	190	-	12.1	-	30	-	23	-
3 x 2.5 re	1/1.78	0.7	1.8	12.5	235	-	7.41	-	38	-	32	-
3 x 2.5 rm	7/0.67	0.7	1.8	13.0	246	-	7.41	-	38	-	32	-
3 x 4.0 rm	7/0.85	0.7	1.8	14.5	321	235	4.61	7.41	48	34	41	31
3 x 6.0 rm	7/1.04	0.7	1.8	15.6	421	252	3.08	4.61	64	40	56	40
3 x 10 rm	7/1.35	0.7	1.8	17.5	568	320	1.83	3.08	83	55	75	53
3 x 16 rm	7/1.70	0.7	1.8	19.6	805	410	1.15	1.91	110	73	98	70
3 x 25 rm	7/2.14	0.9	1.8	23.0	1100	500	0.727	1.20	130	94	120	96
3 x 35 sm	min. 6	0.9	1.8	22.3	1237	576	0.524	0.868	155	114	150	117
3 x 50 sm	min. 6	1.0	1.8	25.1	1694	778	0.387	0.641	190	133	190	142
3 x 70 sm	min. 12	1.1	1.9	28.4	2315	983	0.268	0.443	225	164	230	179
3 x 95 sm	min. 15	1.1	2.0	32.2	3161	1253	0.193	0.320	260	196	270	221
3 x 120 sm	min. 18/15	1.2	2.1	35.3	3915	1570	0.153	0.253	295	223	305	257
3 x 150 sm	min. 18/15	1.4	2.3	38.7	4866	2000	0.124	0.206	330	249	350	292
3 x 185 sm	min. 30	1.6	2.4	42.5	5978	2470	0.0991	0.164	385	282	410	337
3 x 240 sm	min. 34/30	1.7	2.6	47.6	7534	3165	0.0754	0.125	425	327	470	400
3 x 300 sm	min. 34/30	1.8	2.8	53.1	9541	3840	0.0601	0.100	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

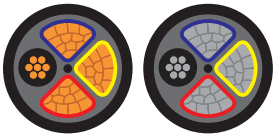
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV=XLPE Insulated & FR-PVC Sheathed Copper Cable, ZR-YJLV=XLPE Insulated & FR-PVC Sheathed Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY/A2XY/ZR-YJV/ZR-YJLV XLPE Insulated PVC Sheathed Three & Half Core Cable



① Solid/Stranded Cu/Alu Conductor (Class-1 or Class-2)

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ PVC PVC

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm / 10 rm	7/1.70 7/1.35	0.7 0.7	1.8	21.2	890	502	1.15 / 1.83	1.91 / 3.08	110	73	98	70
3 x 25 rm / 16 rm	7/2.14 7/1.70	0.9 0.7	1.8	25.1	1280	689	0.727 / 1.15	1.20 / 1.91	130	94	120	96
3 x 35 sm / 16 rm	min. 6 7/1.70	0.9 0.7	1.8	24.0	1412	702	0.524 / 1.15	0.868 / 1.91	155	114	150	117
3 x 50 sm / 25 rm	min. 6 7/2.14	1.0 0.9	1.8	27.0	2035	946	0.387 / 0.727	0.641 / 1.20	190	133	190	142
3 x 70 sm / 35 cc	min. 12 min. 6	1.1 0.9	1.9	30.5	2753	1201	0.268 / 0.524	0.443 / 0.868	225	164	230	179
3 x 95 sm / 50 cc	min. 15 min. 6	1.1 1.0	2.1	34.9	3721	1553	0.193 / 0.387	0.320 / 0.641	260	196	270	221
3 x 120 sm / 70 cc	min. 18/15 min. 12	1.2 1.1	2.2	38.2	4912	1898	0.153 / 0.268	0.253 / 0.443	295	223	305	257
3 x 150 sm / 70 cc	min. 18/15 min. 12	1.4 1.1	2.3	42.1	5673	2334	0.124 / 0.268	0.206 / 0.443	330	249	350	292
3 x 185 sm / 95 cc	min. 30 min. 15	1.6 1.1	2.5	47.3	7105	2831	0.0991 / 0.193	0.164 / 0.320	385	282	410	337
3 x 240 sm / 120 cc	min. 34/30 min. 18/15	1.7 1.2	2.7	53.8	9219	3601	0.0754 / 0.153	0.125 / 0.253	425	327	470	400
3 x 300 sm / 150 cc	min. 34/30 min. 18/15	1.8 1.4	2.9	58.6	11563	4387	0.0601 / 0.124	0.100 / 0.206	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

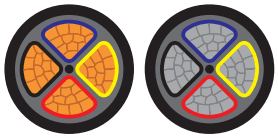
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV=XLPE Insulated & FR-PVC Sheathed Copper Cable, ZR-YJLV=XLPE Insulated & FR-PVC Sheathed Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY/A2XY/ZR-YJV/ZR-YJLV XLPE Insulated PVC Sheathed Four Core Cable



① Sold/Standard Cu/Alu Conductor (Class-1 or Class-2)

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ PVC PVC

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 1.5 re	1/1.38	0.7	1.8	12.1	212	-	12.1	-	30	-	23	-
4 x 1.5 rm	7/0.52	0.7	1.8	12.4	220	-	12.1	-	30	-	23	-
4 x 2.5 re	1/1.78	0.7	1.8	13.6	280	-	7.41	-	38	-	32	-
4 x 2.5 rm	7/0.67	0.7	1.8	14.1	288	-	7.41	-	38	-	32	-
4 x 4.0 rm	7/0.85	0.7	1.8	15.4	385	246	4.61	7.41	48	34	41	31
4 x 6.0 rm	7/1.04	0.7	1.8	16.8	488	295	3.08	4.61	64	40	56	40
4 x 10 rm	7/1.35	0.7	1.8	19.2	690	378	1.83	3.08	83	55	75	53
4 x 16 rm	7/1.70	0.7	1.8	21.5	1060	493	1.15	1.91	110	73	98	70
4 x 25 rm	7/2.14	0.9	1.8	23.4	1388	516	0.727	1.20	130	94	120	96
4 x 35 sm	min. 6	0.9	1.8	24.5	1624	735	0.524	0.868	155	114	150	117
4 x 50 sm	min. 6	1.0	1.9	27.3	2224	970	0.387	0.641	190	133	190	142
4 x 70 sm	min. 12	1.1	2.0	30.7	3078	1250	0.268	0.443	225	164	230	179
4 x 95 sm	min. 15	1.1	2.1	35.8	4068	1641	0.193	0.320	260	196	270	221
4 x 120 sm	min. 18/15	1.2	2.3	38.4	5090	1992	0.153	0.253	295	223	305	257
4 x 150 sm	min. 18/15	1.4	2.4	42.3	6308	2488	0.124	0.206	330	249	350	292
4 x 185 sm	min. 30	1.6	2.6	48.0	7974	3042	0.0991	0.164	385	282	410	337
4 x 240 sm	min. 34/30	1.7	2.8	53.6	10212	3917	0.0754	0.125	425	327	470	400
4 x 300 sm	min. 34/30	1.8	3.0	59.6	12588	4705	0.0601	0.100	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

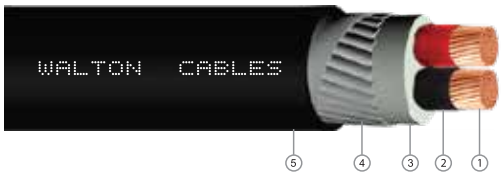
Application

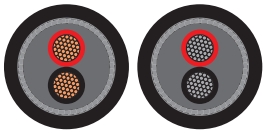
1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV=XLPE Insulated & FR-PVC Sheathed Copper Cable, ZR-YJLV=XLPE Insulated & FR-PVC Sheathed Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XFGY/A2XFGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Flat Steel Wire Armoured Two Core Cable





① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner PVC Sheath

④ Ar. Flat Steel

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 10 rm	7/1.35	0.7	4 x 0.8	1.8	19.3	785	635	1.83	3.08	97	55	84	53
2 x 16 rm	7/1.70	0.7	4 x 0.8	1.8	21.5	1020	790	1.15	1.91	125	73	110	70
2 x 25 rm	7/2.14	0.9	4 x 0.8	1.8	25.2	1400	1065	0.727	1.20	150	94	140	96
2 x 35 cc	min. 6	0.9	4 x 0.8	1.8	26.5	1665	1200	0.524	0.868	180	114	190	117
2 x 50 cc	min. 6	1.0	4 x 0.8	1.8	29.2	2100	1456	0.387	0.641	218	170	238	148
2 x 70 cc	min. 12	1.1	4 x 0.8	1.9	33.0	2735	1829	0.268	0.443	262	166	291	182
2 x 95 cc	min. 15	1.1	4 x 0.8	2.0	37.0	3465	2257	0.193	0.320	300	190	339	212
2 x 120 cc	min. 18/15	1.2	4 x 0.8	2.1	40.8	4230	2700	0.153	0.253	339	215	353	246
2 x 150 cc	min. 18/15	1.4	4 x 0.8	2.2	44.7	5080	3191	0.124	0.206	378	238	446	278
2 x 185 cc	min. 30	1.6	4 x 0.8	2.4	49.0	6125	3840	0.0991	0.164	436	276	538	335

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

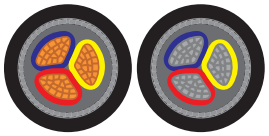
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, cc = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XFGY/A2XFGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Flat Steel Wire Armoured Three Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner PVC Sheath

④ Ar. Flat Steel

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 10 rm	7/1.35	0.7	4 x 0.8	1.8	20.2	895	684	1.83	3.08	83	55	75	53
3 x 16 rm	7/1.70	0.7	4 x 0.8	1.8	22.6	1175	859	1.15	1.91	110	73	98	70
3 x 25 rm	7/2.14	0.9	4 x 0.8	1.8	26.5	1596	1110	0.727	1.20	130	94	120	96
3 x 35 sm	min. 6	0.9	4 x 0.8	1.8	25.4	1757	1125	0.524	0.868	155	114	150	117
3 x 50 sm	min. 6	1.0	4 x 0.8	1.9	27.2	2329	1394	0.387	0.641	190	133	190	142
3 x 70 sm	min. 12	1.1	4 x 0.8	2.0	30.4	2986	1690	0.268	0.443	225	164	230	179
3 x 95 sm	min. 15	1.1	4 x 0.8	2.1	35.2	4136	2053	0.193	0.320	260	196	270	221
3 x 120 sm	min. 18/15	1.2	4 x 0.8	2.2	38.0	5025	2410	0.153	0.253	295	223	305	257
3 x 150 sm	min. 18/15	1.4	4 x 0.8	2.4	42.2	6141	2862	0.124	0.206	330	249	350	292
3 x 185 sm	min. 30	1.6	4 x 0.8	2.5	46.0	7368	3398	0.0991	0.164	385	282	410	337
3 x 240 sm	min. 34/30	1.7	4 x 0.8	2.7	51.8	9584	4147	0.0754	0.125	425	327	490	400
3 x 300 sm	min. 34/30	1.8	4 x 0.8	2.9	56.5	11621	4900	0.0601	0.100	578	368	664	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

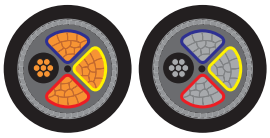
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XFGY/A2XFGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Flat Steel Wire Armoured Three & Half Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner PVC Sheath

④ Ar. Flat Steel

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm / 10 rm	7/1.70 7/1.35	0.7 0.7	4 x 0.8	1.8	23.7	1400	1030	1.15 / 1.83	1.91 / 3.08	110	73	98	70
3 x 25 rm / 16 rm	7/2.14 7/1.70	0.9 0.7	4 x 0.8	1.8	28.0	1935	1340	0.727 / 1.15	1.20 / 1.91	130	94	120	96
3 x 35 sm / 16 rm	min. 6 7/1.70	0.9 0.7	4 x 0.8	1.8	27.7	2028	1236	0.524 / 1.15	0.868 / 1.91	155	114	150	117
3 x 50 sm / 25 rm	min. 6 7/2.14	1.0 0.9	4 x 0.8	1.9	31.2	2915	1507	0.387 / 0.727	0.641 / 1.20	190	133	190	142
3 x 70 sm / 35 cc	min. 12 min. 6	1.1 0.9	4 x 0.8	2.0	35.3	3793	1823	0.268 / 0.524	0.443 / 0.868	225	164	230	179
3 x 95 sm / 50 cc	min. 15 min. 6	1.1 1.0	4 x 0.8	2.2	40.0	4881	2262	0.193 / 0.387	0.320 / 0.641	260	196	270	221
3 x 120 sm / 70 cc	min. 18/15 min. 12	1.2 1.1	4 x 0.8	2.3	43.4	6252	2698	0.153 / 0.268	0.253 / 0.443	295	223	305	257
3 x 150 sm / 70 cc	min. 18/15 min. 12	1.4 1.1	4 x 0.8	2.4	47.3	7023	3205	0.124 / 0.268	0.206 / 0.443	330	249	350	292
3 x 185 sm / 95 cc	min. 30 min. 15	1.6 1.1	4 x 0.8	2.6	52.7	8975	3808	0.0991 / 0.193	0.164 / 0.320	385	282	410	337
3 x 240 sm / 120 cc	min. 34/30 min. 18/15	1.7 1.2	4 x 0.8	2.8	58.5	10669	4500	0.0754 / 0.153	0.125 / 0.253	425	327	490	400
3 x 300 sm / 150 cc	min. 34/30 min. 18/15	1.8 1.4	4 x 0.8	2.9	66.6	13863	5435	0.0601 / 0.124	0.100 / 0.206	578	368	664	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

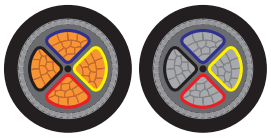
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XFGY/A2XFGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Flat Steel Wire Armoured Four Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner PVC Sheath

④ Ar. Flat Steel

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dimension (WxT) of Steel Strip Armour	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 10 rm	7/1.35	1.0	4 x 0.8	1.8	21.8	1045	775	1.83	3.08	83	55	75	53
4 x 16 rm	7/1.70	1.0	4 x 0.8	1.8	24.4	1380	960	1.15	1.91	110	73	98	70
4 x 25 rm	7/2.14	1.2	4 x 0.8	1.8	28.5	1945	1310	0.727	1.20	130	94	120	96
4 x 35 sm	min. 6	1.2	4 x 0.8	1.8	27.1	2219	1475	0.524	0.868	155	114	150	117
4 x 50 sm	min. 6	1.4	4 x 0.8	2.0	32.0	3119	1822	0.387	0.641	190	133	190	142
4 x 70 sm	min. 12	1.4	4 x 0.8	2.1	35.5	4113	2227	0.268	0.443	225	164	230	179
4 x 95 sm	min. 15	1.6	4 x 0.8	2.2	39.7	5378	2702	0.193	0.320	260	196	270	221
4 x 120 sm	min. 18/15	1.6	4 x 0.8	2.4	43.6	7140	3168	0.153	0.253	295	223	305	257
4 x 150 sm	min. 18/15	1.8	4 x 0.8	2.5	47.5	7868	3720	0.124	0.206	330	249	350	292
4 x 185 sm	min. 30	2.0	4 x 0.8	2.7	53.0	9874	4408	0.0991	0.164	385	282	410	337
4 x 240 sm	min. 34/30	2.2	4 x 0.8	2.9	59.8	12412	5347	0.0754	0.125	425	327	490	400
4 x 300 sm	min. 34/30	2.4	4 x 0.8	3.1	66.1	14788	6281	0.0601	0.100	578	368	664	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

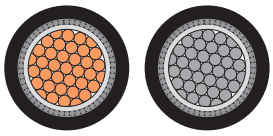
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XRaY/A2XRaY XLPE Insulated PVC Sheathed Round Aluminium Wire Armour Single Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ Ar. Round Aluminium Wire

④ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Nom. Diameter of Round Al wire armour	Nomina thicknes of Sheat	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
1 x 35 cc	min. 6	0.9	1.25	1.8	17.2	605	370	0.524	0.868	185	144	195	150
1 x 50 cc	min. 6	1.0	1.25	1.8	18.5	775	439	0.387	0.641	225	175	245	190
1 x 70 cc	min. 12	1.1	1.25	1.8	20.3	998	525	0.268	0.443	270	210	300	233
1 x 95 cc	min. 15	1.1	1.25	1.8	22.2	1280	630	0.193	0.320	310	240	350	272
1 x 120 cc	min. 18/15	1.2	1.6	1.8	24.6	1570	760	0.153	0.253	350	272	405	315
1 x 150 cc	min. 18/15	1.4	1.6	1.8	26.8	1930	902	0.124	0.206	390	302	460	357
1 x 185 cc	min. 30	1.6	1.6	1.8	28.7	2290	1035	0.0991	0.164	450	350	555	430
1 x 240 cc	min. 34/30	1.7	1.6	1.9	31.6	2892	1260	0.0754	0.125	515	400	640	498
1 x 300 cc	min. 34/30	1.8	1.6	1.9	34.0	3486	1472	0.0601	0.100	585	463	770	537
1 x 400 cc	min. 53	2.0	2.0	2.1	39.0	4645	1954	0.0470	0.0778	680	509	900	686
1 x 500 cc	min. 53	2.2	2.0	2.2	42.5	5700	2331	0.0366	0.0605	800	592	1030	785
1 x 630 cc	min. 53	2.4	2.0	2.3	47.2	7040	2800	0.0283	0.0469	945	696	1160	855
1 x 800 cc	min. 53	2.6	2.5	2.5	53.0	9040	3615	0.0221	0.0367	1095	821	1310	925
1 x 1000 cc	min. 53	2.8	2.5	2.7	58.9	10754	4735	0.0176	0.0291	1270	952	1480	1092

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

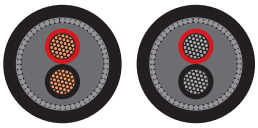
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

c.c = Compact circular, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XRGY/A2XRGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Round Steel Wire Armour Two Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ Ar. Round Steel Armour

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nomina thicknes of Sheat	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
2 x 1.5 re	1/1.38	0.7	0.8	1.8	13.2	312	-	12.1	18.1	34	-	27	-
2 x 1.5 rm	7/0.52	0.7	0.8	1.8	13.7	328	-	12.1	18.1	34	-	27	-
2 x 2.5 re	1/1.78	0.7	0.8	1.8	14.2	353	-	7.41	12.1	44	-	35	-
2 x 2.5 rm	7/0.67	0.7	0.8	1.8	14.7	375	-	7.41	12.10	44	-	35	-
2 x 4.0 rm	7/0.85	0.7	0.8	1.8	15.7	454	394	4.61	7.41	55	34	45	31
2 x 6.0 rm	7/1.04	0.7	0.8	1.8	16.9	533	457	3.08	4.61	74	40	62	40
2 x 10 rm	7/1.35	0.7	1.25	1.8	19.6	815	670	1.83	3.08	97	55	84	53
2 x 16 rm	7/1.70	0.7	1.25	1.8	22.0	1035	821	1.15	1.91	125	73	110	70
2 x 25 rm	7/2.14	0.9	1.6	1.8	26.3	1565	1225	0.727	1.20	150	94	140	96
2 x 35 cc	min. 6	0.9	1.6	1.8	27.7	1805	1379	0.524	0.868	180	114	190	117

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

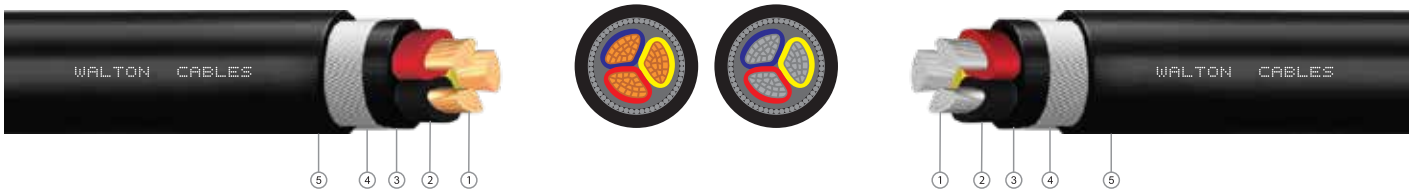
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XRGY/A2XRGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Round Steel Wire Armour Three Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ Ar. Round Steel Armour

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nomina thicknes of Sheat	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 1.5 rm	7/0.52	0.7	0.8	1.8	14.2	365	-	12.1	-	30	-	23	-
3 x 2.5 rm	7/0.67	0.7	0.8	1.8	15.2	423	-	7.41	-	38	-	32	-
3 x 4.0 rm	7/0.85	0.7	0.8	1.8	16.3	502	428	4.61	7.41	48	34	41	31
3 x 6.0 rm	7/1.04	0.7	1.25	1.8	18.5	715	589	3.08	4.61	64	40	56	40
3 x 10 rm	7/1.35	0.7	1.25	1.8	20.6	915	713	1.83	3.08	83	55	75	53
3 x 16 rm	7/1.70	0.7	1.6	1.8	23.0	1190	880	1.15	1.91	110	73	98	70
3 x 25 rm	7/2.14	0.9	1.6	1.8	27.6	1760	1286	0.727	1.20	130	94	120	96
3 x 35 sm	min. 6	0.9	1.6	1.8	27.0	1991	1332	0.524	0.868	155	114	150	117
3 x 50 sm	min. 6	1.0	1.6	1.9	29.7	2529	1577	0.387	0.641	190	133	190	142
3 x 70 sm	min. 12	1.1	2.0	2.0	34.0	3571	2233	0.268	0.443	225	164	230	179
3 x 95 sm	min. 15	1.1	2.0	2.2	36.8	4561	2756	0.193	0.320	260	196	270	221
3 x 120 sm	min. 18/15	1.2	2.0	2.3	41.1	5465	3186	0.153	0.253	295	223	305	257
3 x 150 sm	min. 18/15	1.4	2.5	2.5	46.5	7031	4179	0.124	0.206	330	249	350	292
3 x 185 sm	min. 30	1.6	2.5	2.6	49.5	8378	4867	0.0991	0.164	385	282	410	337
3 x 240 sm	min. 34/30	1.7	2.5	2.8	55.8	10453	5879	0.0754	0.125	425	327	470	400
3 x 300 sm	min. 34/30	1.8	2.5	3.0	59.6	12534	6745	0.0601	0.100	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

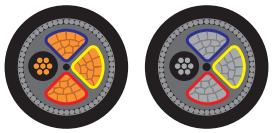
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XRGY/A2XRGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Round Steel Wire Armour Three & Half Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ Ar. Round Steel Armour

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
3 x 16 rm / 10 rm	7/1.70 7/1.35	0.7 0.7	1.6	1.8	24.8	1475	1095	1.15 / 1.83	1.91 / 3.08	110	73	98	70
3 x 25 rm / 16 rm	7/2.14 7/1.70	0.9 0.7	1.6	1.8	28.8	1996	1418	0.727 / 1.15	1.20 / 1.91	130	94	120	96
3 x 35 sm / 16 rm	min. 6 7/1.70	0.9 0.7	1.6	1.8	29.3	2363	1596	0.524 / 1.15	0.868 / 1.91	155	114	150	117
3 x 50 sm / 25 rm	min. 6 7/2.14	1.0 0.9	1.6	2.0	31.9	3105	1995	0.387 / 0.727	0.641 / 1.20	190	133	190	142
3 x 70 sm / 35 cc	min. 12 min. 6	1.1 0.9	2.0	2.1	37.9	4153	2595	0.268 / 0.524	0.443 / 0.868	225	164	230	179
3 x 95 sm / 50 cc	min. 15 min. 6	1.1 1.0	2.0	2.2	42.1	5372	3251	0.193 / 0.387	0.320 / 0.641	260	196	270	221
3 x 120 sm / 70 cc	min. 18/15 min. 12	1.2 1.1	2.0	2.4	45.8	6921	4197	0.153 / 0.268	0.253 / 0.443	295	223	305	257
3 x 150 sm / 70 cc	min. 18/15 min. 12	1.4 1.1	2.5	2.5	50.2	8070	4772	0.124 / 0.268	0.206 / 0.443	330	249	350	292
3 x 185 sm / 95 cc	min. 30 min. 15	1.6 1.1	2.5	2.7	55.1	9655	5543	0.0991 / 0.193	0.164 / 0.320	385	282	410	337
3 x 240 sm / 120 cc	min. 34/30 min. 18/15	1.7 1.2	2.5	2.9	61.1	11952	6618	0.0754 / 0.153	0.125 / 0.253	425	327	470	400
3 x 300 sm / 150 cc	min. 34/30 min. 18/15	1.8 1.4	2.5	3.0	67.0	14563	7837	0.0601 / 0.124	0.100 / 0.206	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

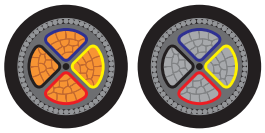
Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XRGY/A2XRGY/ZR-YJV32/ZR-YJLV32 XLPE Insulated PVC Sheathed Round Steel Wire Armour Four Core Cable



① Conductor- Cu/ Alu Class- 2

② XLPE Cross linked polyethylene

③ PVC Inner Sheath

④ Ar. Round Steel Wire

⑤ PVC PVC Sheathed

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	Dia. of each Round Steel wire	Nomina thicknes of Sheatl	Approx. Overall diameter	Approx. Wt. of cable		Max. DC resistance of conductor at 20°C		Current rating in ground at 30°C		Current rating in air at 35°C	
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
No. x mm²	No./mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	Amps	Amps	Amps	Amps
4 x 1.5 rm	7/0.52	0.7	0.8	1.8	14.6	392	-	12.1	-	30	-	23	-
4 x 2.5 rm	7/0.67	0.7	0.8	1.8	16.1	475	-	7.41	-	38	-	32	-
4 x 4.0 rm	7/0.85	0.7	1.25	1.8	18.3	690	575	4.61	7.41	48	34	41	31
4 x 6.0 rm	7/1.04	0.7	1.25	1.8	19.8	820	676	3.08	4.61	64	40	56	40
4 x 10 rm	7/1.35	0.7	1.25	1.8	22.1	1094	821	1.83	3.08	83	55	75	53
4 x 16 rm	7/1.70	0.7	1.6	1.8	25.5	1550	1135	1.15	1.91	110	73	98	70
4 x 25 rm	7/2.14	0.9	1.6	1.8	29.8	2115	1481	0.727	1.20	130	94	120	96
4 x 35 sm	min. 6	0.9	1.6	1.9	29.4	2509	1622	0.524	0.868	155	114	150	117
4 x 50 sm	min. 6	1.0	1.6	2.0	33.9	3364	2096	0.387	0.641	190	133	190	142
4 x 70 sm	min. 12	1.1	2.0	2.2	38.9	4503	2720	0.268	0.443	225	164	230	179
4 x 95 sm	min. 15	1.1	2.0	2.3	43.2	6198	3791	0.193	0.320	260	196	270	221
4 x 120 sm	min. 18/15	1.2	2.0	2.5	47.8	7380	4341	0.153	0.253	295	223	305	257
4 x 150 sm	min. 18/15	1.4	2.5	2.6	51.2	8838	5036	0.124	0.206	330	249	350	292
4 x 185 sm	min. 30	1.6	2.5	2.8	57.5	10674	5993	0.0991	0.164	385	282	410	337
4 x 240 sm	min. 34/30	1.7	2.5	3.0	62.4	13362	7263	0.0754	0.125	425	327	470	400
4 x 300 sm	min. 34/30	1.8	2.5	3.2	68.9	16888	8969	0.0601	0.100	478	368	564	455

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations
4. Metropolitan networks and in other electric plants for fixed or color installation.

NOTE

ZR-YJV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Copper Cable, ZR-YJLV32=XLPE Insulated & FR PVC Sheathed Steel wire armoured Aluminium Cable, sm = Sector Shaped, V.G.= Voltage Grade

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XCY/N2XCY XLPE Insulated PVC Sheathed Concentric Conductor Screened Three Core Cable

① Conductor- Cu Class- 2

② XLPE — XLPE Insulation

③ PVC — Inner Sheath

④ Scr. — Annealed Cu Wire

⑤ Binder — Cu Tape

⑥ PVC — PVC Outer Sheath

Core & Area of Conductor	No. of wire & per wire Diameter	Nominal Thickness of Insulation	No./Dia. of each Concentric Wire	Nominal thickness of Sheath	Approx. Overall diameter	Approx. Wt. of cable	Max. DC resistance of conductor at 20°C	Current rating in ground at 30°C	Current rating in air at 35°C
No. x mm²	No./mm	mm	No./mm	mm	mm	Kg/Km	Ω/km	Amps	Amps
3 x 16 rm/16C	7/1.70	0.7	19/1.04	1.8	21.8	955	1.15/1.15	110	98
3 x 25 rm/16C	7/2.14	0.9	19/1.04	1.8	25.2	1250	0.727/1.15	130	120
3 x 35 sm/16C	min. 6	0.9	19/1.04	1.8	24.4	1390	0.524/1.15	155	150
3 x 50 sm/25C	min. 6	1.0	29/1.04	1.8	27.2	1930	0.387/0.727	190	190
3 x 70 sm/35C	min. 12	1.1	35/1.13	1.9	30.8	2641	0.268/0.524	225	230
3 x 95 sm/50C	min. 15	1.1	50/1.13	2.0	34.8	3620	0.193/0.387	260	270
3 x 120 sm/70C	min. 18/15	1.2	70/1.13	2.1	37.7	4600	0.153/0.268	295	305
3 x 150 sm/70C	min. 18/15	1.4	70/1.13	2.3	41.0	5530	0.124/0.268	330	350
3 x 185 sm/95C	min. 30	1.6	67/1.35	2.4	45.2	6847	0.0991/0.193	385	410
3 x 240 sm/120C	min. 34/30	1.7	65/1.53	2.6	51.2	8629	0.0754/0.153	425	470
3 x 300 sm/150C	min. 34/30	1.8	72/1.63	2.8	58.0	10921	0.0601/0.124	478	564

Technical Specification

- Min. bending radius 10 x D
- 250°C — Max. short circuit temperature
- 90°C — Max. operating temperature
- 0.6/1 KV — Rated voltage Uo/U
- 3.5 KV — AC test voltage
- Pb — Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Electric power plants 2. Industrial plants 3. Transformer stations

NOTE

sm = Sector Shaped, V.G.= Voltage Grade, C = Concentric Wire

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, BS 5467 & GB/T 12706-2008	IEC 60228 V.G: 0.6 kV /1 kV (1.2) kV	2XY-1/ZR-KYJV XLPE Insulated PVC Sheathed Multi Core Control Cable

① Conductor- Cu Class- 1/2

② XLPE Insulation

③ Binder PVC/PE Tape

④ PVC Sheathed

Core & Area of Conductor	No. of Wire & Per Wire Diameter	Insulation Thickness	Nominal Thickness of Sheath	Approx. Overall Diameter	Approx. Wt. of cable	Current rating at 30°C in ground	Current rating at 35°C in air
No.xmm²	No./mm	mm	mm	mm	kg/km	amps	amps
5 x 1.5 re	1/1.38	0.7	1.8	11.6	174	20	14
7 x 1.5 re	1/1.38	0.7	1.8	12.4	214	18	13
10 x 1.5 re	1/1.38	0.7	1.8	15.2	289	14	11
12 x 1.5 re	1/1.38	0.7	1.8	15.7	335	13	10
16 x 1.5 re	1/1.38	0.7	1.8	16.4	409	12	9
21 x 1.5 re	1/1.38	0.7	1.8	19.0	525	10	8
24 x 1.5 re	1/1.38	0.7	1.8	21.0	598	10	8
30 x 1.5 re	1/1.38	0.7	1.8	22.0	715	9	7
5 x 2.5 re	1/1.78	0.7	1.8	12.8	228	26	21
7 x 2.5 re	1/1.78	0.7	1.8	13.7	280	23	19
10 x 2.5 re	1/1.78	0.7	1.8	17.1	385	20	15
12 x 2.5 re	1/1.78	0.7	1.8	17.4	458	18	14
16 x 2.5 re	1/1.78	0.7	1.8	18.2	565	15	12
21 x 2.5 re	1/1.78	0.7	1.8	21.0	745	14	11
24 x 2.5 re	1/1.78	0.7	1.8	23.5	851	13	10
30 x 2.5 re	1/1.78	0.7	1.8	24.8	1035	11	9
5 x 4.0 rm	7/0.85	0.7	1.8	14.8	334	33	27
7 x 4.0 rm	7/0.85	0.7	1.8	16.0	422	29	24
10 x 4.0 rm	7/0.85	0.7	1.8	19.9	588	25	21
12 x 4.0 rm	7/0.85	0.7	1.8	20.5	685	23	19

Technical Specification

- Min. bending radius 10 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1. Electric power controling system 2. Signal controling unit 3. Low voltage controling

NOTE

ZR-KYJV=XLPE Insulated & FR PVC Sheathed multicore Copper control cable, V.G.= Voltage Grade

WALTON
Cables

Chapter 6: XLPE Flexible Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, IEC 60228 VDE-0271 GB/T 12706-2008	IEC 60228 Class- 5 V.G: 0.6 kV/1 kV (1.2) kV	N2XYF/2XYF/ZR-YJVR Flexible Bunch Conductor XLPE Insulated PVC Sheathed Single Core Cable

① Fine-stranded Copper (Class-5)

② XLPE Cross-linked Polyethylene

③ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
1 x 1.5 rm	30/0.25	0.7	1.4	6.3	52	13.30	36	31
1 x 2.5 rm	50/0.25	0.7	1.4	6.7	66	7.98	47	40
1 x 4.0 rm	56/0.30	0.7	1.4	7.3	86	4.95	59	51
1 x 6.0 rm	84/0.30	0.7	1.4	7.9	109	3.30	78	70
1 x 10 rm	80/0.40	0.7	1.4	8.8	156	1.91	100	95
1 x 16 rm	126/0.40	0.7	1.4	10.0	228	1.21	131	125
1 x 25 rm	196/0.40	0.9	1.4	11.7	326	0.78	156	160
1 x 35 rm	276/0.40	0.9	1.4	13.0	432	0.554	186	196
1 x 50 rm	396/0.40	1.0	1.4	14.8	591	0.386	226	247
1 x 70 rm	360/0.50	1.1	1.4	16.8	807	0.272	272	305
1 x 95 rm	475/0.50	1.1	1.5	18.7	1046	0.206	311	354
1 x 120 rm	608/0.50	1.2	1.5	20.5	1304	0.161	351	410
1 x 150 rm	756/0.50	1.4	1.6	22.8	1620	0.129	391	465
1 x 185 rm	925/0.50	1.6	1.6	25.0	1960	0.106	452	555
1 x 240 rm	1221/0.50	1.7	1.7	28.0	2548	0.0801	518	642
1 x 300 rm	1525/0.50	1.8	1.8	30.8	3150	0.0641	588	771
1 x 400 rm	2013/0.50	2.0	1.9	34.9	4120	0.0486	682	903
1 x 500 rm	1769/0.60	2.2	2.0	39.0	5170	0.0384	902	1033
1 x 630 rm	3209/0.50	2.4	2.2	43.6	6575	0.0287	947	1165

Technical Specifications

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Indoor and outdoor in cables ducts
2. Industrial plants or switching stations where mechanical damage is not anticipated.
3. Suitable for comparatively high ambient temperature due to high maximum permissible conductor temperature.

NOTE

N2XYF/2XYF/ZR-YJVR = XLPE Insulated FR PVC Sheathed Single Core Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, IEC 60228 VDE-0271 GB/T 12706-2008	IEC 60228 Class- 5 V.G: 0.6 kV/1 kV (1.2) kV	N2XYF/2XYF/ZR-YJVR Flexible Bunch Conductor XLPE Insulated PVC Sheathed Two Core Cable

① Fine-stranded Copper (Class-5)

② XLPE Cross-linked Polyethylene

③ PVC PVC Inner Sheath

④ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
2 x 1.5 rm	30/0.25	0.7	1.8	12.2	190	13.30	34	28
2 x 2.5 rm	50/0.25	0.7	1.8	13.1	228	7.98	44	36
2 x 4.0 rm	56/0.30	0.7	1.8	14.2	282	4.95	55	45
2 x 6.0 rm	84/0.30	0.7	1.8	15.6	355	3.30	74	63
2 x 10 rm	80/0.40	0.7	1.8	17.6	488	1.91	97	86
2 x 16 rm	126/0.40	0.7	1.8	19.8	663	1.21	125	112
2 x 25 rm	196/0.40	0.9	1.8	23.4	953	0.78	150	142
2 x 35 rm	276/0.40	0.9	1.8	26.0	1235	0.554	180	190

Technical Specifications

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Indoor and outdoor in cables ducts
2. Industrial plants or switching stations where mechanical damage is not anticipated.
3. Suitable for comparatively high ambient temperature due to high maximum permissible conductor temperature.

NOTE

N2XYF/2XYF/ZR-YJVR = XLPE Insulated FR PVC Sheathed Two Core Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, IEC 60228 VDE-0271 GB/T 12706-2008	IEC 60228 Class- 5 V.G: 0.6 kV/1 kV (1.2) kV	N2XYF/2XYF/ZR-YJVR Flexible Bunch Conductor XLPE Insulated PVC Sheathed Three Core Cable

① Fine-stranded Copper (Class-5)

② XLPE Cross-linked Polyethylene

③ PVC PVC Inner Sheath

④ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
3 x 1.5 rm	30/0.25	0.7	1.8	12.6	218	13.30	30	24
3 x 2.5 rm	50/0.25	0.7	1.8	13.6	265	7.98	38	33
3 x 4.0 rm	56/0.30	0.7	1.8	14.9	333	4.95	48	42
3 x 6.0 rm	84/0.30	0.7	1.8	16.3	417	3.30	64	57
3 x 10 rm	80/0.40	0.7	1.8	18.5	577	1.91	83	76
3 x 16 rm	126/0.40	0.7	1.8	20.8	793	1.21	110	98
3 x 25 rm	196/0.40	0.9	1.8	24.8	1140	0.78	130	122
3 x 35 rm	276/0.40	0.9	1.8	27.5	1475	0.554	155	153
3 x 50 rm	396/0.40	1.0	1.8	31.4	1985	0.386	190	190
3 x 70 rm	360/0.50	1.1	1.9	36.3	2740	0.272	225	231
3 x 95 rm	475/0.50	1.1	2.0	40.2	3480	0.206	260	271
3 x 120 rm	608/0.50	1.2	2.1	44.5	4330	0.161	295	306
3 x 150 rm	756/0.50	1.4	2.3	49.6	5375	0.129	330	350

Technical Specifications

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

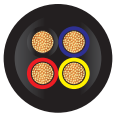
Application

1. Indoor and outdoor in cables ducts
2. Industrial plants or switching stations where mechanical damage is not anticipated.
3. Suitable for comparatively high ambient temperature due to high maximum permissible conductor temperature.

NOTE

N2XYF/2XYF/ZR-YJVR = XLPE Insulated FR PVC Sheathed Three Core Flexible Cable

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-1, IEC 60228 VDE-0271 GB/T 12706-2008	IEC 60228 Class- 5 V.G: 0.6 kV/1 kV (1.2) kV	N2XYF/2XYF/ZR-YJVR Flexible Bunch Conductor XLPE Insulated PVC Sheathed Four Core Cable



① Fine-stranded Copper (Class-5)

② XLPE Cross-linked Polyethylene

③ PVC PVC Inner Sheath

④ PVC PVC Outer Sheath

Nominal Cross Sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in ground at 30° C	Current Carrying Capacity in air at 35° C
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amps	amps
4 x 1.5 rm	30/0.25	0.7	1.8	13.5	245	13.30	30	24
4 x 2.5 rm	50/0.25	0.7	1.8	14.6	314	7.98	38	33
4 x 4.0 rm	56/0.30	0.7	1.8	15.9	397	4.95	48	42
4 x 6.0 rm	84/0.30	0.7	1.8	17.7	515	3.30	64	57
4 x 10 rm	80/0.40	0.7	1.8	20.2	719	1.91	83	76
4 x 16 rm	126/0.40	0.7	1.8	22.8	995	1.21	110	98
4 x 25 rm	196/0.40	0.9	1.8	27.1	1429	0.78	130	122
4 x 35 rm	276/0.40	0.9	1.8	30.0	1869	0.554	155	153
4 x 50 rm	396/0.40	1.0	1.9	34.9	2575	0.386	190	190
4 x 70 rm	360/0.50	1.1	2.0	40.3	3556	0.272	225	231
4 x 95 rm	475/0.50	1.1	2.1	44.3	4460	0.206	260	271
4 x 120 rm	608/0.50	1.2	2.3	49.5	5675	0.161	295	306
4 x 150 rm	756/0.50	1.4	2.4	55.0	6975	0.129	330	350

Technical Specifications

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct
- In Water

Application

1. Indoor and outdoor in cables ducts
2. Industrial plants or switching stations where mechanical damage is not anticipated.
3. Suitable for comparatively high ambient temperature due to high maximum permissible conductor temperature.

NOTE

N2XYF/2XYF/ZR-YJVR = XLPE Insulated FR PVC Sheathed Four Core Flexible Cable

DERATING FACTOR OF CURRENT CARRYING CAPACITY OF CABLES ACCORDING TO VDE 0271/3.69, IEC 60502-1, IEC 60287

DEFINED CONDITIONS:

FOR UNDERGROUND LAYING

i) Ground soil temperature in where cable laid = 30°C

ii) Depth of laying = 0.7meter

iii) Thermal resistivity of soil = 1.2 K.m/W

iv) Cable route can be covered with a layer of sand or brick.

FOR LAYING IN AIR

i) Ambient air temperature = 35°C

ii) 2cm from floor, wall or roof of the room.

iii) Twice the cable diameter between two cables and four times the cables diameter between two systems.

iv) 30cm vertically between layers installed one above the other.

DEVIATED CONDITIONS FOR UNDERGROUND LAYING

When cables are installed rather than deviated conditions, the tabulated current rating values must be multiplied with derating factors listed below ;

Derating factors for depth of laying (Two/Multicore cables)

Rating Factor	Depth of Laying (meter)								
	≤0.7	≤0.9	≤1.05	≤1.2	≤1.5	≤1.8	≤2.7	≤3.6	≤4.5
	1.0	0.99	0.98	0.97	0.96	0.95	0.92	0.91	0.9

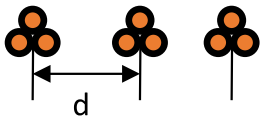
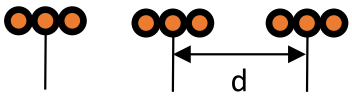
Dertating factors for ground temperature variation

Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
PVC Insulated	1.18	1.15	1.1	1.0	0.95	0.88	0.8	0.71	0.6
XLPE Insulated	1.16	1.18	1.09	1.0	0.95	0.89	0.82	0.73	0.62

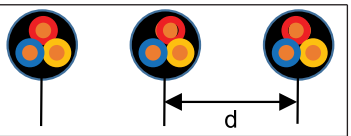
Derating factors for variation in thermal resistivity of soil

Size of cables (mm^2)	Soil Thermal Resistivity (K.m/W)							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Single Core cables								
≤150	1.16	1.12	1.07	1.0	0.93	0.83	0.77	0.71
≤300	1.17	1.13	1.08	1.0	0.92	0.82	0.75	0.69
≤1000	1.17	1.13	1.09	1.0	0.91	0.82	0.75	0.68
Multi-Core cables								
≤16	1.12	1.08	1.05	1.0	0.94	0.84	0.77	0.72
≤150	1.14	1.10	1.06	1.0	0.93	0.82	0.75	0.69
≤500	1.15	1.10	1.07	1.0	0.92	0.81	0.74	0.67

Group rating factor of 3 single core cable in Trefoil & Flat touching formation in horizontal formation

Circuits No. of						
	Group toching		Group Spacing (d)			
	Trefoil	Flat	0.15m	0.30m	0.45m	0.60m
2	0.78	0.81	0.83	0.88	0.91	0.93
3	0.66	0.70	0.73	0.79	0.84	0.87
4	0.61	0.64	0.68	0.73	0.79	0.85
5	0.56	0.60	0.64	0.73	0.79	0.85
6	0.53	0.57	0.61	0.71	0.78	0.82

Group raing factors for multi-core cables in horizontal formation

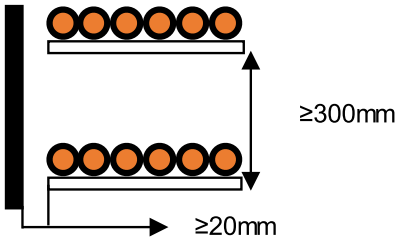
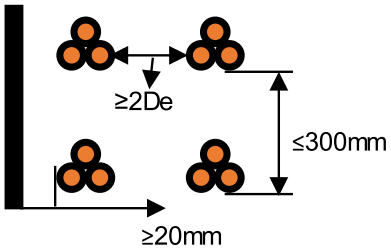
No. of cables in a group					
	Cable to cable clearance (d)				
	Touching	0.15m	0.30m	0.45m	0.60m
2	0.81	0.87	0.91	0.93	0.95
3	0.7	0.78	0.84	0.88	0.9
4	0.63	0.74	0.81	0.86	0.89
5	0.59	0.7	0.78	0.84	0.87
6	0.55	0.68	0.77	0.83	0.87

DEVIATED CONDITIONS FOR LAYING IN AIR

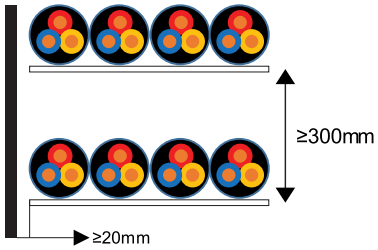
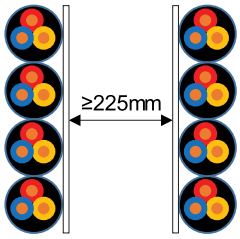
Dertating factors for air temperature variation

Temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
PVC Insulated	1.13	1.06	1.0	0.93	0.84	0.76	0.65
XLPE Insulated	1.06	1.01	1.0	0.96	0.88	0.80	0.72

Rating factors of one or more circuits of single core cables laid in free air

No. of Trays	No. of three phase circuits			Installation Form	Type
	1	2	3		
1	0.98	0.91	0.87		Three cables in horizontal formation
2	0.96	0.87	0.81		
3	0.95	0.85	0.78		
1	1.00	0.98	0.96		Three cables in trefoil formation
2	0.97	0.93	0.89		
3	0.96	0.92	0.86		

Rating factors of more than one multicore cables laid in free air

No. of Trays	No. of cables			Installation Form	Type
	1	2	3		
1	1.00	0.88	0.82		Cables in horizontal formation
2	1.00	0.87	0.80		
3	1.00	0.86	0.79		
1	1.00	0.98	0.95		Cables in vertical formation
2	1.00	0.88	0.82		
3	1.00	0.88	0.81		

THREE PHASE VOLTAGE DROP AT 50HZ FREQUENCY FOR 1-CORE CABLE

Conductor Size	PVC Insulated Copper Cable		XLPE Insulated Copper Cable		PVC Insulated Aluminium Cable		XLPE Insulated Aluminium Cable	
	Trefoil	Flat Touch	Trefoil	Flat Touch	Trefoil	Flat Touch	Trefoil	Flat Touch
mm^2	mV/A.m	mV/A.m	mV/A.m	mV/A.m	mV/A.m	mV/A.m	mV/A.m	mV/A.m
1.0	42.5	42.5	46.8	46.8	-	-	-	-
1.5	27.3	27.3	30.0	30.0	-	-	-	-
2.5	14.9	14.9	16.4	16.4	-	-	-	-
4	9.24	9.24	10.2	10.2	-	-	-	-
6	6.18	6.18	6.81	6.81	-	-	-	-
10	3.67	3.68	4.05	4.05	-	-	-	-
16	2.31	2.32	2.55	2.55	3.85	3.85	4.25	4.25
25	1.47	1.47	1.62	1.62	2.42	2.42	2.67	2.67
35	1.07	1.07	1.17	1.18	1.75	1.76	1.94	1.94
50	0.795	0.801	0.872	0.878	1.30	1.30	1.43	1.44
70	0.563	0.571	0.615	0.623	0.906	0.911	0.997	1.00
95	0.42	0.431	0.457	0.467	0.663	0.670	0.727	0.733
120	0.345	0.358	0.373	0.385	0.532	0.540	0.582	0.589
150	0.295	0.309	0.316	0.33	0.443	0.452	0.482	0.491
185	0.253	0.270	0.269	0.285	0.364	0.376	0.394	0.404
240	0.216	0.235	0.227	0.245	0.294	0.308	0.314	0.327
300	0.195	0.215	0.202	0.222	0.251	0.268	0.266	0.281
400	0.178	0.200	0.183	0.205	0.216	0.235	0.226	0.243
500	0.166	0.190	0.170	0.193	0.192	0.212	0.197	0.216
630	0.156	0.180	0.159	0.182	0.173	0.195	0.177	0.198

* Above values applied to a balanced three-phase circuit in which no current flows in the neutral conductor.

THREE PHASE VOLTAGE DROP AT 50HZ FREQUENCY FOR MULTI CORE CABLE

Conductor Size	PVC Insulated Copper Cable	XLPE Insulated Copper Cable	PVC Insulated Aluminium Cable	XLPE Insulated Aluminium Cable
mm^2	mV/A.m	mV/A.m	mV/A.m	mV/A.m
1.0	42.5	46.8	-	-
1.5	27.3	30.0	-	-
2.5	14.9	16.4	-	-
4	9.24	10.2	-	-
6	6.18	6.80	-	-
10	3.67	4.05	-	-
16	2.31	2.55	3.84	4.24
25	1.47	1.61	2.42	2.67
35	1.06	1.17	1.75	1.93
50	0.790	0.868	1.30	1.43
70	0.556	0.609	0.902	0.993
95	0.413	0.450	0.659	0.723
120	0.337	0.366	0.527	0.577
150	0.285	0.307	0.436	0.476
185	0.242	0.259	0.357	0.388
240	0.204	0.216	0.285	0.307
300	0.182	0.190	0.242	0.258
400	0.165	0.171	0.206	0.216
500	0.154	0.158	0.182	0.189

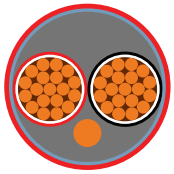
* Above values applied to a balanced three-phase circuit in which no current flows in the neutral conductor.

WALTON
Cables

Chapter 7: Fire Alarm Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
BS 7629-1, IEC 60331, IEC 60332, IEC 60228, BS 5308, BS 6387	IEC 60228 CLASS 1, 2 V.G: 300/500V	FIRE ALARM SHIELD-FRLS (FIRE RESISTANT 750°C)



① Solid or stranded copper (Class 1 or Class 2)

② Synthetic Mica Tape

③ PVC FRLS PVC

④ Aluminum mylar tape

⑤ Annealed Cu/Tinned Cu (Class-1 or 5)

⑥ Sheath FRLS PVC

Nominal Corss Sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal Size of circuit protective conductor	Nominal thickness of sheath	Approx. overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20° C	Current Carrying Capacity in conduit at 30° C	Current Carrying Capacity in air at 30° C
Core x mm²	-	no./mm	mm	mm²	mm	mm	kg/km	Ω/km	amps	amps
2 x 1.0	re	1/1.13	0.6	0.5 re/rm	0.9	8.0	98	18.1	13	15
2 x 1.5	re	1/1.38	0.7	0.5 re/rm	0.9	9.2	122	12.1	16	18
2 x 1.5	rm	7/0.52	0.7	0.5 re/rm	0.9	9.3	127	12.1	16	18
2 x 2.5	re	1/1.78	0.8	0.5 re/rm	1.0	10.3	169	7.41	22	26
2 x 2.5	rm	7/0.67	0.8	0.5 re/rm	1.0	10.8	175	7.41	22	26
2 x 4.0	rm	7/0.85	0.8	0.5 re/rm	1.1	12.1	230	4.61	30	33
3 x 1.5	re	1/1.38	0.7	0.5 re/rm	0.9	9.5	149	12.1	15	16
3 x 1.5	rm	7/0.52	0.7	0.5 re/rm	0.9	9.8	158	12.1	15	16
3 x 2.5	re	1/1.78	0.8	0.5 re/rm	1.0	10.9	207	7.41	20	22
3 x 2.5	rm	7/0.67	0.8	0.5 re/rm	1.0	11.5	218	7.41	20	22
3 x 4.0	rm	7/0.85	0.8	0.5 re/rm	1.1	12.8	289	4.61	27	30
4 x 1.5	re	1/1.38	0.7	0.5 re/rm	1.0	10.5	188	12.1	15	16
4 x 1.5	rm	7/0.52	0.7	0.5 re/rm	1.0	11.0	197	12.1	15	16
4 x 2.5	re	1/1.78	0.8	0.5 re/rm	1.1	12.2	262	7.41	20	22
4 x 2.5	rm	7/0.67	0.8	0.5 re/rm	1.1	12.7	273	7.41	20	22
4 x 4.0	rm	7/0.85	0.8	0.5 re/rm	1.2	14.3	361	4.61	27	30

Technical Specification

- 750° C — Max. short circuit temperature
- -20°C to +70°C — Max. operating temperature
- Pb — Lead Free
- 1.5-2.0 kV — AC test voltage

Installation Condition

- Industrial Use
- Home Use
- Fire fighting Unit
- Open Air
- In Duct
- In Conduit

Application

These cables are used in high rise buildings, commercial complexes, schools and educational institutions, hospitals etc. for the connection with security systems like smoke detectors, emergency lightings, exit signboards and fire command center. These cables are used where the fire safety is utmost important.

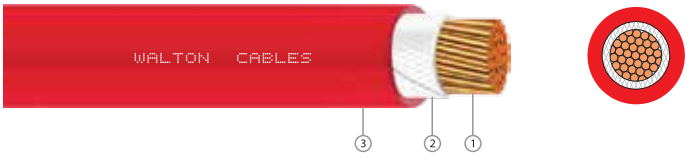
NOTE:
FRLS = Flame Retardant Low Smoke
V.G. = Voltage Grade
LSZH / LSHF cables can be provided on request.

WALTON
Cables

Chapter 8: Fire Survival Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, BS 6004, BS EN 50525, IEC 60331, IEC 60332 & BS 6387	IEC 60228 V.G: 450 V/750 V	BYA-FiR Single Core (Cu/Mica/FRLS-PVC)



① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
						In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	Kg/Km	Ω/Km	amps	amps
1 x 1.5 re	1/1.38	0.7	3.2	25	12.1	16	20
1 x 1.5 rm	7/0.52	0.7	3.3	26	12.1	16	20
1 x 2.5 re	1/1.78	0.8	3.8	38	7.41	22	28
1 x 2.5 rm	7/0.67	0.8	4.0	39	7.41	22	28
1 x 4.0 rm	7/0.85	0.8	4.5	56	4.61	30	37
1 x 6.0 rm	7/1.04	0.8	5.2	77	3.08	38	47
1 x 10 rm	7/1.35	1.0	6.5	125	1.83	52	63
1 x 16 rm	7/1.70	1.0	7.5	186	1.15	70	85
1 x 25 rm	7/2.14	1.2	9.3	290	0.727	91	110
1 x 35 cc	Min. 6	1.2	10.0	376	0.524	112	136
1 x 50 cc	Min. 6	1.4	11.6	524	0.387	136	164
1 x 70 cc	Min. 12	1.4	13.2	715	0.268	173	207
1 x 95 cc	Min. 15	1.6	15.7	970	0.193	216	253
1 x 120 cc	Min. 18/15	1.6	16.9	1200	0.153	244	291
1 x 150 cc	Min. 18/15	1.8	19.0	1517	0.124	283	333
1 x 185 cc	Min. 30	2.0	21.0	1858	0.0991	324	381
1 x 240 cc	Min. 34/30	2.2	24.1	2425	0.0754	384	452
1 x 300 cc	Min. 34/30	2.4	26.5	3003	0.0601	447	526
1 x 400 cc	Min. 53	2.6	30.1	4000	0.0470	543	639
1 x 500 cc	min. 53	2.8	33.3	4950	0.0366	639	752
1 x 630 cc	Min. 53	2.8	37.0	6185	0.0283	727	855

Technical Specification

- Min. bending radius 10 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 450/750V Rated voltage Uo/U
- 2.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, VDE 0271, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	NYY-FiR Single Core (Cu/Mica/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ FRLS -PVC Flame Retardant Low Smoke-PVC

④ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
1 x 1.5 re	1/1.38	0.8	1.8	7.2	75	12.1	27	22
1 x 1.5 rm	7/0.52	0.8	1.8	7.4	78	12.1	27	22
1 x 2.5 re	1/1.78	0.8	1.8	7.6	90	7.41	36	30
1 x 2.5 rm	7/0.67	0.8	1.8	7.9	95	7.41	36	30
1 x 4.0 rm	7/0.85	1.0	1.8	8.7	126	4.61	47	39
1 x 6.0 rm	7/1.04	1.0	1.8	9.5	154	3.08	59	50
1 x 10 rm	7/1.35	1.0	1.8	10.4	204	1.83	78	69
1 x 16 rm	7/1.70	1.0	1.8	11.3	273	1.15	100	94
1 x 25 rm	7/2.14	1.2	1.8	13.2	390	0.727	130	125
1 x 35 cc	Min. 6	1.2	1.8	13.8	489	0.524	155	160
1 x 50 cc	Min. 6	1.4	1.8	15.6	655	0.387	185	195
1 x 70 cc	Min. 12	1.4	1.8	17.1	867	0.268	225	245
1 x 95 cc	Min. 15	1.6	1.8	19.4	1145	0.193	270	300
1 x 120 cc	Min. 18/15	1.6	1.8	21.1	1405	0.153	310	350
1 x 150 cc	Min. 18/15	1.8	1.8	23.1	1730	0.124	350	405
1 x 185 cc	Min. 30	2.0	2.0	25.6	2131	0.0991	390	460
1 x 240 cc	Min. 34/30	2.2	2.0	28.2	2719	0.0754	450	555
1 x 300 cc	Min. 34/30	2.4	2.0	31.0	3348	0.0601	515	640
1 x 400 cc	Min. 53	2.6	2.2	35.0	4389	0.0470	585	770
1 x 500 cc	min. 53	2.8	2.2	38.0	5410	0.0366	680	900
1 x 630 cc	Min. 53	2.8	2.2	42.0	6715	0.0283	800	1030

Technical Specification

- Min. bending radius 10 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, VDE 0271, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	NYY-FiR Two Core (Cu/Mica/FRLS-PVC/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ FRLS -PVC Flame Retardant Low Smoke-PVC

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
2 x 1.5 re	1/1.38	0.8	1.8	13.0	215	12.1	25	19
2 x 1.5 rm	7/0.52	0.8	1.8	13.3	223	12.1	25	19
2 x 2.5 re	1/1.78	0.8	1.8	13.8	255	7.41	34	27
2 x 2.5 rm	7/0.67	0.8	1.8	14.3	265	7.41	34	27
2 x 4.0 rm	7/0.85	1.0	1.8	16.2	353	4.61	44	35
2 x 6.0 rm	7/1.04	1.0	1.8	17.3	426	3.08	55	45
2 x 10 rm	7/1.35	1.0	1.8	19.2	562	1.83	74	62
2 x 16 rm	7/1.70	1.0	1.8	21.3	745	1.15	97	84
2 x 25 rm	7/2.14	1.2	1.8	24.8	1063	0.727	125	110
2 x 35 cc	Min. 6	1.2	1.8	26.3	1333	0.524	150	140

Technical Specification

- Min. bending radius 10 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, VDE 0271, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	NYY-FiR Three Core (Cu/Mica/FRLS-PVC/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ FRLS -PVC Flame Retardant Low Smoke-PVC

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
3 x 1.5 re	1/1.38	0.8	1.8	13.5	245	12.1	22	16
3 x 1.5 rm	7/0.52	0.8	1.8	13.8	256	12.1	22	16
3 x 2.5 re	1/1.78	0.8	1.8	14.4	295	7.41	30	23
3 x 2.5 rm	7/0.67	0.8	1.8	14.8	305	7.41	30	23
3 x 4.0 rm	7/0.85	1.0	1.8	16.9	402	4.61	38	32
3 x 6.0 rm	7/1.04	1.0	1.8	18.2	491	3.08	48	41
3 x 10 rm	7/1.35	1.0	1.8	20.3	658	1.83	64	56
3 x 16 rm	7/1.70	1.0	1.8	22.6	921	1.15	83	75
3 x 25 rm	7/2.14	1.2	1.8	26.5	1323	0.727	110	98
3 x 35 sm	Min. 6	1.2	1.8	25.0	1438	0.524	130	120
3 x 50 sm	Min. 6	1.4	1.8	27.5	1895	0.387	155	150
3 x 70 sm	Min. 12	1.4	2.0	30.7	2550	0.268	190	190
3 x 95 sm	Min. 15	1.6	2.1	35.2	3400	0.193	225	230
3 x 120 sm	Min. 18/15	1.6	2.2	38.1	4185	0.153	260	270
3 x 150 sm	Min. 18/15	1.8	2.3	41.5	5180	0.124	295	305
3 x 185 sm	Min. 30	2.0	2.5	45.0	6310	0.0991	330	350
3 x 240 sm	Min. 34/30	2.2	2.7	51.2	8150	0.0754	385	410
3 x 300 sm	Min. 34/30	2.4	2.9	55.8	10040	0.0601	425	470

Technical Specification

- Min. bending radius 10 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, VDE 0271, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	NYY-FiR Four Core (Cu/Mica/FRLS-PVC/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ FRLS -PVC Flame Retardant Low Smoke-PVC

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
4 x 1.5 re	1/1.38	0.8	1.8	14.5	290	12.1	22	16
4 x 1.5 rm	7/0.52	0.8	1.8	14.9	302	12.1	22	16
4 x 2.5 re	1/1.78	0.8	1.8	15.4	345	7.41	30	23
4 x 2.5 rm	7/0.67	0.8	1.8	16.0	360	7.41	30	23
4 x 4.0 rm	7/0.85	1.0	1.8	18.3	485	4.61	38	32
4 x 6.0 rm	7/1.04	1.0	1.8	19.7	598	3.08	48	41
4 x 10 rm	7/1.35	1.0	1.8	22.0	805	1.83	64	56
4 x 16 rm	7/1.70	1.0	1.8	24.6	1140	1.15	83	75
4 x 25 rm	7/2.14	1.2	1.8	29.1	1630	0.727	110	98
4 x 35 sm	Min. 6	1.2	1.8	28.1	1850	0.524	130	120
4 x 50 sm	Min. 6	1.4	1.9	31.0	2496	0.387	155	150
4 x 70 sm	Min. 12	1.4	2.1	36.2	3428	0.268	190	190
4 x 95 sm	Min. 15	1.6	2.2	40.0	4480	0.193	225	230
4 x 120 sm	Min. 18/15	1.6	2.4	43.5	5561	0.153	260	270
4 x 150 sm	Min. 18/15	1.8	2.5	46.5	6850	0.124	295	305
4 x 185 sm	Min. 30	2.0	2.7	52.5	8420	0.0991	330	350
4 x 240 sm	Min. 34/30	2.2	2.9	57.6	10790	0.0754	385	410
4 x 300 sm	Min. 34/30	2.4	3.1	64.5	13320	0.0601	425	470

Technical Specification

- Min. bending radius 10 x D
- 160° C Max. short circuit temperature
- 70° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

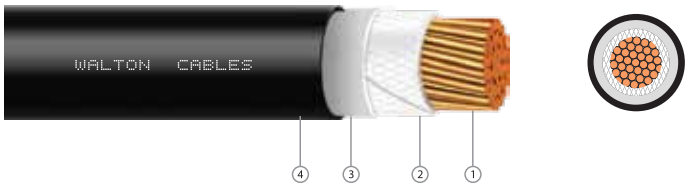
Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	2XY-FiR Single Core (Cu/Mica/XLPE/FRLS-PVC)



① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ XLPE Cross-linked Polyethylene

④ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
1 x 1.5 re	1/1.38	0.7	1.4	6.3	57	12.1	36	30
1 x 1.5 rm	7/0.52	0.7	1.4	6.5	59	12.1	36	30
1 x 2.5 re	1/1.78	0.7	1.4	6.7	70	7.41	47	39
1 x 2.5 rm	7/0.67	0.7	1.4	6.9	73	7.41	47	39
1 x 4.0 rm	7/0.85	0.7	1.4	7.5	93	4.61	59	50
1 x 6.0 rm	7/1.04	0.7	1.4	8.1	117	3.08	78	69
1 x 10 rm	7/1.35	0.7	1.4	9.0	164	1.83	100	94
1 x 16 rm	7/1.70	0.7	1.4	10.1	231	1.15	130	125
1 x 25 rm	7/2.14	0.9	1.4	11.8	337	0.727	155	160
1 x 35 cc	Min. 6	0.9	1.4	12.4	429	0.524	185	195
1 x 50 cc	Min. 6	1.0	1.4	13.7	580	0.387	225	245
1 x 70 cc	Min. 12	1.1	1.4	15.5	785	0.268	270	300
1 x 95 cc	Min. 15	1.1	1.5	17.5	1039	0.193	310	350
1 x 120 cc	Min. 18/15	1.2	1.5	19.3	1290	0.153	350	405
1 x 150 cc	Min. 18/15	1.4	1.6	21.3	1605	0.124	390	460
1 x 185 cc	Min. 30	1.6	1.6	23.2	1960	0.0991	450	555
1 x 240 cc	Min. 34/30	1.7	1.7	26.1	2515	0.0754	515	640
1 x 300 cc	Min. 34/30	1.8	1.8	28.5	3115	0.0601	585	770
1 x 400 cc	Min. 53	2.0	1.9	32.3	4100	0.0470	680	900
1 x 500 cc	min. 53	2.2	2.0	35.9	5114	0.0366	800	1030
1 x 630 cc	Min. 53	2.4	2.2	40.5	6425	0.0283	945	1160

Technical Specification

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	2XY-FiR Two Core (Cu/Mica/XLPE/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ XLPE Cross-linked Polyethylene

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
2 x 1.5 re	1/1.38	0.7	1.8	13.0	211	12.1	34	27
2 x 1.5 rm	7/0.52	0.7	1.8	13.3	216	12.1	34	27
2 x 2.5 re	1/1.78	0.7	1.8	13.8	247	7.41	44	35
2 x 2.5 rm	7/0.67	0.7	1.8	14.3	255	7.41	44	35
2 x 4.0 rm	7/0.85	0.7	1.8	15.3	307	4.61	55	45
2 x 6.0 rm	7/1.04	0.7	1.8	16.4	369	3.08	74	62
2 x 10 rm	7/1.35	0.7	1.8	18.2	482	1.83	97	84
2 x 16 rm	7/1.70	0.7	1.8	20.4	645	1.15	125	110
2 x 25 rm	7/2.14	0.9	1.8	24.0	895	0.727	150	140
2 x 35 cc	Min. 6	0.9	1.8	25.3	1107	0.524	180	190

Technical Specification

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	2XY-FiR Three Core (Cu/Mica/XLPE/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ XLPE Cross-linked Polyethylene

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
3 x 1.5 re	1/1.38	0.7	1.8	13.6	236	12.1	30	23
3 x 1.5 rm	7/0.52	0.7	1.8	13.8	243	12.1	30	23
3 x 2.5 re	1/1.78	0.7	1.8	14.3	282	7.41	38	32
3 x 2.5 rm	7/0.67	0.7	1.8	14.8	289	7.41	38	32
3 x 4.0 rm	7/0.85	0.7	1.8	16.0	353	4.61	48	41
3 x 6.0 rm	7/1.04	0.7	1.8	17.3	438	3.08	64	56
3 x 10 rm	7/1.35	0.7	1.8	19.2	590	1.83	83	75
3 x 16 rm	7/1.70	0.7	1.8	21.5	807	1.15	110	98
3 x 25 rm	7/2.14	0.9	1.8	25.5	1161	0.727	130	120
3 x 35 sm	Min. 6	0.9	1.8	25.9	1366	0.524	155	150
3 x 50 sm	Min. 6	1.0	1.8	26.5	1853	0.387	190	190
3 x 70 sm	Min. 12	1.1	1.9	30.2	2540	0.268	225	230
3 x 95 sm	Min. 15	1.1	2.0	33.7	3212	0.193	260	270
3 x 120 sm	Min. 18/15	1.2	2.1	37.3	4121	0.153	295	305
3 x 150 sm	Min. 18/15	1.4	2.3	41.5	5142	0.124	330	350
3 x 185 sm	Min. 30	1.6	2.4	44.4	6258	0.0991	385	410
3 x 240 sm	Min. 34/30	1.7	2.6	50.0	8096	0.0754	425	470
3 x 300 sm	Min. 34/30	1.8	2.8	54.4	9910	0.0601	478	564

Technical Specification

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60228, IEC 60502-1, IEC 60331 IEC 60332 & BS 6387	IEC 60228 V.G: 0.6 kV/1.0 kV (1.2)kV	2XY-FiR Four Core (Cu/Mica/XLPE/FRLS-PVC/FRLS-PVC)

① Solid or stranded copper (Class 1 or Class 2)

② Mica tape

③ XLPE Cross-linked Polyethylene

④ FRLS -PVC Flame Retardant Low Smoke-PVC

⑤ FRLS -PVC Flame Retardant Low Smoke-PVC

No. of core x Conductor Cross-sectional Area	No. of wire & per wire diameter	Nominal Thickness of Insulation	Nominal thickness of outer sheath	Approx. overall diameter	Approx. weight of cable	Max. DC Resistance of Conductor at 20°C	Current rating in Max. conductor operating temperature	
							In Ground at 30°C	In Air at 35°C
No. x mm²	No./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
4 x 1.5 re	1/1.38	0.7	1.8	14.4	270	12.1	30	23
4 x 1.5 rm	7/0.52	0.7	1.8	14.9	280	12.1	30	23
4 x 2.5 re	1/1.78	0.7	1.8	15.5	330	7.41	38	32
4 x 2.5 rm	7/0.67	0.7	1.8	16.0	345	7.41	38	32
4 x 4.0 rm	7/0.85	0.7	1.8	17.3	418	4.61	48	41
4 x 6.0 rm	7/1.04	0.7	1.8	18.8	530	3.08	64	56
4 x 10 rm	7/1.35	0.7	1.8	21.0	726	1.83	83	75
4 x 16 rm	7/1.70	0.7	1.8	23.2	1005	1.15	110	98
4 x 25 rm	7/2.14	0.9	1.8	27.8	1452	0.727	130	120
4 x 35 sm	Min. 6	0.9	1.8	27.0	1772	0.524	155	150
4 x 50 sm	Min. 6	1.0	1.9	29.5	2380	0.387	190	190
4 x 70 sm	Min. 12	1.1	2.0	35.2	3320	0.268	225	230
4 x 95 sm	Min. 15	1.1	2.1	38.3	4308	0.193	260	270
4 x 120 sm	Min. 18/15	1.2	2.3	42.2	5455	0.153	295	305
4 x 150 sm	Min. 18/15	1.4	2.4	44.8	6705	0.124	330	350
4 x 185 sm	Min. 30	1.6	2.6	51.2	8233	0.0991	385	410
4 x 240 sm	Min. 34/30	1.7	2.8	56.0	10610	0.0754	425	470
4 x 300 sm	Min. 34/30	1.8	3.0	62.8	13095	0.0601	478	564

Technical Specification

- Min. bending radius 10 x D
- 250° C Max. short circuit temperature
- 90° C Max. operating temperature
- 0.6/1 KV Rated voltage Uo/U
- 3.5 KV AC test voltage
- Low smoke EN 61034
- Flame retardant test of bunched cables- EN 60332-3-24 Cat.C
- Circuit continuity IEC 60331-21

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

Used in refineries, hotels, schools, tunnels, high constructions, hospitals, power plants, data processing centers, populated business centers where there is a risk of fire.

NOTE

FRLS-Flame Retardant Low Smoke V.G=Voltage Grade, kV=Killo Volt

WALTON Cables

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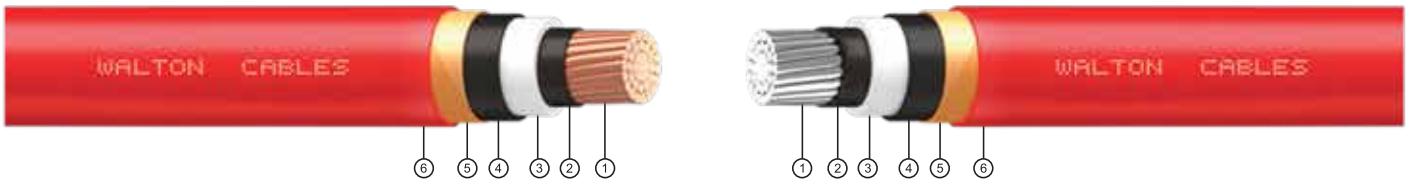
Cables

Chapter 9: Medium Voltage Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XHSY/A2XHSY/N2XHSY/NA2XHSY/ ZR-YJV/ZR-YJLV



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
				Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	2.5	1.8	19.0	558	400	0.727	1.20	0.262	0.136	3.57	2.35	155	153	112	111	160	158	130	129
1x35 c.c	2.5	1.8	20.0	679	450	0.524	0.868	0.291	0.129	5.00	3.29	191	188	133	131	190	189	157	155
1x50 c.c	2.5	1.8	21.0	830	515	0.387	0.641	0.321	0.121	7.15	4.70	226	223	156	154	229	227	189	187
1x70 c.c	2.5	1.8	22.5	1056	618	0.268	0.443	0.371	0.114	10.00	6.58	280	278	190	187	285	283	236	233
1x95 c.c	2.5	1.8	24.3	1328	730	0.193	0.32	0.417	0.108	13.59	8.93	332	328	227	224	350	347	287	284
1x120 c.c	2.5	1.8	25.8	1570	840	0.153	0.253	0.459	0.104	17.16	11.28	378	374	260	257	410	407	332	328
1x150 c.c	2.5	1.8	27.2	1870	955	0.124	0.206	0.494	0.101	21.45	14.10	425	421	287	283	468	464	376	372
1x185 c.c	2.5	1.8	28.8	2236	1095	0.0991	0.164	0.543	0.097	26.46	17.39	480	476	324	320	542	538	432	427
1x240 c.c	2.6	1.9	31.6	2830	1335	0.0754	0.125	0.583	0.094	34.32	22.56	554	549	373	370	640	636	511	505
1x300 c.c	2.8	2.0	34.3	3460	1585	0.0601	0.100	0.602	0.092	42.90	28.20	625	620	419	415	732	727	586	580
1x400 c.c	3.0	2.1	38.0	4490	1995	0.0470	0.0778	0.627	0.090	57.20	37.60	716	710	465	462	850	845	676	669
1x500 c.c	3.2	2.2	41.8	5490	2400	0.0366	0.0605	0.654	0.088	71.50	47.00	792	786	545	541	978	972	776	768
1x630 c.c	3.2	2.3	46.5	6850	2930	0.0283	0.0469	0.726	0.085	90.09	59.22	902	895	646	640	1048	1041	886	678
1x800 c.c	3.2	2.4	50.0	8600	3550	0.0221	0.0367	0.789	0.084	114.40	75.20	970	963	757	752	1148	1140	986	987
1x1000 c.c	3.2	2.6	55.0	10650	4280	0.0176	0.0291	0.856	0.082	143.00	94.00	1040	1030	858	851	1238	1200	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

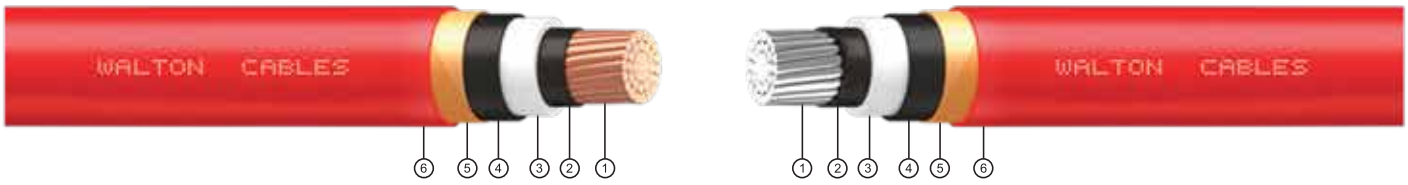
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Y = PVC sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XHSY/A2XHSY/N2XHSY/NA2XHSY/ ZR-YJV/ZR-YJLV



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
				Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	3.4	1.8	21.0	630	475	0.727	1.20	0.208	0.142	3.57	2.35	155	153	112	111	160	158	130	129
1x35 c.c	3.4	1.8	22.0	750	530	0.524	0.868	0.229	0.135	5.00	3.29	191	188	133	131	190	189	157	155
1x50 c.c	3.4	1.8	23.0	895	600	0.387	0.641	0.252	0.126	7.15	4.70	226	223	156	154	229	227	189	187
1x70 c.c	3.4	1.8	24.5	1140	700	0.268	0.443	0.288	0.119	10.00	6.58	280	278	190	187	285	283	236	233
1x95 c.c	3.4	1.8	26.3	1410	820	0.193	0.32	0.323	0.113	13.59	8.93	332	328	227	224	350	347	287	284
1x120 c.c	3.4	1.8	28.0	1655	930	0.153	0.253	0.353	0.108	17.16	11.28	378	374	260	257	410	407	332	328
1x150 c.c	3.4	1.8	29.3	1975	1045	0.124	0.206	0.380	0.105	21.45	14.10	425	421	287	283	468	464	376	372
1x185 c.c	3.4	1.9	31.0	2345	1205	0.0991	0.164	0.416	0.101	26.46	17.39	480	476	324	320	542	538	432	427
1x240 c.c	3.4	2.0	33.8	2940	1440	0.0754	0.125	0.460	0.098	34.32	22.56	554	549	373	370	640	636	511	505
1x300 c.c	3.4	2.0	36.0	3525	1670	0.0601	0.100	0.506	0.095	42.90	28.20	625	620	419	415	732	727	586	580
1x400 c.c	3.4	2.1	39.0	4535	2040	0.0470	0.0778	0.561	0.091	57.20	37.60	716	710	465	462	850	845	676	669
1x500 c.c	3.4	2.2	42.5	5520	2445	0.0366	0.0605	0.619	0.089	71.50	47.00	792	786	545	541	978	972	776	768
1x630 c.c	3.4	2.3	46.5	6885	2940	0.0283	0.0469	0.698	0.086	90.09	59.22	902	895	646	640	1048	1041	886	678
1x800 c.c	3.4	2.5	50.5	8600	3570	0.0221	0.0367	0.780	0.084	114.40	75.20	970	963	757	752	1148	1140	986	987
1x1000 c.c	3.4	2.6	55.3	10580	4290	0.0176	0.0291	0.860	0.082	143.00	94.00	1040	1030	858	851	1238	1200	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

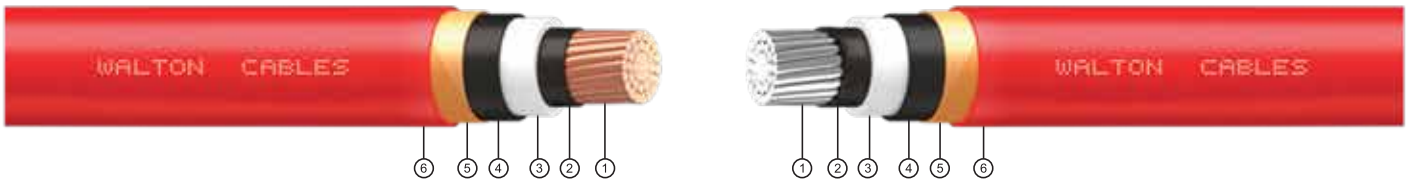
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Y = PVC sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XHSY/A2XHSY/N2XHSY/NA2XHSY/ ZR-YJV/ZR-YJLV



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
				Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	4.5	1.8	23.0	720	565	0.727	1.20	0.171	0.149	3.57	2.35	157	155	113	112	163	160	131	130
1x35 c.c	4.5	1.8	24.0	835	625	0.524	0.868	0.187	0.142	5.00	3.29	193	190	134	132	194	191	158	156
1x50 c.c	4.5	1.8	25.1	1005	695	0.387	0.641	0.204	0.132	7.15	4.70	228	225	157	155	232	229	190	188
1x70 c.c	4.5	1.8	26.8	1235	800	0.268	0.443	0.232	0.124	10.00	6.58	282	280	191	188	288	285	237	234
1x95 c.c	4.5	1.8	28.5	1505	930	0.193	0.32	0.258	0.118	13.59	8.93	334	330	228	225	353	348	288	285
1x120 c.c	4.5	1.9	30.2	1790	1060	0.153	0.253	0.281	0.113	17.16	11.28	380	376	261	258	413	409	333	329
1x150 c.c	4.5	1.9	31.6	2090	1180	0.124	0.206	0.301	0.112	21.45	14.10	427	423	288	284	471	466	377	373
1x185 c.c	4.5	2.0	33.4	2485	1350	0.0991	0.164	0.329	0.107	26.46	17.39	482	478	325	321	545	540	433	428
1x240 c.c	4.5	2.0	35.8	3070	1580	0.0754	0.125	0.363	0.102	34.32	22.56	556	551	374	371	643	638	512	506
1x300 c.c	4.5	2.1	38.3	3680	1825	0.0601	0.100	0.398	0.099	42.90	28.20	627	622	420	416	735	729	587	581
1x400 c.c	4.5	2.2	41.5	4700	2215	0.0470	0.0778	0.439	0.095	57.20	37.60	718	712	466	463	853	847	677	670
1x500 c.c	4.5	2.3	44.8	5720	2620	0.0366	0.0605	0.483	0.093	71.50	47.00	794	787	546	542	981	974	777	769
1x630 c.c	4.5	2.4	48.5	7060	3120	0.0283	0.0469	0.534	0.090	90.09	59.22	904	896	647	641	1049	1041	887	679
1x800 c.c	4.5	2.5	53.0	8750	3760	0.0221	0.0367	0.590	0.087	114.40	75.20	972	964	758	753	1149	1140	987	988
1x1000 c.c	4.5	2.7	57.5	10780	4510	0.0176	0.0291	0.640	0.085	143.00	94.00	1042	1032	859	852	1239	1200	1087	1077

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

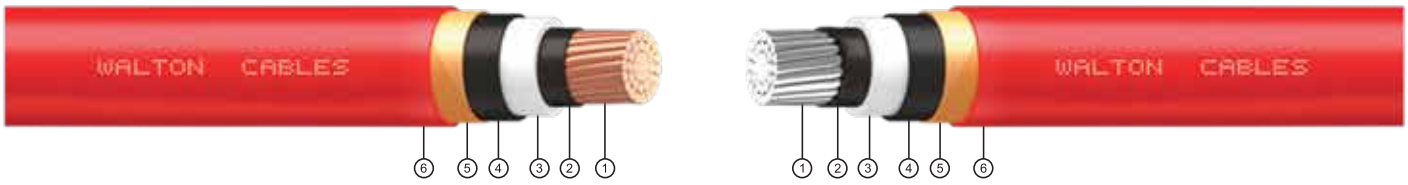
A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Y = PVC sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XHSY/A2XHSY/N2XHSY/NA2XHSY/ ZR-YJV/ZR-YJLV



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
				Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	5.5	1.8	26.3	935	725	0.524	0.868	0.162	0.147	5.00	3.29	193	190	134	132	194	191	158	156
1x50 c.c	5.5	1.8	27.4	1110	795	0.387	0.641	0.177	0.137	7.15	4.70	228	225	157	155	232	229	190	188
1x70 c.c	5.5	1.8	29.0	1340	910	0.268	0.443	0.200	0.129	10.00	6.58	282	280	191	188	288	285	237	234
1x95 c.c	5.5	1.9	31.0	1630	1047	0.193	0.32	0.222	0.123	13.59	8.93	334	330	228	225	353	348	288	285
1x120 c.c	5.5	1.9	32.5	1905	1170	0.153	0.253	0.241	0.118	17.16	11.28	380	376	261	258	413	409	333	329
1x150 c.c	5.5	2.0	34.2	2248	1320	0.124	0.206	0.257	0.114	21.45	14.10	427	423	288	284	471	466	377	373
1x185 c.c	5.5	2.0	35.8	2610	1470	0.0991	0.164	0.280	0.110	26.46	17.39	482	478	325	321	545	540	433	428
1x240 c.c	5.5	2.1	38.5	3210	1730	0.0754	0.125	0.307	0.106	34.32	22.56	556	551	374	371	643	638	512	506
1x300 c.c	5.5	2.2	40.8	3840	1995	0.0601	0.100	0.336	0.102	42.90	28.20	627	622	420	416	735	729	587	581
1x400 c.c	5.5	2.3	44.0	4890	2405	0.0470	0.0778	0.370	0.098	57.20	37.60	718	712	466	463	853	847	677	670
1x500 c.c	5.5	2.4	47.2	5910	2806	0.0366	0.0605	0.406	0.096	71.50	47.00	794	787	546	542	981	974	777	769
1x630 c.c	5.5	2.5	51.1	7275	3380	0.0283	0.0469	0.449	0.092	90.09	59.22	904	896	647	641	1049	1041	887	679
1x800 c.c	5.5	2.6	55.2	9050	4025	0.0221	0.0367	0.490	0.090	114.40	75.20	972	964	758	753	1149	1140	987	988
1x1000 c.c	5.5	2.7	59.6	11000	4760	0.0176	0.0291	0.540	0.087	143.00	94.00	1042	1032	859	852	1239	1200	1087	1077

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

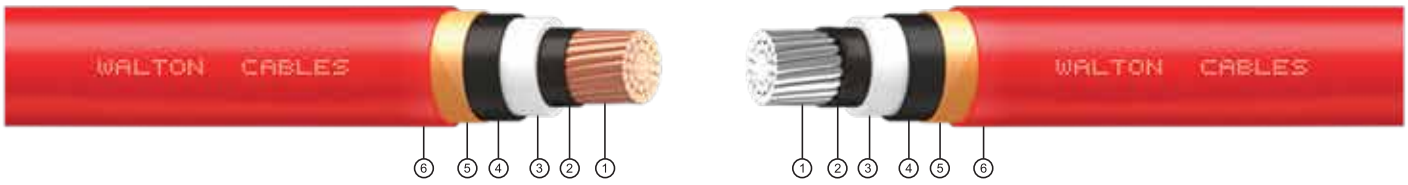
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Y = PVC sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XHSY/A2XHSY/N2XHSY/NA2XHSY/ ZR-YJV/ZR-YJLV



①	②	③	④	⑤	⑥
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
				Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x50 c.c	8.0	1.9	32.8	1390	1085	0.387	0.641	0.138	0.149	7.15	4.70	229	226	158	156	233	230	191	189
1x70 c.c	8.0	2.0	34.6	1665	1220	0.268	0.443	0.154	0.141	10.00	6.58	283	281	192	189	289	286	238	235
1x95 c.c	8.0	2.1	36.5	1975	1390	0.193	0.32	0.169	0.134	13.59	8.93	335	331	229	226	354	349	289	286
1x120 c.c	8.0	2.1	38.2	2272	1526	0.153	0.253	0.183	0.128	17.16	11.28	381	377	262	259	414	410	334	330
1x150 c.c	8.0	2.1	39.6	2590	1670	0.124	0.206	0.194	0.124	21.45	14.10	428	424	289	285	472	467	378	374
1x185 c.c	8.0	2.2	41.3	2950	1830	0.0991	0.164	0.210	0.120	26.46	17.39	483	479	326	322	546	541	434	429
1x240 c.c	8.0	2.3	44.0	3620	2138	0.0754	0.125	0.229	0.115	34.32	22.56	557	552	375	372	644	639	513	507
1x300 c.c	8.0	2.3	46.2	4240	2380	0.0601	0.100	0.249	0.111	42.90	28.20	628	623	421	417	736	730	588	582
1x400 c.c	8.0	2.5	49.7	5345	2850	0.0470	0.0778	0.273	0.107	57.20	37.60	719	713	467	464	854	848	678	671
1x500 c.c	8.0	2.5	52.6	6380	3260	0.0366	0.0605	0.298	0.103	71.50	47.00	795	788	547	543	982	975	778	770
1x630 c.c	8.0	2.7	56.8	7800	3860	0.0283	0.0469	0.327	0.099	90.09	59.22	905	897	648	642	1050	1042	888	680
1x800 c.c	8.0	2.8	61.0	9600	4600	0.0221	0.0367	0.350	0.096	114.40	75.20	973	965	759	754	1150	1141	988	989
1x1000 c.c	8.0	2.9	65.5	11600	5380	0.0176	0.0291	0.380	0.094	143.00	94.00	1043	1033	860	853	1240	1201	1088	1078

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Y = PVC sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XHSCY/A2XHSCY/ N2XHSCY/NA2XHSCY

Conductor: Round Compacted Cu/Al | Conductor Scr: Semiconductive Compound | Insulation: Cross-Linked Polyethylene (XLPE) | Insulation Scr: Semiconductive Compound | Metal Scr: Annealed Cu Wire | Binder: Cu Tape | Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-section area of Cu Metal Screen	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	2.5	16	1.8	21.3	815	596	0.524	0.868	0.291	0.128	5.00	3.29	2.29	191	188	133	131	190	189	157	155
1x50 c.c	2.5	16	1.8	22.4	970	664	0.387	0.641	0.321	0.120	7.15	4.70	2.29	226	223	156	154	229	227	189	187
1x70 c.c	2.5	16	1.8	24.0	1188	760	0.268	0.443	0.371	0.113	10.00	6.58	2.29	280	278	190	187	285	283	236	233
1x95 c.c	2.5	16	1.8	25.8	1456	869	0.193	0.32	0.417	0.107	13.59	8.93	2.29	332	328	227	224	350	347	287	284
1x120 c.c	2.5	16	1.8	27.3	1719	969	0.153	0.253	0.459	0.103	17.16	11.28	2.29	378	374	260	257	410	407	332	328
1x150 c.c	2.5	25	1.8	29.0	2085	1165	0.124	0.206	0.494	0.100	21.45	14.10	3.58	425	421	287	283	468	464	376	372
1x185 c.c	2.5	25	1.8	30.9	2479	1321	0.0991	0.164	0.543	0.096	26.46	17.39	3.58	480	476	324	320	542	538	432	427
1x240 c.c	2.6	25	1.9	33.5	3020	1530	0.0754	0.125	0.583	0.092	34.32	22.56	3.58	554	549	373	370	640	636	511	505
1x300 c.c	2.8	25	2.0	36.4	3622	1781	0.0601	0.100	0.602	0.091	42.90	28.20	3.58	625	620	419	415	732	727	586	580
1x400 c.c	3.0	35	2.2	40.3	4780	2300	0.0470	0.0778	0.627	0.089	57.20	37.60	5.01	716	710	465	462	850	845	676	669
1x500 c.c	3.2	35	2.3	43.8	5795	2700	0.0366	0.0605	0.654	0.086	71.50	47.00	5.01	792	786	545	541	978	972	776	768
1x630 c.c	3.2	35	2.4	47.7	7108	3182	0.0283	0.0469	0.726	0.084	90.09	59.22	5.01	902	895	646	640	1048	1041	886	678
1x800 c.c	3.2	50	2.5	52.0	8930	3958	0.0221	0.0367	0.789	0.082	114.40	75.20	7.15	970	963	757	752	1148	1140	986	987
1x1000 c.c	3.2	50	2.6	56.7	10880	4680	0.0176	0.0291	0.856	0.080	143.00	94.00	7.15	1040	1030	858	851	1238	1200	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

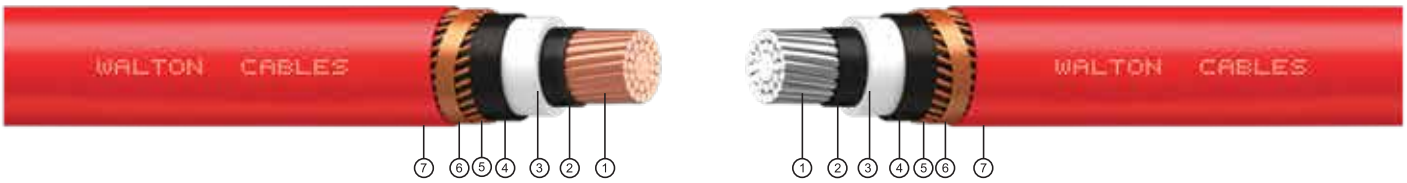
A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C= Concentric Cu Wire Screen
Y = PVC sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XHSCY/A2XHSCY/ N2XHSCY/NA2XHSCY



Conductor: Round Compacted Cu/Al | Conductor Scr: Semiconductive Compound | Insulation: Cross-Linked Polyethylene (XLPE) | Insulation Scr: Semiconductive Compound | Metal Scr: Annealed Cu Wire | Binder: Cu Tape | Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-section area of Cu Metal Screen	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	3.4	16	1.8	23.5	900	680	0.524	0.868	0.229	0.134	5.00	3.29	2.29	191	188	133	131	190	189	157	155
1x50 c.c	3.4	16	1.8	24.7	1045	600	0.387	0.641	0.252	0.125	7.15	4.70	2.29	226	223	156	154	229	227	189	187
1x70 c.c	3.4	16	1.8	26.2	1285	847	0.268	0.443	0.288	0.118	10.00	6.58	2.29	280	278	190	187	285	283	236	233
1x95 c.c	3.4	16	1.8	28.0	1553	965	0.193	0.32	0.323	0.112	13.59	8.93	2.29	332	328	227	224	350	347	287	284
1x120 c.c	3.4	16	1.8	29.6	1805	1075	0.153	0.253	0.353	0.105	17.16	11.28	2.29	378	374	260	257	410	407	332	328
1x150 c.c	3.4	25	1.9	31.3	2208	1272	0.124	0.206	0.380	0.101	21.45	14.10	3.58	425	421	287	283	468	464	376	372
1x185 c.c	3.4	25	1.9	33.0	2550	1460	0.0991	0.164	0.416	0.099	26.46	17.39	3.58	480	476	324	320	542	538	432	427
1x240 c.c	3.4	25	2.0	35.6	3164	1667	0.0754	0.125	0.460	0.096	34.32	22.56	3.58	554	549	373	370	640	636	511	505
1x300 c.c	3.4	25	2.1	38.0	3752	1895	0.0601	0.100	0.506	0.093	42.90	28.20	3.58	625	620	419	415	732	727	586	580
1x400 c.c	3.4	35	2.2	41.2	4853	2355	0.0470	0.0778	0.561	0.089	57.20	37.60	5.01	716	710	465	462	850	845	676	669
1x500 c.c	3.4	35	2.3	44.4	5830	2750	0.0366	0.0605	0.619	0.087	71.50	47.00	5.01	792	786	545	541	978	972	776	768
1x630 c.c	3.4	35	2.4	48.2	7185	3233	0.0283	0.0469	0.698	0.085	90.09	59.22	5.01	902	895	646	640	1048	1041	886	678
1x800 c.c	3.4	50	2.5	52.7	8975	3975	0.0221	0.0367	0.780	0.084	114.40	75.20	7.15	970	963	757	752	1148	1140	986	987
1x1000 c.c	3.4	50	2.7	57.3	10900	4640	0.0176	0.0291	0.860	0.082	143.00	94.00	7.15	1040	1030	858	851	1238	1200	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C= Concentric Cu Wire Screen
Y = PVC sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XHSCY/A2XHSCY/ N2XHSCY/NA2XHSCY

Conductor: Round Compacted Cu/Al | Conductor Scr: Semiconductive Compound | Insulation: Cross-Linked Polyethylene (XLPE) | Insulation Scr: Semiconductive Compound | Metal Scr: Annealed Cu Wire | Binder: Cu Tape | Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-section area of Cu Metal Screen	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	4.5	16	1.8	25.5	980	770	0.524	0.868	0.187	0.140	5.00	3.29	2.29	193	190	134	132	194	191	158	156
1x50 c.c	4.5	16	1.8	26.9	1151	842	0.387	0.641	0.204	0.130	7.15	4.70	2.29	228	225	157	155	232	229	190	188
1x70 c.c	4.5	16	1.8	28.6	1382	945	0.268	0.443	0.232	0.122	10.00	6.58	2.29	282	280	191	188	288	285	237	234
1x95 c.c	4.5	16	1.8	30.5	1655	1065	0.193	0.32	0.258	0.116	13.59	8.93	2.29	334	330	228	225	353	348	288	285
1x120 c.c	4.5	16	1.9	32.1	1940	1200	0.153	0.253	0.281	0.111	17.16	11.28	2.29	380	376	261	258	413	409	333	329
1x150 c.c	4.5	25	1.9	33.8	2340	1415	0.124	0.206	0.301	0.109	21.45	14.10	3.58	427	423	288	284	471	466	377	373
1x185 c.c	4.5	25	2.0	35.5	2712	1575	0.0991	0.164	0.329	0.105	26.46	17.39	3.58	482	478	325	321	545	540	433	428
1x240 c.c	4.5	25	2.1	37.8	3295	1819	0.0754	0.125	0.363	0.100	34.32	22.56	3.58	556	551	374	371	643	638	512	506
1x300 c.c	4.5	25	2.2	40.3	3920	2065	0.0601	0.100	0.398	0.097	42.90	28.20	3.58	627	622	420	416	735	729	587	581
1x400 c.c	4.5	35	2.3	43.5	5030	2518	0.0470	0.0778	0.439	0.093	57.20	37.60	5.01	718	712	466	463	853	847	677	670
1x500 c.c	4.5	35	2.4	46.6	6040	2930	0.0366	0.0605	0.483	0.090	71.50	47.00	5.01	794	787	546	542	981	974	777	769
1x630 c.c	4.5	35	2.5	50.7	7380	3450	0.0283	0.0469	0.534	0.087	90.09	59.22	5.01	904	896	647	641	1049	1041	887	679
1x800 c.c	4.5	50	2.6	55.0	9200	4200	0.0221	0.0367	0.590	0.085	114.40	75.20	7.15	972	964	758	753	1149	1140	987	988
1x1000 c.c	4.5	50	2.7	60.0	11180	4920	0.0176	0.0291	0.640	0.083	143.00	94.00	7.15	1042	1032	859	852	1239	1200	1087	1077

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C= Concentric Cu Wire Screen
Y = PVC sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XHSCY/A2XHSCY/ N2XHSCY/NA2XHSCY

Conductor: Round Compacted Cu/Al | Conductor Scr: Semiconductive Compound | Insulation: Cross-Linked Polyethylene (XLPE) | Insulation Scr: Semiconductive Compound | Metal Scr: Annealed Cu Wire | Binder: Cu Tape | Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-section area of Cu Metal Screen	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	5.5	16	1.8	27.5	1065	850	0.524	0.868	0.162	0.145	5.00	3.29	2.29	193	190	134	132	194	191	158	156
1x50 c.c	5.5	16	1.8	28.7	1243	930	0.387	0.641	0.177	0.135	7.15	4.70	2.29	228	225	157	155	232	229	190	188
1x70 c.c	5.5	16	1.9	30.6	1489	1050	0.268	0.443	0.200	0.128	10.00	6.58	2.29	282	280	191	188	288	285	237	234
1x95 c.c	5.5	16	1.9	32.4	1770	1180	0.193	0.32	0.222	0.121	13.59	8.93	2.29	334	330	228	225	353	348	288	285
1x120 c.c	5.5	16	2.0	34.0	2060	1310	0.153	0.253	0.241	0.116	17.16	11.28	2.29	380	376	261	258	413	409	333	329
1x150 c.c	5.5	25	2.0	35.8	2440	1525	0.124	0.206	0.257	0.112	21.45	14.10	3.58	427	423	288	284	471	466	377	373
1x185 c.c	5.5	25	2.1	37.6	2835	1690	0.0991	0.164	0.280	0.108	26.46	17.39	3.58	482	478	325	321	545	540	433	428
1x240 c.c	5.5	25	2.2	40.2	3440	1950	0.0754	0.125	0.307	0.104	34.32	22.56	3.58	556	551	374	371	643	638	512	506
1x300 c.c	5.5	25	2.2	42.4	4050	2180	0.0601	0.100	0.336	0.100	42.90	28.20	3.58	627	622	420	416	735	729	587	581
1x400 c.c	5.5	35	2.3	45.6	5170	2685	0.0470	0.0778	0.370	0.096	57.20	37.60	5.01	718	712	466	463	853	847	677	670
1x500 c.c	5.5	35	2.4	48.8	6200	3100	0.0366	0.0605	0.406	0.094	71.50	47.00	5.01	794	787	546	542	981	974	777	769
1x630 c.c	5.5	35	2.5	52.8	7540	3620	0.0283	0.0469	0.449	0.090	90.09	59.22	5.01	904	896	647	641	1049	1041	887	679
1x800 c.c	5.5	50	2.7	57.3	9425	4450	0.0221	0.0367	0.490	0.088	114.40	75.20	7.15	972	964	758	753	1149	1140	987	988
1x1000 c.c	5.5	50	2.8	61.8	11400	5180	0.0176	0.0291	0.540	0.085	143.00	94.00	7.15	1042	1032	859	852	1239	1200	1087	1077

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

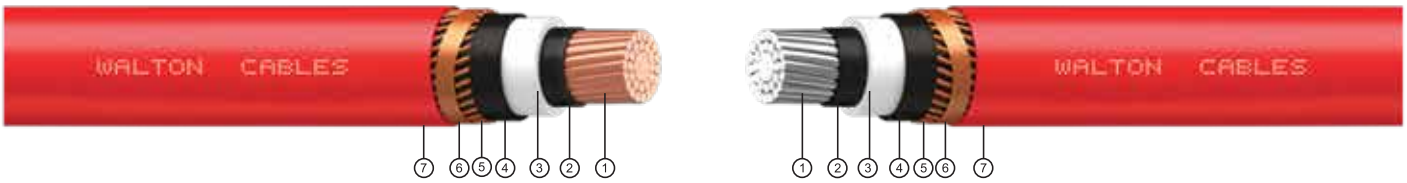
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C= Concentric Cu Wire Screen
Y = PVC sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XHSCY/A2XHSCY/ N2XHSCY/NA2XHSCY



①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Cu Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-section area of Cu Metal Screen	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x50 c.c	8.0	16	2.0	34.5	1535	1200	0.387	0.641	0.138	0.145	7.15	4.70	2.29	229	226	158	156	233	230	191	189
1x70 c.c	8.0	16	2.0	36.1	1750	1330	0.268	0.443	0.154	0.138	10.00	6.58	2.29	283	281	192	189	289	286	238	235
1x95 c.c	8.0	16	2.1	38.1	2080	1495	0.193	0.32	0.169	0.132	13.59	8.93	2.29	335	331	229	226	354	349	289	286
1x120 c.c	8.0	16	2.1	39.7	2370	1630	0.153	0.253	0.183	0.126	17.16	11.28	2.29	381	377	262	259	414	410	334	330
1x150 c.c	8.0	25	2.2	41.5	2800	1865	0.124	0.206	0.194	0.122	21.45	14.10	3.58	428	424	289	285	472	467	378	374
1x185 c.c	8.0	25	2.2	43.1	3175	2035	0.0991	0.164	0.210	0.118	26.46	17.39	3.58	483	479	326	322	546	541	434	429
1x240 c.c	8.0	25	2.3	45.7	3800	2310	0.0754	0.125	0.229	0.113	34.32	22.56	3.58	557	552	375	372	644	639	513	507
1x300 c.c	8.0	25	2.4	48.1	4460	2600	0.0601	0.100	0.249	0.109	42.90	28.20	3.58	628	623	421	417	736	730	588	582
1x400 c.c	8.0	35	2.5	51.4	5620	3150	0.0470	0.0778	0.273	0.105	57.20	37.60	5.01	719	713	467	464	854	848	678	671
1x500 c.c	8.0	35	2.6	54.5	6680	3585	0.0366	0.0605	0.298	0.100	71.50	47.00	5.01	795	788	547	543	982	975	778	770
1x630 c.c	8.0	35	2.7	58.6	8035	4130	0.0283	0.0469	0.327	0.097	90.09	59.22	5.01	905	897	648	642	1050	1042	888	680
1x800 c.c	8.0	50	2.9	63.2	9900	4090	0.0221	0.0367	0.350	0.095	114.40	75.20	7.15	973	965	759	754	1150	1141	988	989
1x1000 c.c	8.0	50	3.0	67.5	11980	5800	0.0176	0.0291	0.380	0.093	143.00	94.00	7.15	1043	1033	860	853	1240	1201	1088	1078

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C= Concentric Cu Wire Screen
Y = PVC sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XHSYRaY/A2XHSYRaY/ N2XHSYRaY/NA2XHSYRaY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	2.5	1.6	1.8	24.6	918	765	0.727	1.20	0.262	0.153	3.57	2.35	152	151	112	111	157	156	130	129
1x35 c.c	2.5	1.6	1.8	25.6	1040	830	0.524	0.868	0.291	0.145	5.00	3.29	184	183	133	131	186	185	157	155
1x50 c.c	2.5	1.6	1.8	26.6	1230	920	0.387	0.641	0.321	0.136	7.15	4.70	221	220	156	154	224	223	189	187
1x70 c.c	2.5	1.6	1.8	28.3	1470	1045	0.268	0.443	0.371	0.128	10.00	6.58	274	273	190	187	279	278	236	233
1x95 c.c	2.5	1.6	1.8	30.0	1770	1180	0.193	0.32	0.417	0.122	13.59	8.93	325	323	227	224	343	341	287	284
1x120 c.c	2.5	1.6	1.9	32.0	2060	1340	0.153	0.253	0.459	0.117	17.16	11.28	370	369	260	257	402	400	332	328
1x150 c.c	2.5	1.6	1.9	33.3	2390	1470	0.124	0.206	0.494	0.113	21.45	14.10	417	416	287	283	459	457	376	372
1x185 c.c	2.5	2.0	2.0	36.0	2880	1745	0.0991	0.164	0.543	0.111	26.46	17.39	470	469	324	320	531	529	432	427
1x240 c.c	2.6	2.0	2.1	38.7	3520	2030	0.0754	0.125	0.583	0.107	34.32	22.56	543	541	373	370	627	625	511	505
1x300 c.c	2.8	2.0	2.2	41.6	4200	2380	0.0601	0.100	0.602	0.104	42.90	28.20	613	610	419	415	717	715	586	580
1x400 c.c	3.0	2.0	2.3	45.2	5320	2875	0.0470	0.0778	0.627	0.100	57.20	37.60	702	700	465	462	833	830	676	669
1x500 c.c	3.2	2.5	2.5	50.0	6620	3535	0.0366	0.0605	0.654	0.099	71.50	47.00	776	774	545	541	958	955	776	768
1x630 c.c	3.2	2.5	2.6	54.3	8100	4205	0.0283	0.0469	0.726	0.096	90.09	59.22	884	881	646	640	1025	1022	886	678
1x800 c.c	3.2	2.5	2.7	58.5	9910	4930	0.0221	0.0367	0.789	0.094	114.40	75.20	951	948	757	752	1128	1125	986	987
1x1000 c.c	3.2	2.5	2.9	63.5	12050	5850	0.0176	0.0291	0.856	0.091	143.00	94.00	1019	1016	858	851	1215	1195	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Ra= Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XHSYRaY/A2XHSYRaY/ N2XHSYRaY/NA2XHSYRaY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	3.4	1.6	1.8	26.5	1005	860	0.727	1.20	0.208	0.157	3.57	2.35	152	151	112	111	157	156	130	129
1x35 c.c	3.4	1.6	1.8	27.5	1140	930	0.524	0.868	0.229	0.150	5.00	3.29	184	183	133	131	186	185	157	155
1x50 c.c	3.4	1.6	1.8	28.6	1320	1010	0.387	0.641	0.252	0.140	7.15	4.70	221	220	156	154	224	223	189	187
1x70 c.c	3.4	1.6	1.9	30.4	1580	1140	0.268	0.443	0.288	0.133	10.00	6.58	274	273	190	187	279	278	236	233
1x95 c.c	3.4	1.6	1.9	32.2	1890	1290	0.193	0.32	0.323	0.126	13.59	8.93	325	323	227	224	343	341	287	284
1x120 c.c	3.4	1.6	2.0	34.0	2200	1450	0.153	0.253	0.353	0.121	17.16	11.28	370	369	260	257	402	400	332	328
1x150 c.c	3.4	2.0	2.0	36.2	2600	1690	0.124	0.206	0.380	0.119	21.45	14.10	417	416	287	283	459	457	376	372
1x185 c.c	3.4	2.0	2.1	38.0	3025	1890	0.0991	0.164	0.416	0.114	26.46	17.39	470	469	324	320	531	529	432	427
1x240 c.c	3.4	2.0	2.2	40.6	3680	2200	0.0754	0.125	0.460	0.110	34.32	22.56	543	541	373	370	627	625	511	505
1x300 c.c	3.4	2.0	2.2	42.8	4330	2480	0.0601	0.100	0.506	0.106	42.90	28.20	613	610	419	415	717	715	586	580
1x400 c.c	3.4	2.0	2.4	46.3	5430	2950	0.0470	0.0778	0.561	0.101	57.20	37.60	702	700	465	462	833	830	676	669
1x500 c.c	3.4	2.5	2.5	50.7	6680	3600	0.0366	0.0605	0.619	0.100	71.50	47.00	776	774	545	541	958	955	776	768
1x630 c.c	3.4	2.5	2.6	54.8	8115	4210	0.0283	0.0469	0.698	0.097	90.09	59.22	884	881	646	640	1025	1022	886	678
1x800 c.c	3.4	2.5	2.7	59.0	9940	4950	0.0221	0.0367	0.780	0.094	114.40	75.20	951	948	757	752	1128	1125	986	987
1x1000 c.c	3.4	2.5	2.9	63.8	12100	5900	0.0176	0.0291	0.860	0.092	143.00	94.00	1019	1016	858	851	1215	1195	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Ra= Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XHSYRaY/A2XHSYRaY/ N2XHSYRaY/NA2XHSYRaY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al	Cu ●●●	Cu ⚘	Al ●●●	Al ⚘	Cu ●●●	Cu ⚘	Al ●●●	Al ⚘
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x25 c.c	4.5	1.6	1.8	28.7	1130	975	0.727	1.20	0.171	0.163	3.57	2.35	154	153	112	111	160	159	130	129
1x35 c.c	4.5	1.6	1.8	29.7	1270	1042	0.524	0.868	0.187	0.156	5.00	3.29	186	185	133	131	188	187	157	155
1x50 c.c	4.5	1.6	1.9	31.0	1450	1150	0.387	0.641	0.204	0.145	7.15	4.70	223	222	156	154	227	226	189	187
1x70 c.c	4.5	1.6	1.9	32.6	1730	1290	0.268	0.443	0.232	0.137	10.00	6.58	276	275	190	187	282	281	236	233
1x95 c.c	4.5	2.0	2.0	35.4	2140	1550	0.193	0.32	0.258	0.132	13.59	8.93	327	326	227	224	346	345	287	284
1x120 c.c	4.5	2.0	2.1	37.2	2456	1725	0.153	0.253	0.281	0.127	17.16	11.28	372	371	260	257	405	404	332	328
1x150 c.c	4.5	2.0	2.1	38.6	2795	1880	0.124	0.206	0.301	0.123	21.45	14.10	418	417	287	283	462	461	376	372
1x185 c.c	4.5	2.0	2.2	40.4	3220	2080	0.0991	0.164	0.329	0.118	26.46	17.39	472	471	324	320	534	532	432	427
1x240 c.c	4.5	2.0	2.3	43.0	3850	2390	0.0754	0.125	0.363	0.114	34.32	22.56	545	543	373	370	630	628	511	505
1x300 c.c	4.5	2.0	2.3	45.3	4520	2680	0.0601	0.100	0.398	0.109	42.90	28.20	614	612	419	415	720	718	586	580
1x400 c.c	4.5	2.5	2.5	50.0	5810	3340	0.0470	0.0778	0.439	0.107	57.20	37.60	704	702	465	462	836	833	676	669
1x500 c.c	4.5	2.5	2.6	53.1	6920	3860	0.0366	0.0605	0.483	0.103	71.50	47.00	778	776	545	541	961	958	776	768
1x630 c.c	4.5	2.5	2.7	57.3	8400	4500	0.0283	0.0469	0.534	0.100	90.09	59.22	886	883	646	640	1028	1025	886	678
1x800 c.c	4.5	2.5	2.8	61.8	10250	5300	0.0221	0.0367	0.590	0.097	114.40	75.20	953	950	757	752	1131	1128	986	987
1x1000 c.c	4.5	2.5	3.0	66.5	12450	6230	0.0176	0.0291	0.640	0.094	143.00	94.00	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Ra= Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XHSYRaY/A2XHSYRaY/ N2XHSYRaY/NA2XHSYRaY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al	Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	5.5	1.6	1.9	32.0	1415	1200	0.524	0.868	0.162	0.160	5.00	3.29	186	185	133	131	188	187	157	155
1x50 c.c	5.5	1.6	2.0	33.3	1620	1310	0.387	0.641	0.177	0.150	7.15	4.70	223	222	156	154	227	226	189	187
1x70 c.c	5.5	2.0	2.0	35.7	1965	1525	0.268	0.443	0.200	0.143	10.00	6.58	276	275	190	187	282	281	236	233
1x95 c.c	5.5	2.0	2.1	37.8	2340	1750	0.193	0.32	0.222	0.136	13.59	8.93	327	326	227	224	346	345	287	284
1x120 c.c	5.5	2.0	2.1	39.5	2650	1900	0.153	0.253	0.241	0.130	17.16	11.28	372	371	260	257	405	404	332	328
1x150 c.c	5.5	2.0	2.2	41.1	3000	2080	0.124	0.206	0.257	0.126	21.45	14.10	418	417	287	283	462	461	376	372
1x185 c.c	5.5	2.0	2.2	42.7	3400	2275	0.0991	0.164	0.280	0.121	26.46	17.39	472	471	324	320	534	532	432	427
1x240 c.c	5.5	2.0	2.3	45.3	4080	2600	0.0754	0.125	0.307	0.117	34.32	22.56	545	543	373	370	630	628	511	505
1x300 c.c	5.5	2.5	2.4	48.7	4895	3040	0.0601	0.100	0.336	0.114	42.90	28.20	614	612	419	415	720	718	586	580
1x400 c.c	5.5	2.5	2.5	52.2	6030	3580	0.0470	0.0778	0.370	0.109	57.20	37.60	704	702	465	462	836	833	676	669
1x500 c.c	5.5	2.5	2.6	55.5	7190	4120	0.0366	0.0605	0.406	0.106	71.50	47.00	778	776	545	541	961	958	776	768
1x630 c.c	5.5	2.5	2.8	60.0	8680	4770	0.0283	0.0469	0.449	0.102	90.09	59.22	886	883	646	640	1028	1025	886	678
1x800 c.c	5.5	2.5	2.9	64.0	10560	5575	0.0221	0.0367	0.490	0.099	114.40	75.20	953	950	757	752	1131	1128	986	987
1x1000 c.c	5.5	2.5	3.0	68.6	12680	6520	0.0176	0.0291	0.540	0.096	143.00	94.00	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Ra= Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XHSYRaY/A2XHSYRaY/ N2XHSYRaY/NA2XHSYRaY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
					Cu	Al	Cu	Al			Cu	Al	Cu ●●●	Cu ⚘	Al ●●●	Al ⚘	Cu ●●●	Cu ⚘	Al ●●●	Al ⚘
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x50 c.c	8.0	2.0	2.2	40.0	2130	1820	0.387	0.641	0.138	0.161	7.15	4.70	223	222	156	154	227	226	189	187
1x70 c.c	8.0	2.0	2.2	41.7	2440	1980	0.268	0.443	0.154	0.153	10.00	6.58	276	275	190	187	282	281	236	233
1x95 c.c	8.0	2.0	2.3	43.7	2780	2190	0.193	0.32	0.169	0.145	13.59	8.93	327	326	227	224	346	345	287	284
1x120 c.c	8.0	2.0	2.3	45.3	3120	2370	0.153	0.253	0.183	0.139	17.16	11.28	372	371	260	257	405	404	332	328
1x150 c.c	8.0	2.5	2.4	48.1	3650	2710	0.124	0.206	0.194	0.136	21.45	14.10	418	417	287	283	462	461	376	372
1x185 c.c	8.0	2.5	2.5	49.9	4130	2960	0.0991	0.164	0.210	0.132	26.46	17.39	472	471	324	320	534	532	432	427
1x240 c.c	8.0	2.5	2.5	52.3	4780	3300	0.0754	0.125	0.229	0.126	34.32	22.56	545	543	373	370	630	628	511	505
1x300 c.c	8.0	2.5	2.6	54.9	5530	3480	0.0601	0.100	0.249	0.122	42.90	28.20	614	612	419	415	720	718	586	580
1x400 c.c	8.0	2.5	2.7	58.2	6670	4200	0.0470	0.0778	0.273	0.116	57.20	37.60	704	702	465	462	836	833	676	669
1x500 c.c	8.0	2.5	2.8	61.5	7875	4790	0.0366	0.0605	0.298	0.113	71.50	47.00	778	776	545	541	961	958	776	768
1x630 c.c	8.0	2.5	2.9	65.4	9340	5420	0.0283	0.0469	0.327	0.108	90.09	59.22	886	883	646	640	1028	1025	886	678
1x800 c.c	8.0	2.5	3.1	70.0	11300	6300	0.0221	0.0367	0.350	0.105	114.40	75.20	953	950	757	752	1131	1128	986	987
1x1000 c.c	8.0	2.5	3.2	74.5	13400	7190	0.0176	0.0291	0.380	0.102	143.00	94.00	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

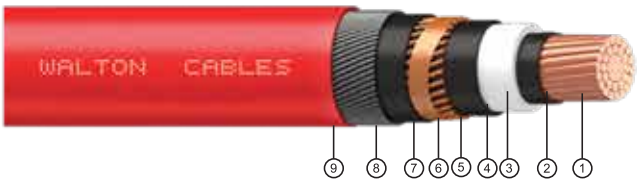
A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
Ra= Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XHSCYRaY/A2XHSCYRaY/ N2XHSCYRaY/NA2XHSCYRaY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Cross-section area of Cu Metal Screen	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
						Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	2.5	16	1.6	1.8	27.3	1205	990	0.524	0.868	0.291	0.142	5.00	3.29	2.29	184	183	133	131	186	185	157	155
1x50 c.c	2.5	16	1.6	1.8	28.4	1380	1087	0.387	0.641	0.321	0.134	7.15	4.70	2.29	221	220	156	154	224	223	189	187
1x70 c.c	2.5	16	1.6	1.8	30.0	1652	1200	0.268	0.443	0.371	0.126	10.00	6.58	2.29	274	273	190	187	279	278	236	233
1x95 c.c	2.5	16	1.6	1.9	32.0	1960	1375	0.193	0.32	0.417	0.120	13.59	8.93	2.29	325	323	227	224	343	341	287	284
1x120 c.c	2.5	16	1.6	1.9	33.6	2230	1500	0.153	0.253	0.459	0.115	17.16	11.28	2.29	370	369	260	257	402	400	332	328
1x150 c.c	2.5	25	2.0	2.0	36.2	2770	1850	0.124	0.206	0.494	0.111	21.45	14.10	3.58	417	416	287	283	459	457	376	372
1x185 c.c	2.5	25	2.0	2.1	38.0	3175	2010	0.0991	0.164	0.543	0.108	26.46	17.39	3.58	470	469	324	320	531	529	432	427
1x240 c.c	2.6	25	2.0	2.2	40.8	3810	2324	0.0754	0.125	0.583	0.105	34.32	22.56	3.58	543	541	373	370	627	625	511	505
1x300 c.c	2.8	25	2.0	2.3	43.6	4492	2654	0.0601	0.100	0.602	0.102	42.90	28.20	3.58	613	610	419	415	717	715	586	580
1x400 c.c	3.0	35	2.5	2.4	48.5	5800	3380	0.0470	0.0778	0.627	0.098	57.20	37.60	5.01	702	700	465	462	833	830	676	669
1x500 c.c	3.2	35	2.5	2.5	52.3	6960	3890	0.0366	0.0605	0.654	0.097	71.50	47.00	5.01	776	774	545	541	958	955	776	768
1x630 c.c	3.2	35	2.5	2.7	56.5	8450	4586	0.0283	0.0469	0.726	0.095	90.09	59.22	5.01	884	881	646	640	1025	1022	886	678
1x800 c.c	3.2	50	2.5	2.8	61.3	10400	5480	0.0221	0.0367	0.789	0.092	114.40	75.20	7.15	951	948	757	752	1128	1125	986	987
1x1000 c.c	3.2	50	2.5	2.9	65.7	12500	6350	0.0176	0.0291	0.856	0.089	143.00	94.00	7.15	1019	1016	858	851	1215	1195	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

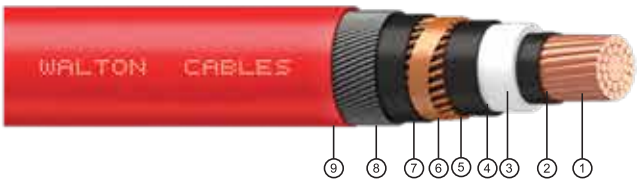
A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C = Concentric Cu Wire Screen
Ra = Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XHSCYRaY/A2XHSCYRaY/ N2XHSCYRaY/NA2XHSCYRaY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Cross-section area of Cu Metal Screen	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
						Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	3.4	16	1.6	1.8	29.2	1305	1100	0.524	0.868	0.229	0.140	5.00	3.29	2.29	184	183	133	131	186	185	157	155
1x50 c.c	3.4	16	1.6	1.8	30.3	1495	1198	0.387	0.641	0.252	0.133	7.15	4.70	2.29	221	220	156	154	224	223	189	187
1x70 c.c	3.4	16	1.6	1.9	32.1	1769	1332	0.268	0.443	0.288	0.126	10.00	6.58	2.29	274	273	190	187	279	278	236	233
1x95 c.c	3.4	16	1.6	2.0	34.1	2080	1490	0.193	0.32	0.323	0.121	13.59	8.93	2.29	325	323	227	224	343	341	287	284
1x120 c.c	3.4	16	2.0	2.0	36.5	2470	1700	0.153	0.253	0.353	0.119	17.16	11.28	2.29	370	369	260	257	402	400	332	328
1x150 c.c	3.4	25	2.0	2.1	38.3	2905	1980	0.124	0.206	0.380	0.114	21.45	14.10	3.58	417	416	287	283	459	457	376	372
1x185 c.c	3.4	25	2.0	2.1	40.0	3289	2160	0.0991	0.164	0.416	0.111	26.46	17.39	3.58	470	469	324	320	531	529	432	427
1x240 c.c	3.4	25	2.0	2.2	42.5	3935	2455	0.0754	0.125	0.460	0.106	34.32	22.56	3.58	543	541	373	370	627	625	511	505
1x300 c.c	3.4	25	2.0	2.3	44.9	4600	2754	0.0601	0.100	0.506	0.103	42.90	28.20	3.58	613	610	419	415	717	715	586	580
1x400 c.c	3.4	35	2.5	2.5	49.6	5956	3486	0.0470	0.0778	0.561	0.100	57.20	37.60	5.01	702	700	465	462	833	830	676	669
1x500 c.c	3.4	35	2.5	2.6	52.8	7062	3958	0.0366	0.0605	0.619	0.098	71.50	47.00	5.01	776	774	545	541	958	955	776	768
1x630 c.c	3.4	35	2.5	2.7	56.9	8500	4621	0.0283	0.0469	0.698	0.095	90.09	59.22	5.01	884	881	646	640	1025	1022	886	678
1x800 c.c	3.4	50	2.5	2.8	61.5	10400	5520	0.0221	0.0367	0.780	0.093	114.40	75.20	7.15	951	948	757	752	1128	1125	986	987
1x1000 c.c	3.4	50	2.5	2.9	66.2	12550	6400	0.0176	0.0291	0.860	0.090	143.00	94.00	7.15	1019	1016	858	851	1215	1195	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

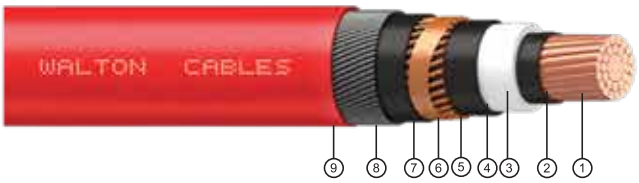
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C = Concentric Cu Wire Screen
Ra = Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XHSCYRaY/A2XHSCYRaY/ N2XHSCYRaY/NA2XHSCYRaY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Cross-section area of Cu Metal Screen	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
						Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	4.5	16	1.6	1.9	31.8	1480	1265	0.524	0.868	0.187	0.144	5.00	3.29	2.29	186	185	133	131	188	187	157	155
1x50 c.c	4.5	16	1.6	1.9	33.0	1675	1365	0.387	0.641	0.204	0.136	7.15	4.70	2.29	223	222	156	154	227	226	189	187
1x70 c.c	4.5	16	1.6	2.0	34.6	1938	1486	0.268	0.443	0.232	0.133	10.00	6.58	2.29	276	275	190	187	282	281	236	233
1x95 c.c	4.5	16	1.6	2.1	37.5	2350	1764	0.193	0.32	0.258	0.127	13.59	8.93	2.29	327	326	227	224	346	345	287	284
1x120 c.c	4.5	16	2.0	2.1	39.1	2655	1900	0.153	0.253	0.281	0.122	17.16	11.28	2.29	372	371	260	257	405	404	332	328
1x150 c.c	4.5	25	2.0	2.2	40.9	3100	2185	0.124	0.206	0.301	0.117	21.45	14.10	3.58	418	417	287	283	462	461	376	372
1x185 c.c	4.5	25	2.0	2.2	42.5	3480	2340	0.0991	0.164	0.329	0.115	26.46	17.39	3.58	472	471	324	320	534	532	432	427
1x240 c.c	4.5	25	2.0	2.3	45.1	4120	2670	0.0754	0.125	0.363	0.109	34.32	22.56	3.58	545	543	373	370	630	628	511	505
1x300 c.c	4.5	25	2.0	2.4	48.7	4975	3115	0.0601	0.100	0.398	0.108	42.90	28.20	3.58	614	612	419	415	720	718	586	580
1x400 c.c	4.5	35	2.5	2.5	52.0	6153	3689	0.0470	0.0778	0.439	0.104	57.20	37.60	5.01	704	702	465	462	836	833	676	669
1x500 c.c	4.5	35	2.5	2.6	55.4	7295	4203	0.0366	0.0605	0.483	0.101	71.50	47.00	5.01	778	776	545	541	961	958	776	768
1x630 c.c	4.5	35	2.5	2.7	59.3	8600	4806	0.0283	0.0469	0.534	0.098	90.09	59.22	5.01	886	883	646	640	1028	1025	886	678
1x800 c.c	4.5	50	2.5	2.9	64.0	10700	5770	0.0221	0.0367	0.590	0.096	114.40	75.20	7.15	953	950	757	752	1131	1128	986	987
1x1000 c.c	4.5	50	2.5	3.0	69.0	12894	6700	0.0176	0.0291	0.640	0.092	143.00	94.00	7.15	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

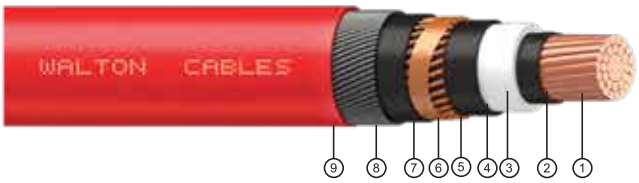
A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C = Concentric Cu Wire Screen
Ra = Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XHSCYRaY/A2XHSCYRaY/ N2XHSCYRaY/NA2XHSCYRaY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Cross-section area of Cu Metal Screen	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
						Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x35 c.c	5.5	16	1.6	1.9	33.6	1580	1372	0.524	0.868	0.162	0.149	5.00	3.29	2.29	186	185	133	131	188	187	157	155
1x50 c.c	5.5	16	2.0	2.0	35.9	1870	1572	0.387	0.641	0.177	0.143	7.15	4.70	2.29	223	222	156	154	227	226	189	187
1x70 c.c	5.5	16	2.0	2.1	37.7	2160	1732	0.268	0.443	0.200	0.136	10.00	6.58	2.29	276	275	190	187	282	281	236	233
1x95 c.c	5.5	16	2.0	2.1	39.5	2475	1880	0.193	0.32	0.222	0.130	13.59	8.93	2.29	327	326	227	224	346	345	287	284
1x120 c.c	5.5	16	2.0	2.2	41.3	2800	2085	0.153	0.253	0.241	0.126	17.16	11.28	2.29	372	371	260	257	405	404	332	328
1x150 c.c	5.5	25	2.0	2.2	42.9	3250	2317	0.124	0.206	0.257	0.121	21.45	14.10	3.58	418	417	287	283	462	461	376	372
1x185 c.c	5.5	25	2.0	2.3	44.7	3670	2535	0.0991	0.164	0.280	0.119	26.46	17.39	3.58	472	471	324	320	534	532	432	427
1x240 c.c	5.5	25	2.5	2.4	48.5	4476	2990	0.0754	0.125	0.307	0.114	34.32	22.56	3.58	545	543	373	370	630	628	511	505
1x300 c.c	5.5	25	2.5	2.5	51.0	5180	3329	0.0601	0.100	0.336	0.110	42.90	28.20	3.58	614	612	419	415	720	718	586	580
1x400 c.c	5.5	35	2.5	2.6	54.4	6415	3960	0.0470	0.0778	0.370	0.107	57.20	37.60	5.01	704	702	465	462	836	833	676	669
1x500 c.c	5.5	35	2.5	2.7	57.6	7550	4466	0.0366	0.0605	0.406	0.104	71.50	47.00	5.01	778	776	545	541	961	958	776	768
1x630 c.c	5.5	35	2.5	2.8	61.6	8995	5115	0.0283	0.0469	0.449	0.101	90.09	59.22	5.01	886	883	646	640	1028	1025	886	678
1x800 c.c	5.5	50	2.5	3.0	66.4	11000	6080	0.0221	0.0367	0.490	0.097	114.40	75.20	7.15	953	950	757	752	1131	1128	986	987
1x1000 c.c	5.5	50	2.5	3.1	70.8	13150	6980	0.0176	0.0291	0.540	0.095	143.00	94.00	7.15	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

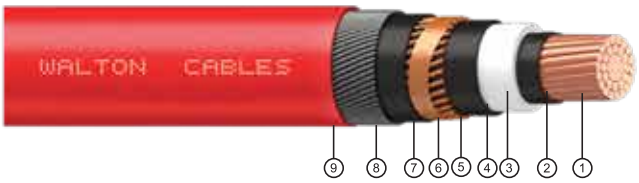
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C = Concentric Cu Wire Screen
Ra = Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XHSCYRaY/A2XHSCYRaY/ N2XHSCYRaY/NA2XHSCYRaY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Separation Sheath: PVC	Armour: Round Aluminium Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nom. Cross-section area of Cu Metal Screen	Nom. Diameter of non-magnetic Aluminium Wire	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Screen in 1.0 sec duration	Current Carrying Capacity in Ground at 20°C in defined conditions				Current Carrying Capacity in Air at 30°C in defined conditions			
						Cu	Al	Cu	Al			Cu	Al		Cu	Cu	Al	Al	Cu	Cu	Al	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
1x50 c.c	8.0	16	2.0	2.2	40.0	2130	1820	0.387	0.641	0.138	0.161	7.15	4.70	2.29	223	222	156	154	227	226	189	187
1x70 c.c	8.0	16	2.0	2.2	41.7	2440	1980	0.268	0.443	0.154	0.153	10.00	6.58	2.29	276	275	190	187	282	281	236	233
1x95 c.c	8.0	16	2.0	2.3	43.7	2780	2190	0.193	0.32	0.169	0.145	13.59	8.93	2.29	327	326	227	224	346	345	287	284
1x120 c.c	8.0	16	2.0	2.3	45.3	3120	2370	0.153	0.253	0.183	0.139	17.16	11.28	2.29	372	371	260	257	405	404	332	328
1x150 c.c	8.0	25	2.5	2.4	48.1	3650	2710	0.124	0.206	0.194	0.136	21.45	14.10	3.58	418	417	287	283	462	461	376	372
1x185 c.c	8.0	25	2.5	2.5	49.9	4130	2960	0.0991	0.164	0.210	0.132	26.46	17.39	3.58	472	471	324	320	534	532	432	427
1x240 c.c	8.0	25	2.5	2.5	52.3	4780	3300	0.0754	0.125	0.229	0.126	34.32	22.56	3.58	545	543	373	370	630	628	511	505
1x300 c.c	8.0	25	2.5	2.6	54.9	5530	3480	0.0601	0.100	0.249	0.122	42.90	28.20	3.58	614	612	419	415	720	718	586	580
1x400 c.c	8.0	35	2.5	2.7	58.2	6670	4200	0.0470	0.0778	0.273	0.116	57.20	37.60	5.01	704	702	465	462	836	833	676	669
1x500 c.c	8.0	35	2.5	2.8	61.5	7875	4790	0.0366	0.0605	0.298	0.113	71.50	47.00	5.01	778	776	545	541	961	958	776	768
1x630 c.c	8.0	35	2.5	2.9	65.4	9340	5420	0.0283	0.0469	0.327	0.108	90.09	59.22	5.01	886	883	646	640	1028	1025	886	678
1x800 c.c	8.0	50	2.5	3.1	70.0	11300	6300	0.0221	0.0367	0.350	0.105	114.40	75.20	7.15	953	950	757	752	1131	1128	986	987
1x1000 c.c	8.0	50	2.5	3.2	74.5	13400	7190	0.0176	0.0291	0.380	0.102	143.00	94.00	7.15	1021	1018	858	851	1219	1216	1086	1076

Technical Specification

- Min. bending radius 20 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
HS = Combination of metallic part with non-metallic screen
C = Concentric Cu Wire Screen
Ra = Round Aluminium Armour
Y = PVC inner/Outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

WALTON Cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XSEYY/A2XSEYY/N2XSEYY/NA2XSEYY/ ZR-YJV/ZR-YJLV

①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
				Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	2.5	2.1	42.0	2240	1780	0.727	1.20	0.262	0.122	3.57	2.35	146	112	148	114
3 x 35 c.c	2.5	2.1	44.0	2650	1990	0.524	0.868	0.291	0.116	5.00	3.29	184	142	185	142
3 x 50 c.c	2.5	2.2	47.0	3170	2240	0.387	0.641	0.321	0.108	7.15	4.70	220	169	220	169
3 x 70 c.c	2.5	2.3	51.0	4080	2780	0.268	0.443	0.371	0.102	10.00	6.58	272	209	273	210
3 x 95 c.c	2.5	2.5	55.5	5135	3370	0.193	0.32	0.417	0.097	13.59	8.93	327	252	336	259
3 x 120 c.c	2.5	2.6	58.5	5885	3655	0.153	0.253	0.459	0.093	17.16	11.28	366	282	382	294
3 x 150 c.c	2.5	2.7	62.0	6995	4200	0.124	0.206	0.494	0.091	21.45	14.10	415	320	440	339
3 x 185 c.c	2.5	2.8	66.0	8370	4935	0.0991	0.164	0.543	0.088	26.46	17.39	460	354	508	391
3 x 240 c.c	2.6	3.0	72.0	10450	5990	0.0754	0.125	0.583	0.086	34.32	22.56	532	410	586	451
3 x 300 c.c	2.8	3.2	79.0	12830	7250	0.0601	0.100	0.602	0.084	42.90	28.20	573	441	617	475

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
Y = PVC inner/outer sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSEYY/A2XSEYY/N2XSEYY/NA2XSEYY/ ZR-YJV/ZR-YJLV

①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
				Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	2.2	44.5	2500	2035	0.727	1.20	0.208	0.129	3.57	2.35	146	112	148	114
3 x 35 c.c	3.4	2.3	47.3	3035	2380	0.524	0.868	0.229	0.123	5.00	3.29	184	142	185	142
3 x 50 c.c	3.4	2.4	51.5	3580	2650	0.387	0.641	0.252	0.114	7.15	4.70	220	169	220	169
3 x 70 c.c	3.4	2.5	54.0	4450	3150	0.268	0.443	0.288	0.108	10.00	6.58	272	209	273	210
3 x 95 c.c	3.4	2.6	58.0	5425	3660	0.193	0.32	0.323	0.103	13.59	8.93	327	252	336	259
3 x 120 c.c	3.4	2.7	62.0	6380	4150	0.153	0.253	0.353	0.099	17.16	11.28	366	282	382	294
3 x 150 c.c	3.4	2.8	65.0	7470	4680	0.124	0.206	0.380	0.096	21.45	14.10	415	320	440	339
3 x 185 c.c	3.4	2.9	69.0	8865	5430	0.0991	0.164	0.416	0.093	26.46	17.39	460	354	508	391
3 x 240 c.c	3.4	3.1	74.5	10900	6450	0.0754	0.125	0.460	0.089	34.32	22.56	532	410	586	451
3 x 300 c.c	3.4	3.3	81.0	13200	7630	0.0601	0.100	0.506	0.086	42.90	28.20	573	441	617	475

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
Y = PVC inner/outer sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSEYY/A2XSEYY/N2XSEYY/NA2XSEYY/ ZR-YJV/ZR-YJLV

①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
				Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	2.4	52.5	3075	2610	0.727	1.20	0.171	0.137	3.57	2.35	148	114	151	116
3 x 35 c.c	4.5	2.5	54.5	3540	2890	0.524	0.868	0.187	0.130	5.00	3.29	186	143	188	145
3 x 50 c.c	4.5	2.6	57.0	4120	3185	0.387	0.641	0.204	0.121	7.15	4.70	222	171	223	172
3 x 70 c.c	4.5	2.7	61.0	5095	3790	0.268	0.443	0.232	0.115	10.00	6.58	274	211	276	213
3 x 95 c.c	4.5	2.8	65.0	6190	4425	0.193	0.32	0.258	0.109	13.59	8.93	329	253	339	261
3 x 120 c.c	4.5	2.9	68.0	6995	4765	0.153	0.253	0.281	0.104	17.16	11.28	368	283	385	296
3 x 150 c.c	4.5	3.0	72.0	8110	5320	0.124	0.206	0.301	0.101	21.45	14.10	417	321	443	341
3 x 185 c.c	4.5	3.1	76.5	9550	6100	0.0991	0.164	0.329	0.098	26.46	17.39	462	356	511	393
3 x 240 c.c	4.5	3.3	82.5	11720	7250	0.0754	0.125	0.363	0.094	34.32	22.56	534	411	589	454
3 x 300 c.c	4.5	3.4	87.0	13960	8380	0.0601	0.100	0.398	0.091	42.90	28.20	575	443	620	477

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
Y = PVC inner/outer sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XSEYY/A2XSEYY/N2XSEYY/NA2XSEYY/ ZR-YJV/ZR-YJLV

①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
				Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 35 c.c	5.5	2.6	59.0	4010	3350	0.524	0.868	0.162	0.137	5.00	3.29	186	143	188	145
3 x 50 c.c	5.5	2.7	63.0	4650	3710	0.387	0.641	0.177	0.127	7.15	4.70	222	171	223	172
3 x 70 c.c	5.5	2.8	66.0	5610	4300	0.268	0.443	0.200	0.120	10.00	6.58	274	211	276	213
3 x 95 c.c	5.5	2.9	71.0	6740	4950	0.193	0.32	0.222	0.114	13.59	8.93	329	253	339	261
3 x 120 c.c	5.5	3.0	74.0	7570	5320	0.153	0.253	0.241	0.109	17.16	11.28	368	283	385	296
3 x 150 c.c	5.5	3.1	77.0	8770	5960	0.124	0.206	0.257	0.106	21.45	14.10	417	321	443	341
3 x 185 c.c	5.5	3.3	81.0	10280	6830	0.0991	0.164	0.280	0.102	26.46	17.39	462	356	511	393
3 x 240 c.c	5.5	3.4	86.0	12380	7900	0.0754	0.125	0.307	0.098	34.32	22.56	534	411	589	454
3 x 300 c.c	5.5	3.6	92.0	14700	9100	0.0601	0.100	0.336	0.095	42.90	28.20	575	443	620	477

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
Y = PVC inner/outer sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSEYY/A2XSEYY/N2XSEYY/NA2XSEYY/ ZR-YJV/ZR-YJLV

①	②	③	④	⑤	⑥	⑦
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
				Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	3.1	76.0	6200	5250	0.387	0.641	0.138	0.140	7.15	4.70	222	171	223	172
3 x 70 c.c	8.0	3.2	80.0	7310	5980	0.268	0.443	0.154	0.132	10.00	6.58	274	211	276	213
3 x 95 c.c	8.0	3.3	84.0	8520	6730	0.193	0.32	0.169	0.125	13.59	8.93	329	253	339	261
3 x 120 c.c	8.0	3.4	87.0	9420	7150	0.153	0.253	0.183	0.120	17.16	11.28	368	283	385	296
3 x 150 c.c	8.0	3.5	91.0	10620	7780	0.124	0.206	0.194	0.116	21.45	14.10	417	321	443	341
3 x 185 c.c	8.0	3.6	95.0	12190	8730	0.0991	0.164	0.210	0.112	26.46	17.39	462	356	511	393
3 x 240 c.c	8.0	3.8	100.0	14450	9920	0.0754	0.125	0.229	0.107	34.32	22.56	534	411	589	454
3 x 300 c.c	8.0	4.0	105.0	16970	11300	0.0601	0.100	0.249	0.103	42.90	28.20	575	443	620	477

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
Y = PVC inner/outer sheath
ZR/FR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSECYY/A2XSECYY/N2XSECYY/ NA2XSECYY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	16	2.3	47.5	2950	2505	0.727	1.20	0.208	0.129	3.57	2.35	6.86	146	112	148	114
3 x 35 c.c	3.4	16	2.4	50.0	3450	2730	0.524	0.868	0.229	0.123	5.00	3.29	6.86	184	142	185	142
3 x 50 c.c	3.4	16	2.5	52.5	3980	3050	0.387	0.641	0.252	0.114	7.15	4.70	6.86	220	169	220	169
3 x 70 c.c	3.4	16	2.6	56.5	4870	3460	0.268	0.443	0.288	0.108	10.00	6.58	6.86	272	209	273	210
3 x 95 c.c	3.4	16	2.7	61.0	5830	4065	0.193	0.32	0.323	0.103	13.59	8.93	6.86	327	252	336	259
3 x 120 c.c	3.4	16	2.8	64.5	6780	4500	0.153	0.253	0.353	0.099	17.16	11.28	6.86	366	282	382	294
3 x 150 c.c	3.4	25	2.9	68.0	8100	5260	0.124	0.206	0.380	0.096	21.45	14.10	10.73	415	320	440	339
3 x 185 c.c	3.4	25	3.0	72.0	9325	5830	0.0991	0.164	0.416	0.093	26.46	17.39	10.73	460	354	508	391
3 x 240 c.c	3.4	25	3.2	78.0	11400	6850	0.0754	0.125	0.460	0.089	34.32	22.56	10.73	532	410	586	451
3 x 300 c.c	3.4	25	3.4	84.0	13650	7850	0.0601	0.100	0.506	0.086	42.90	28.20	10.73	573	441	617	475

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSECYY/A2XSECYY/N2XSECYY/ NA2XSECYY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	16	2.5	53.5	3400	2940	0.727	1.20	0.171	0.137	3.57	2.35	6.86	148	114	151	116
3 x 35 c.c	4.5	16	2.5	56.0	3820	3180	0.524	0.868	0.187	0.130	5.00	3.29	6.86	186	143	188	145
3 x 50 c.c	4.5	16	2.6	58.5	4490	3570	0.387	0.641	0.204	0.121	7.15	4.70	6.86	222	171	223	172
3 x 70 c.c	4.5	16	2.8	62.0	5350	4045	0.268	0.443	0.232	0.115	10.00	6.58	6.86	274	211	276	213
3 x 95 c.c	4.5	16	2.9	66.5	6340	4575	0.193	0.32	0.258	0.109	13.59	8.93	6.86	329	253	339	261
3 x 120 c.c	4.5	16	3.0	70.0	7350	5100	0.153	0.253	0.281	0.104	17.16	11.28	6.86	368	283	385	296
3 x 150 c.c	4.5	25	3.1	73.5	8640	5850	0.124	0.206	0.301	0.101	21.45	14.10	10.73	417	321	443	341
3 x 185 c.c	4.5	25	3.2	78.0	10050	6580	0.0991	0.164	0.329	0.098	26.46	17.39	10.73	462	356	511	393
3 x 240 c.c	4.5	25	3.4	84.0	12100	7570	0.0754	0.125	0.363	0.094	34.32	22.56	10.73	534	411	589	454
3 x 300 c.c	4.5	25	3.5	89.0	14175	8540	0.0601	0.100	0.398	0.091	42.90	28.20	10.73	575	443	620	477

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSECYY/A2XSECYY/N2XSECYY/ NA2XSECYY

①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Annealed Cu Tape	Inner Covering: PVC	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	16	3.2	77.0	6520	5580	0.387	0.641	0.138	0.140	7.15	4.70	6.86	222	171	223	172
3 x 70 c.c	8.0	16	3.3	81.5	7475	6155	0.268	0.443	0.154	0.132	10.00	6.58	6.86	274	211	276	213
3 x 95 c.c	8.0	16	3.4	85.0	8650	6820	0.193	0.32	0.169	0.125	13.59	8.93	6.86	329	253	339	261
3 x 120 c.c	8.0	16	3.5	88.0	9700	7450	0.153	0.253	0.183	0.120	17.16	11.28	6.86	368	283	385	296
3 x 150 c.c	8.0	25	3.6	92.0	11150	8325	0.124	0.206	0.194	0.116	21.45	14.10	10.73	417	321	443	341
3 x 185 c.c	8.0	25	3.7	96.0	12550	9050	0.0991	0.164	0.210	0.112	26.46	17.39	10.73	462	356	511	393
3 x 240 c.c	8.0	25	3.9	102.0	14850	10290	0.0754	0.125	0.229	0.107	34.32	22.56	10.73	534	411	589	454
3 x 300 c.c	8.0	25	4.1	107.0	17150	11500	0.0601	0.100	0.249	0.103	42.90	28.20	10.73	575	443	620	477

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

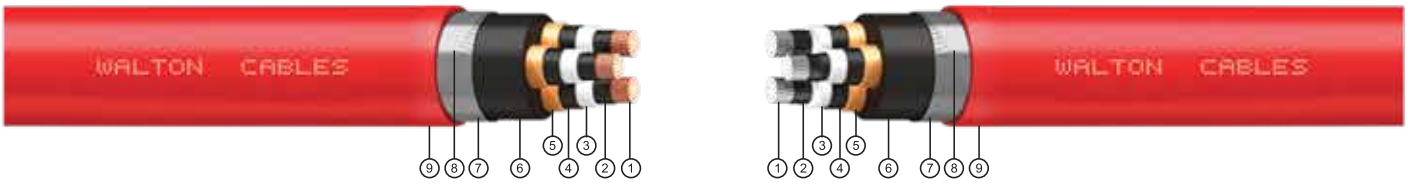
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XSEYFGY/A2XSEYFGY/N2XSEYFGY/ NA2XSEYFGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	2.5	4 x 0.8	2.1	43.5	3080	2620	0.727	1.20	0.262	0.122	3.57	2.35	145	112	147	113
3 x 35 c.c	2.5	4 x 0.8	2.2	46.0	3560	2910	0.524	0.868	0.291	0.116	5.00	3.29	182	140	183	141
3 x 50 c.c	2.5	4 x 0.8	2.3	49.0	4150	3220	0.387	0.641	0.321	0.108	7.15	4.70	218	168	218	168
3 x 70 c.c	2.5	4 x 0.8	2.4	53.0	5120	3820	0.268	0.443	0.371	0.102	10.00	6.58	269	207	270	208
3 x 95 c.c	2.5	4 x 0.8	2.5	57.0	6250	4480	0.193	0.32	0.417	0.097	13.59	8.93	324	249	333	256
3 x 120 c.c	2.5	4 x 0.8	2.6	60.0	7130	4900	0.153	0.253	0.459	0.093	17.16	11.28	362	279	378	291
3 x 150 c.c	2.5	4 x 0.8	2.7	64.0	8270	5480	0.124	0.206	0.494	0.091	21.45	14.10	411	316	436	336
3 x 185 c.c	2.5	4 x 0.8	2.9	68.0	9780	6340	0.0991	0.164	0.543	0.088	26.46	17.39	455	350	503	387
3 x 240 c.c	2.6	4 x 0.8	3.0	74.0	11900	7430	0.0754	0.125	0.583	0.086	34.32	22.56	527	406	580	447
3 x 300 c.c	2.8	4 x 0.8	3.2	80.5	14450	8880	0.0601	0.100	0.602	0.084	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

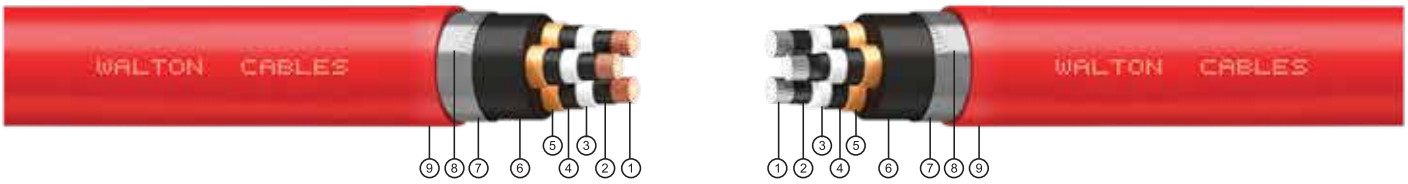
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSEYFGY/A2XSEYFGY/N2XSEYFGY/ NA2XSEYFGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	4 x 0.8	2.2	47.5	3460	2990	0.727	1.20	0.208	0.129	3.57	2.35	145	112	147	113
3 x 35 c.c	3.4	4 x 0.8	2.3	50.5	4020	3360	0.524	0.868	0.229	0.123	5.00	3.29	182	140	183	141
3 x 50 c.c	3.4	4 x 0.8	2.4	53.5	4630	3685	0.387	0.641	0.252	0.114	7.15	4.70	218	168	218	168
3 x 70 c.c	3.4	4 x 0.8	2.6	57.0	5570	4248	0.268	0.443	0.288	0.108	10.00	6.58	269	207	270	208
3 x 95 c.c	3.4	4 x 0.8	2.7	61.5	6700	4970	0.193	0.32	0.323	0.103	13.59	8.93	324	249	333	256
3 x 120 c.c	3.4	4 x 0.8	2.8	65.0	7750	5485	0.153	0.253	0.353	0.099	17.16	11.28	362	279	378	291
3 x 150 c.c	3.4	4 x 0.8	2.9	68.0	8830	5995	0.124	0.206	0.380	0.096	21.45	14.10	411	316	436	336
3 x 185 c.c	3.4	4 x 0.8	3.0	72.5	10320	6825	0.0991	0.164	0.416	0.093	26.46	17.39	455	350	503	387
3 x 240 c.c	3.4	4 x 0.8	3.2	77.5	12470	7938	0.0754	0.125	0.460	0.089	34.32	22.56	527	406	580	447
3 x 300 c.c	3.4	4 x 0.8	3.3	83.0	14900	9235	0.0601	0.100	0.506	0.086	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

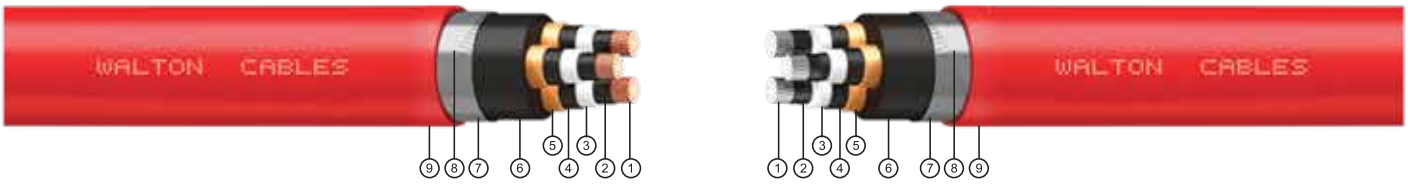
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSEYFGY/A2XSEYFGY/N2XSEYFGY/ NA2XSEYFGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	4 x 0.8	2.4	54.0	4100	3640	0.727	1.20	0.171	0.137	3.57	2.35	145	112	147	113
3 x 35 c.c	4.5	4 x 0.8	2.5	56.0	4620	3970	0.524	0.868	0.187	0.130	5.00	3.29	184	142	186	143
3 x 50 c.c	4.5	4 x 0.8	2.6	59.0	5250	4320	0.387	0.641	0.204	0.121	7.15	4.70	220	169	222	171
3 x 70 c.c	4.5	4 x 0.8	2.7	63.0	6280	4980	0.268	0.443	0.232	0.115	10.00	6.58	271	209	273	210
3 x 95 c.c	4.5	4 x 0.8	2.8	67.0	7500	5735	0.193	0.32	0.258	0.109	13.59	8.93	326	251	336	259
3 x 120 c.c	4.5	4 x 0.8	2.9	70.5	8420	6190	0.153	0.253	0.281	0.104	17.16	11.28	364	280	380	293
3 x 150 c.c	4.5	4 x 0.8	3.0	73.5	9550	6760	0.124	0.206	0.301	0.101	21.45	14.10	413	318	439	338
3 x 185 c.c	4.5	4 x 0.8	3.2	78.0	11100	7665	0.0991	0.164	0.329	0.098	26.46	17.39	457	352	506	390
3 x 240 c.c	4.5	4 x 0.8	3.3	83.5	13400	8950	0.0754	0.125	0.363	0.094	34.32	22.56	530	408	583	449
3 x 300 c.c	4.5	4 x 0.8	3.5	89.0	15700	10130	0.0601	0.100	0.398	0.091	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

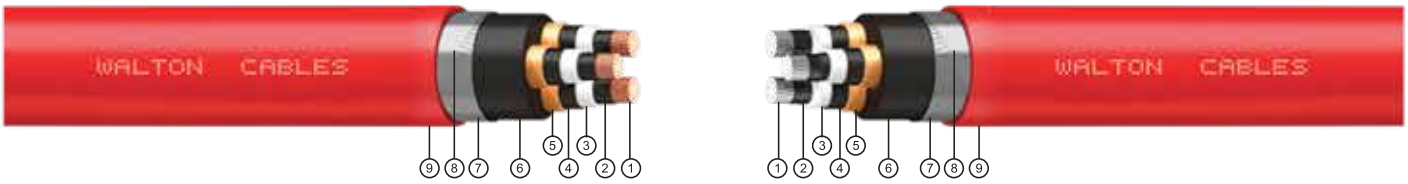
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XSEYFGY/A2XSEYFGY/N2XSEYFGY/ NA2XSEYFGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 35 c.c	5.5	4 x 0.8	2.7	61.0	5180	4530	0.524	0.868	0.162	0.137	5.00	3.29	184	142	186	143
3 x 50 c.c	5.5	4 x 0.8	2.8	64.5	5900	4970	0.387	0.641	0.177	0.127	7.15	4.70	220	169	222	171
3 x 70 c.c	5.5	4 x 0.8	2.9	68.0	6930	5630	0.268	0.443	0.200	0.120	10.00	6.58	271	209	273	210
3 x 95 c.c	5.5	4 x 0.8	3.0	72.0	8170	6400	0.193	0.32	0.222	0.114	13.59	8.93	326	251	336	259
3 x 120 c.c	5.5	4 x 0.8	3.1	75.5	9120	6890	0.153	0.253	0.241	0.109	17.16	11.28	364	280	380	293
3 x 150 c.c	5.5	4 x 0.8	3.2	79.0	10330	7550	0.124	0.206	0.257	0.106	21.45	14.10	413	318	439	338
3 x 185 c.c	5.5	4 x 0.8	3.3	83.0	11900	8465	0.0991	0.164	0.280	0.102	26.46	17.39	457	352	506	390
3 x 240 c.c	5.5	4 x 0.8	3.5	88.5	14100	9650	0.0754	0.125	0.307	0.098	34.32	22.56	530	408	583	449
3 x 300 c.c	5.5	4 x 0.8	3.6	93.5	16500	10930	0.0601	0.100	0.336	0.095	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

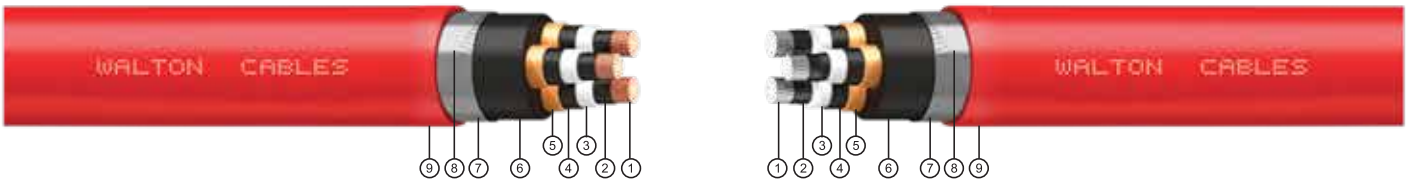
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSEYFGY/A2XSEYFGY/N2XSEYFGY/ NA2XSEYFGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	4 x 0.8	3.1	76.0	7460	6530	0.387	0.641	0.138	0.140	7.15	4.70	220	169	222	171
3 x 70 c.c	8.0	4 x 0.8	3.2	81.0	8650	7350	0.268	0.443	0.154	0.132	10.00	6.58	271	209	273	210
3 x 95 c.c	8.0	4 x 0.8	3.4	85.0	10000	8240	0.193	0.32	0.169	0.125	13.59	8.93	326	251	336	259
3 x 120 c.c	8.0	4 x 0.8	3.5	88.0	11000	8770	0.153	0.253	0.183	0.120	17.16	11.28	364	280	380	293
3 x 150 c.c	8.0	4 x 0.8	3.6	91.0	12250	9465	0.124	0.206	0.194	0.116	21.45	14.10	413	318	439	338
3 x 185 c.c	8.0	4 x 0.8	3.7	95.0	13850	10410	0.0991	0.164	0.210	0.112	26.46	17.39	457	352	506	390
3 x 240 c.c	8.0	4 x 0.8	3.9	101.0	16250	11800	0.0754	0.125	0.229	0.107	34.32	22.56	530	408	583	449
3 x 300 c.c	8.0	4 x 0.8	4.0	106.0	18800	13230	0.0601	0.100	0.249	0.103	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

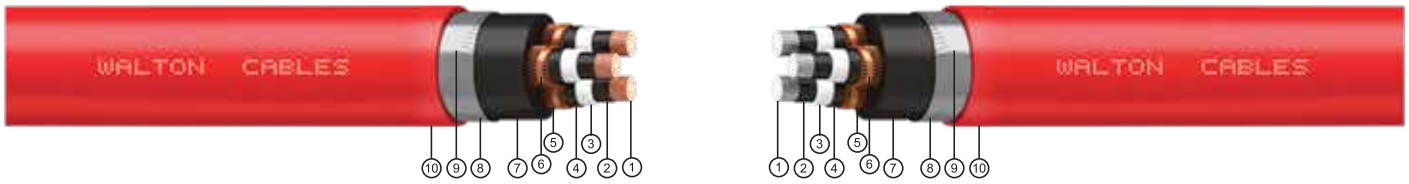
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSECYFGY/A2XSECYFGY/N2XSECYFGY/ NA2XSECYFGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	16	4 x 0.8	2.3	49.5	3875	3400	0.727	1.20	0.208	0.129	3.57	2.35	6.86	145	112	147	113
3 x 35 c.c	3.4	16	4 x 0.8	2.4	52.0	4380	3720	0.524	0.868	0.229	0.123	5.00	3.29	6.86	182	140	183	141
3 x 50 c.c	3.4	16	4 x 0.8	2.5	54.5	5030	4080	0.387	0.641	0.252	0.114	7.15	4.70	6.86	218	168	218	168
3 x 70 c.c	3.4	16	4 x 0.8	2.7	58.0	5930	4600	0.268	0.443	0.288	0.108	10.00	6.58	6.86	269	207	270	208
3 x 95 c.c	3.4	16	4 x 0.8	2.8	63.0	7080	5290	0.193	0.32	0.323	0.103	13.59	8.93	6.86	324	249	333	256
3 x 120 c.c	3.4	16	4 x 0.8	2.9	66.5	8120	5850	0.153	0.253	0.353	0.099	17.16	11.28	6.86	362	279	378	291
3 x 150 c.c	3.4	25	4 x 0.8	3.0	70.0	9500	6660	0.124	0.206	0.380	0.096	21.45	14.10	10.73	411	316	436	336
3 x 185 c.c	3.4	25	4 x 0.8	3.1	74.0	10880	7350	0.0991	0.164	0.416	0.093	26.46	17.39	10.73	455	350	503	387
3 x 240 c.c	3.4	25	4 x 0.8	3.3	80.0	12950	8500	0.0754	0.125	0.460	0.089	34.32	22.56	10.73	527	406	580	447
3 x 300 c.c	3.4	25	4 x 0.8	3.4	85.0	15300	9600	0.0601	0.100	0.506	0.086	42.90	28.20	10.73	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

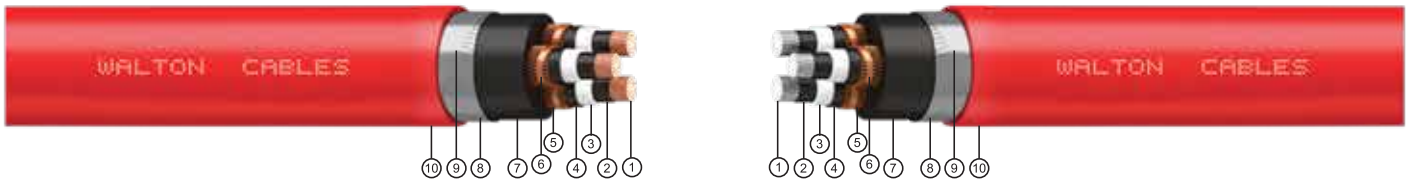
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSECYFGY/A2XSECYFGY/N2XSECYFGY/ NA2XSECYFGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	16	4 x 0.8	2.5	55.0	4475	4000	0.727	1.20	0.171	0.137	3.57	2.35	6.86	145	112	147	113
3 x 35 c.c	4.5	16	4 x 0.8	2.6	57.0	4960	4300	0.524	0.868	0.187	0.130	5.00	3.29	6.86	184	142	186	143
3 x 50 c.c	4.5	16	4 x 0.8	2.7	60.0	5680	4750	0.387	0.641	0.204	0.121	7.15	4.70	6.86	220	169	222	171
3 x 70 c.c	4.5	16	4 x 0.8	2.8	64.0	6625	5250	0.268	0.443	0.232	0.115	10.00	6.58	6.86	271	209	273	210
3 x 95 c.c	4.5	16	4 x 0.8	2.9	68.0	7690	5900	0.193	0.32	0.258	0.109	13.59	8.93	6.86	326	251	336	259
3 x 120 c.c	4.5	16	4 x 0.8	3.0	72.0	8800	6540	0.153	0.253	0.281	0.104	17.16	11.28	6.86	364	280	380	293
3 x 150 c.c	4.5	25	4 x 0.8	3.2	75.5	10250	7430	0.124	0.206	0.301	0.101	21.45	14.10	10.73	413	318	439	338
3 x 185 c.c	4.5	25	4 x 0.8	3.3	80.0	11730	8250	0.0991	0.164	0.329	0.098	26.46	17.39	10.73	457	352	506	390
3 x 240 c.c	4.5	25	4 x 0.8	3.4	85.0	13850	9300	0.0754	0.125	0.363	0.094	34.32	22.56	10.73	530	408	583	449
3 x 300 c.c	4.5	25	4 x 0.8	3.6	91.0	16100	10500	0.0601	0.100	0.398	0.091	42.90	28.20	10.73	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

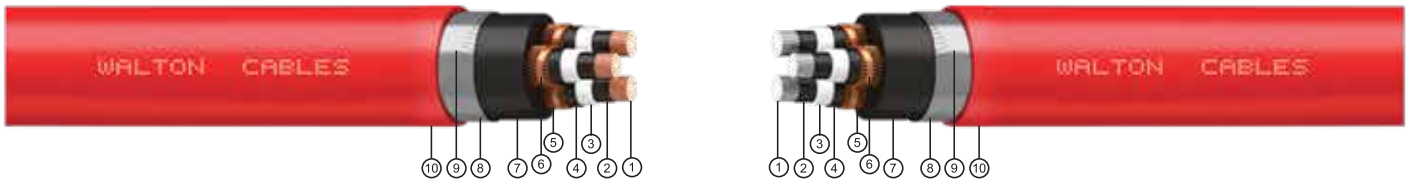
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSECYFGY/A2XSECYFGY/N2XSECYFGY/ NA2XSECYFGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Flat Galv. Steel Wire	Binder: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Dimension (WxT) of Flat Galv. Steel Strip Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	16	4 x 0.8	3.2	78.0	7950	7060	0.387	0.641	0.138	0.140	7.15	4.70	6.86	220	169	222	171
3 x 70 c.c	8.0	16	4 x 0.8	3.3	82.0	9050	7730	0.268	0.443	0.154	0.132	10.00	6.58	6.86	271	209	273	210
3 x 95 c.c	8.0	16	4 x 0.8	3.5	86.0	10350	8530	0.193	0.32	0.169	0.125	13.59	8.93	6.86	326	251	336	259
3 x 120 c.c	8.0	16	4 x 0.8	3.6	90.0	11450	9180	0.153	0.253	0.183	0.120	17.16	11.28	6.86	364	280	380	293
3 x 150 c.c	8.0	25	4 x 0.8	3.7	93.5	12900	10150	0.124	0.206	0.194	0.116	21.45	14.10	10.73	413	318	439	338
3 x 185 c.c	8.0	25	4 x 0.8	3.8	97.0	14450	10950	0.0991	0.164	0.210	0.112	26.46	17.39	10.73	457	352	506	390
3 x 240 c.c	8.0	25	4 x 0.8	4.0	103.0	16750	12200	0.0754	0.125	0.229	0.107	34.32	22.56	10.73	530	408	583	449
3 x 300 c.c	8.0	25	4 x 0.8	4.1	108.0	19200	13500	0.0601	0.100	0.249	0.103	42.90	28.20	10.73	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

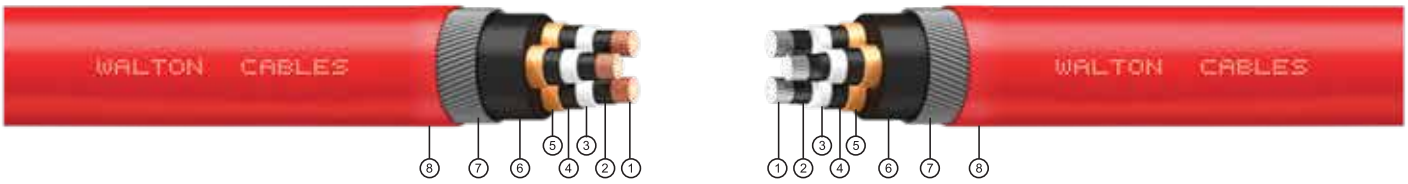
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
F = Flat Galv. Steel Wire Armour
G = Galv. Steel Tape Binder
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XSEYRGY/A2XSEYRGY/N2XSEYRGY/ NA2XSEYRGY/ZR-YJV32/ZR-YJLV32



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Round Galv. Steel Wire

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	2.5	2.0	2.2	46.3	3650	3170	0.727	1.20	0.262	0.122	3.57	2.35	145	112	147	113
3 x 35 c.c	2.5	2.0	2.3	48.5	4160	3490	0.524	0.868	0.291	0.116	5.00	3.29	182	140	183	141
3 x 50 c.c	2.5	2.5	2.4	52.5	5190	4290	0.387	0.641	0.321	0.108	7.15	4.70	218	168	218	168
3 x 70 c.c	2.5	2.5	2.5	56.5	6300	5000	0.268	0.443	0.371	0.102	10.00	6.58	269	207	270	208
3 x 95 c.c	2.5	2.5	2.7	61.0	7520	5720	0.193	0.32	0.417	0.097	13.59	8.93	324	249	333	256
3 x 120 c.c	2.5	2.5	2.8	64.3	8440	6170	0.153	0.253	0.459	0.093	17.16	11.28	362	279	378	291
3 x 150 c.c	2.5	2.5	2.9	68.0	9670	6880	0.124	0.206	0.494	0.091	21.45	14.10	411	316	436	336
3 x 185 c.c	2.5	2.5	3.0	72.1	11240	7700	0.0991	0.164	0.543	0.088	26.46	17.39	455	350	503	387
3 x 240 c.c	2.6	2.5	3.2	78.0	13560	8950	0.0754	0.125	0.583	0.086	34.32	22.56	527	406	580	447
3 x 300 c.c	2.8	3.15	3.4	86.0	17100	11300	0.0601	0.100	0.602	0.084	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

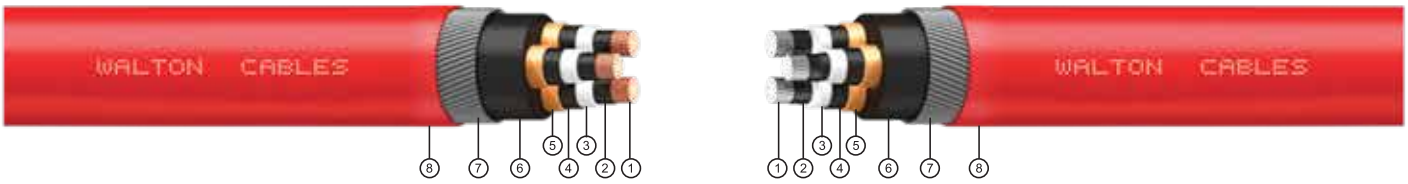
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSEYRGY/A2XSEYRGY/N2XSEYRGY/ NA2XSEYRGY/ZR-YJV32/ZR-YJLV32



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Round Galv. Steel Wire

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	2.0	2.3	50.8	4130	3650	0.727	1.20	0.208	0.129	3.57	2.35	145	112	147	113
3 x 35 c.c	3.4	2.5	2.4	54.5	5195	4530	0.524	0.868	0.229	0.123	5.00	3.29	182	140	183	141
3 x 50 c.c	3.4	2.5	2.5	57.5	5830	4950	0.387	0.641	0.252	0.114	7.15	4.70	218	168	218	168
3 x 70 c.c	3.4	2.5	2.7	61.0	6910	5630	0.268	0.443	0.288	0.108	10.00	6.58	269	207	270	208
3 x 95 c.c	3.4	2.5	2.8	65.5	8140	6350	0.193	0.32	0.323	0.103	13.59	8.93	324	249	333	256
3 x 120 c.c	3.4	2.5	2.9	69.0	9130	6850	0.153	0.253	0.353	0.099	17.16	11.28	362	279	378	291
3 x 150 c.c	3.4	2.5	3.0	72.5	10340	7540	0.124	0.206	0.380	0.096	21.45	14.10	411	316	436	336
3 x 185 c.c	3.4	2.5	3.1	76.5	11940	8450	0.0991	0.164	0.416	0.093	26.46	17.39	455	350	503	387
3 x 240 c.c	3.4	3.15	3.3	83.0	15060	10470	0.0754	0.125	0.460	0.089	34.32	22.56	527	406	580	447
3 x 300 c.c	3.4	3.15	3.5	89.0	17690	11900	0.0601	0.100	0.506	0.086	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

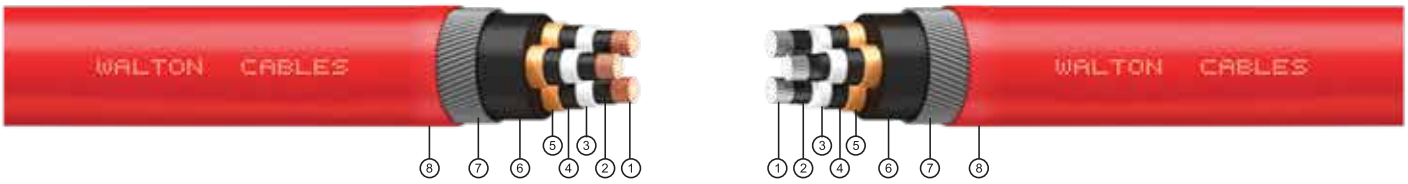
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSEYRGY/A2XSEYRGY/N2XSEYRGY/ NA2XSEYRGY/ZR-YJV32/ZR-YJLV32



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Round Galv. Steel Wire

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	2.5	2.5	58.0	5310	4820	0.727	1.20	0.171	0.137	3.57	2.35	145	112	147	113
3 x 35 c.c	4.5	2.5	2.6	60.0	5890	5220	0.524	0.868	0.187	0.130	5.00	3.29	184	142	186	143
3 x 50 c.c	4.5	2.5	2.7	63.0	6590	5680	0.387	0.641	0.204	0.121	7.15	4.70	220	169	222	171
3 x 70 c.c	4.5	2.5	2.8	67.0	7720	6430	0.268	0.443	0.232	0.115	10.00	6.58	271	209	273	210
3 x 95 c.c	4.5	2.5	3.0	71.5	9020	7235	0.193	0.32	0.258	0.109	13.59	8.93	326	251	336	259
3 x 120 c.c	4.5	2.5	3.1	74.5	9980	7720	0.153	0.253	0.281	0.104	17.16	11.28	364	280	380	293
3 x 150 c.c	4.5	2.5	3.2	78.0	11200	8450	0.124	0.206	0.301	0.101	21.45	14.10	413	318	439	338
3 x 185 c.c	4.5	3.15	3.3	83.5	13740	10240	0.0991	0.164	0.329	0.098	26.46	17.39	457	352	506	390
3 x 240 c.c	4.5	3.15	3.5	89.5	16170	11600	0.0754	0.125	0.363	0.094	34.32	22.56	530	408	583	449
3 x 300 c.c	4.5	3.15	3.6	94.5	18730	12950	0.0601	0.100	0.398	0.091	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

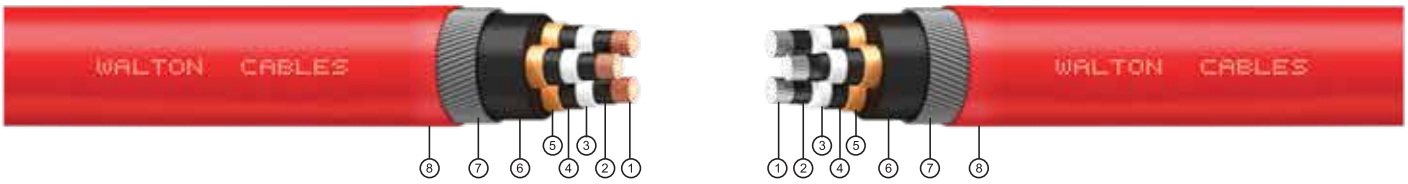
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XSEYRGY/A2XSEYRGY/N2XSEYRGY/ NA2XSEYRGY/ZR-YJV32/ZR-YJLV32



①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Round Galv. Steel Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 35 c.c	5.5	2.5	2.8	65.5	6590	5900	0.524	0.868	0.162	0.137	5.00	3.29	184	142	186	143
3 x 50 c.c	5.5	2.5	2.9	68.5	7360	6460	0.387	0.641	0.177	0.127	7.15	4.70	220	169	222	171
3 x 70 c.c	5.5	2.5	3.0	72.5	8490	7200	0.268	0.443	0.200	0.120	10.00	6.58	271	209	273	210
3 x 95 c.c	5.5	2.5	3.1	76.5	9800	8000	0.193	0.32	0.222	0.114	13.59	8.93	326	251	336	259
3 x 120 c.c	5.5	2.5	3.2	79.5	10750	8500	0.153	0.253	0.241	0.109	17.16	11.28	364	280	380	293
3 x 150 c.c	5.5	3.15	3.4	85.0	13080	10210	0.124	0.206	0.257	0.106	21.45	14.10	413	318	439	338
3 x 185 c.c	5.5	3.15	3.5	89.0	14750	11240	0.0991	0.164	0.280	0.102	26.46	17.39	457	352	506	390
3 x 240 c.c	5.5	3.15	3.6	94.0	17180	12550	0.0754	0.125	0.307	0.098	34.32	22.56	530	408	583	449
3 x 300 c.c	5.5	3.15	3.8	99.0	19750	14000	0.0601	0.100	0.336	0.095	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

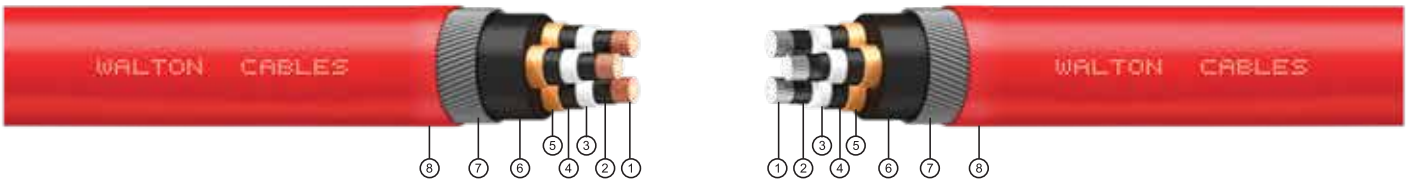
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSEYRGY/A2XSEYRGY/N2XSEYRGY/ NA2XSEYRGY/ZR-YJV32/ZR-YJLV32



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Round Galv. Steel Wire

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	2.5	3.3	82.0	9520	8650	0.387	0.641	0.138	0.140	7.15	4.70	220	169	222	171
3 x 70 c.c	8.0	3.15	3.4	87.0	11700	10420	0.268	0.443	0.154	0.132	10.00	6.58	271	209	273	210
3 x 95 c.c	8.0	3.15	3.5	91.0	13200	11380	0.193	0.32	0.169	0.125	13.59	8.93	326	251	336	259
3 x 120 c.c	8.0	3.15	3.6	94.5	14200	11870	0.153	0.253	0.183	0.120	17.16	11.28	364	280	380	293
3 x 150 c.c	8.0	3.15	3.7	98.0	15600	12800	0.124	0.206	0.194	0.116	21.45	14.10	413	318	439	338
3 x 185 c.c	8.0	3.15	3.9	102.0	74460	13950	0.0991	0.164	0.210	0.112	26.46	17.39	457	352	506	390
3 x 240 c.c	8.0	3.15	4.0	107.0	19950	15320	0.0754	0.125	0.229	0.107	34.32	22.56	530	408	583	449
3 x 300 c.c	8.0	3.15	4.2	113.0	22800	17450	0.0601	0.100	0.249	0.103	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0 KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

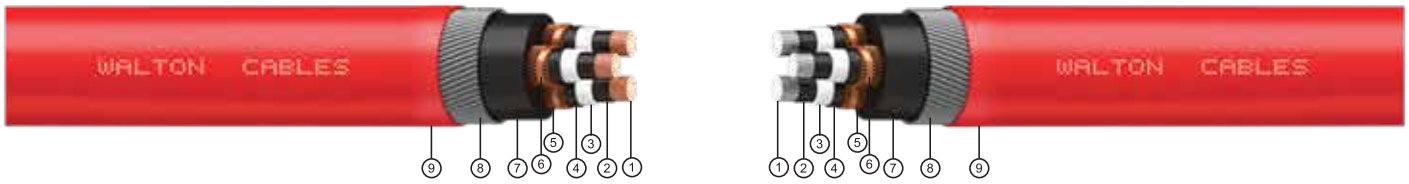
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSECYRGY/A2XSECYRGY/N2XSECYRGY/ NA2XSECYRGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Round Galv. Steel Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	16	2.5	2.5	53.5	5200	4750	0.727	1.20	0.208	0.129	3.57	2.35	6.86	145	112	147	113
3 x 35 c.c	3.4	16	2.5	2.5	56.0	5750	5100	0.524	0.868	0.229	0.123	5.00	3.29	6.86	182	140	183	141
3 x 50 c.c	3.4	16	2.5	2.7	58.5	6450	5550	0.387	0.641	0.252	0.114	7.15	4.70	6.86	218	168	218	168
3 x 70 c.c	3.4	16	2.5	2.8	62.5	7500	6150	0.268	0.443	0.288	0.108	10.00	6.58	6.86	269	207	270	208
3 x 95 c.c	3.4	16	2.5	2.9	66.5	8760	6990	0.193	0.32	0.323	0.103	13.59	8.93	6.86	324	249	333	256
3 x 120 c.c	3.4	16	2.5	3.0	70.5	9900	7650	0.153	0.253	0.353	0.099	17.16	11.28	6.86	362	279	378	291
3 x 150 c.c	3.4	25	2.5	3.1	74.0	11400	8600	0.124	0.206	0.380	0.096	21.45	14.10	10.73	411	316	436	336
3 x 185 c.c	3.4	25	2.5	3.2	78.0	12850	9450	0.0991	0.164	0.416	0.093	26.46	17.39	10.73	455	350	503	387
3 x 240 c.c	3.4	25	3.15	3.4	85.0	16120	11650	0.0754	0.125	0.460	0.089	34.32	22.56	10.73	527	406	580	447
3 x 300 c.c	3.4	25	3.15	3.6	90.0	18500	12900	0.0601	0.100	0.506	0.086	42.90	28.20	10.73	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

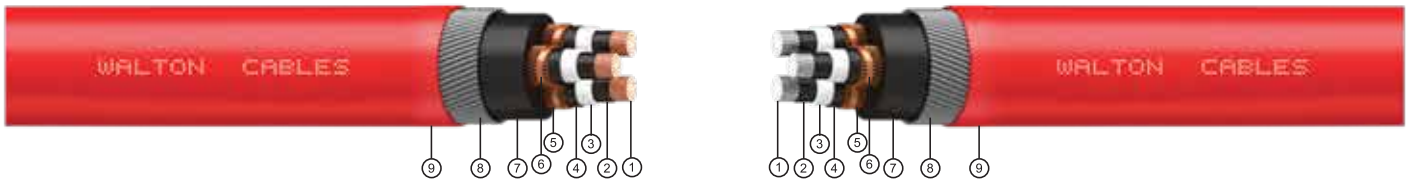
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSECYRGY/A2XSECYRGY/N2XSECYRGY/ NA2XSECYRGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Round Galv. Steel Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	16	2.5	2.6	59.0	5880	5430	0.727	1.20	0.171	0.137	3.57	2.35	6.86	145	112	147	113
3 x 35 c.c	4.5	16	2.5	2.7	61.0	6450	5830	0.524	0.868	0.187	0.130	5.00	3.29	6.86	184	142	186	143
3 x 50 c.c	4.5	16	2.5	2.8	64.0	7280	6350	0.387	0.641	0.204	0.121	7.15	4.70	6.86	220	169	222	171
3 x 70 c.c	4.5	16	2.5	2.9	68.0	8300	7010	0.268	0.443	0.232	0.115	10.00	6.58	6.86	271	209	273	210
3 x 95 c.c	4.5	16	2.5	3.0	72.0	9520	7770	0.193	0.32	0.258	0.109	13.59	8.93	6.86	326	251	336	259
3 x 120 c.c	4.5	16	2.5	3.2	75.5	10730	8500	0.153	0.253	0.281	0.104	17.16	11.28	6.86	364	280	380	293
3 x 150 c.c	4.5	25	2.5	3.3	79.0	12250	9450	0.124	0.206	0.301	0.101	21.45	14.10	10.73	413	318	439	338
3 x 185 c.c	4.5	25	3.15	3.4	84.5	14760	11300	0.0991	0.164	0.329	0.098	26.46	17.39	10.73	457	352	506	390
3 x 240 c.c	4.5	25	3.15	3.6	90.0	17100	12600	0.0754	0.125	0.363	0.094	34.32	22.56	10.73	530	408	583	449
3 x 300 c.c	4.5	25	3.15	3.8	95.5	19600	14020	0.0601	0.100	0.398	0.091	42.90	28.20	10.73	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

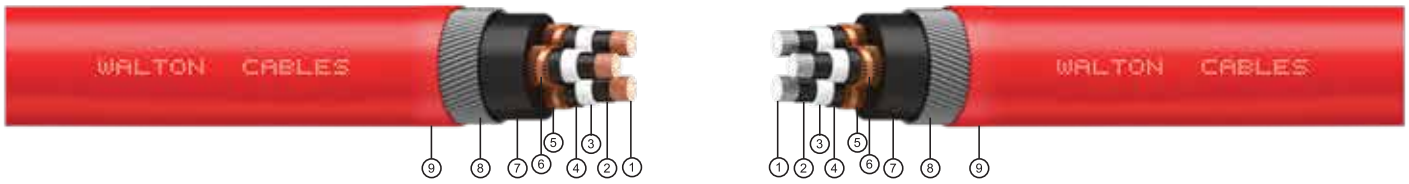
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSECYRGY/A2XSECYRGY/N2XSECYRGY/ NA2XSECYRGY



①	②	③	④	⑤	⑥	⑦	⑧	⑨
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Wire	Binder: Copper Tape	Inner Covering: PVC	Armour: Round Galv. Steel Wire	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	Nominal Cross-sectional Area of Cu Metal Screen per core	Round Galv. Steel Wire Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Short Circuit rating of Cu Metal Screen for 1.0sec (3-cores combined)	Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
						Cu	Al	Cu	Al			Cu	Al		Cu	Al	Cu	Al
No. x mm²	mm	mm²	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	16	3.15	3.4	83.0	11030	10100	0.387	0.641	0.138	0.140	7.15	4.70	6.86	220	169	222	171
3 x 70 c.c	8.0	16	3.15	3.5	87.0	12250	10870	0.268	0.443	0.154	0.132	10.00	6.58	6.86	271	209	273	210
3 x 95 c.c	8.0	16	3.15	3.6	91.5	13550	11770	0.193	0.32	0.169	0.125	13.59	8.93	6.86	326	251	336	259
3 x 120 c.c	8.0	16	3.15	3.7	95.0	14850	12660	0.153	0.253	0.183	0.120	17.16	11.28	6.86	364	280	380	293
3 x 150 c.c	8.0	25	3.15	3.8	99.0	16500	13730	0.124	0.206	0.194	0.116	21.45	14.10	10.73	413	318	439	339
3 x 185 c.c	8.0	25	3.15	4.0	103.0	18260	14800	0.0991	0.164	0.210	0.112	26.46	17.39	10.73	457	352	506	390
3 x 240 c.c	8.0	25	3.15	4.3	108.0	20800	16300	0.0754	0.125	0.229	0.107	34.32	22.56	10.73	530	408	583	450
3 x 300 c.c	8.0	25	3.15	4.3	114.0	23400	17750	0.0601	0.100	0.249	0.103	42.90	28.20	10.73	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

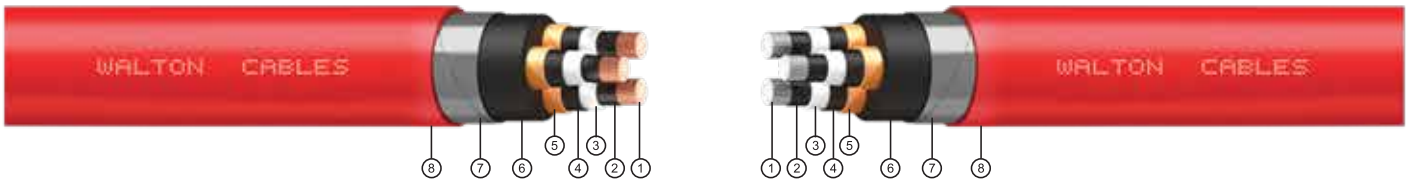
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
C = Concentric Cu Wire Screen
R = Round Galv. Steel Wire Armour
Y = PVC inner/outer sheath

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 3.6/6 (7.2)kV P.S.V: 3.8/6.6kV	2XSEYBY/A2XSEYBY/N2XSEYBY/ NA2XSEYBY/ZR-YJV22/ZR-YJLV22



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Galv. Steel Tape

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	No. x Nom. Thickness of Steel Tape Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	2.5	2 x 0.50	2.1	43.0	2900	2480	0.727	1.20	0.262	0.122	3.57	2.35	145	112	147	113
3 x 35 c.c	2.5	2 x 0.50	2.2	45.5	3370	2780	0.524	0.868	0.291	0.116	5.00	3.29	182	140	183	141
3 x 50 c.c	2.5	2 x 0.50	2.3	49.0	3950	3210	0.387	0.641	0.321	0.108	7.15	4.70	218	168	218	168
3 x 70 c.c	2.5	2 x 0.50	2.4	53.0	4900	3790	0.268	0.443	0.371	0.102	10.00	6.58	269	207	270	208
3 x 95 c.c	2.5	2 x 0.50	2.5	57.0	6050	4450	0.193	0.32	0.417	0.097	13.59	8.93	324	249	333	256
3 x 120 c.c	2.5	2 x 0.50	2.7	60.0	6880	4800	0.153	0.253	0.459	0.093	17.16	11.28	362	279	378	291
3 x 150 c.c	2.5	2 x 0.50	2.8	63.5	8050	5470	0.124	0.206	0.494	0.091	21.45	14.10	411	316	436	336
3 x 185 c.c	2.5	2 x 0.50	2.9	67.5	9500	6310	0.0991	0.164	0.543	0.088	26.46	17.39	455	350	503	387
3 x 240 c.c	2.6	2 x 0.50	3.1	74.0	11650	7420	0.0754	0.125	0.583	0.086	34.32	22.56	527	406	580	447
3 x 300 c.c	2.8	2 x 0.50	3.2	80.0	14130	8740	0.0601	0.100	0.602	0.084	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 3.6/6kV Rated voltage Uo/U
- 12.6KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

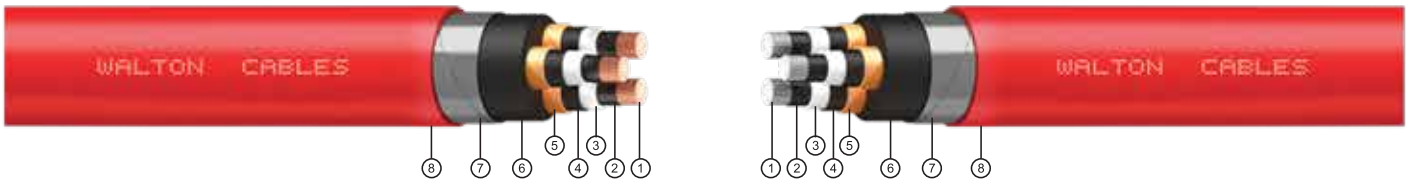
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
B = Galv. Steel Tape Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 6/10 (12)kV P.S.V: 6.35/11kV	2XSEYBY/A2XSEYBY/N2XSEYBY/ NA2XSEYBY/ZR-YJV22/ZR-YJLV22



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Galv. Steel Tape

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	No. x Nom. Thickness of Steel Tape Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	3.4	2 x 0.50	2.3	47.5	3350	2910	0.727	1.20	0.208	0.129	3.57	2.35	145	112	147	113
3 x 35 c.c	3.4	2 x 0.50	2.3	51.0	3850	3220	0.524	0.868	0.229	0.123	5.00	3.29	182	140	183	141
3 x 50 c.c	3.4	2 x 0.50	2.4	53.5	4450	3700	0.387	0.641	0.252	0.114	7.15	4.70	218	168	218	168
3 x 70 c.c	3.4	2 x 0.50	2.6	57.5	5440	4240	0.268	0.443	0.288	0.108	10.00	6.58	269	207	270	208
3 x 95 c.c	3.4	2 x 0.50	2.7	62.0	6550	4950	0.193	0.32	0.323	0.103	13.59	8.93	324	249	333	256
3 x 120 c.c	3.4	2 x 0.50	2.8	65.0	7440	5400	0.153	0.253	0.353	0.099	17.16	11.28	362	279	378	291
3 x 150 c.c	3.4	2 x 0.50	2.9	68.0	8450	5980	0.124	0.206	0.380	0.096	21.45	14.10	411	316	436	336
3 x 185 c.c	3.4	2 x 0.50	3.0	73.0	10060	6800	0.0991	0.164	0.416	0.093	26.46	17.39	455	350	503	387
3 x 240 c.c	3.4	2 x 0.50	3.2	78.0	12220	7900	0.0754	0.125	0.460	0.089	34.32	22.56	527	406	580	447
3 x 300 c.c	3.4	2 x 0.50	3.3	83.0	14560	9200	0.0601	0.100	0.506	0.086	42.90	28.20	567	437	611	470

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 6/10kV Rated voltage Uo/U
- 21.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

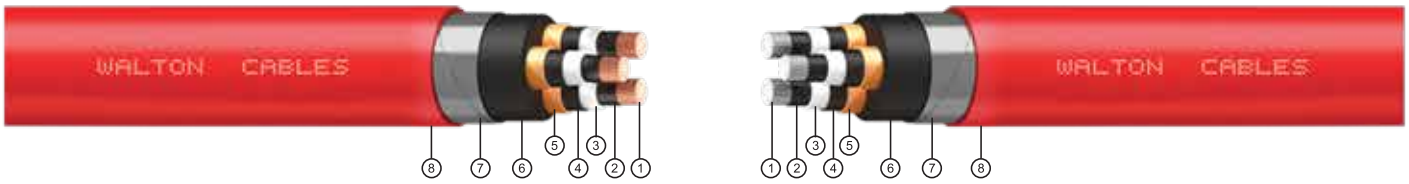
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
B = Galv. Steel Tape Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 8.7/15 (17.5)kV P.S.V: 9.4/16.25kV	2XSEYBY/A2XSEYBY/N2XSEYBY/ NA2XSEYBY/ZR-YJV22/ZR-YJLV22



① Conductor: Round Compacted Cu/Al

② Conductor Scr: Semiconductive Compound

③ Insulation: Cross-Linked Polyethylene (XLPE)

④ Insulation Scr: Semiconductive Compound

⑤ Metal Scr: Annealed Cu Tape

⑥ Inner Covering: PVC

⑦ Armour: Galv. Steel Tape

⑧ Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	No. x Nom. Thickness of Steel Tape Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 25 c.c	4.5	2 x 0.50	2.4	54.0	3950	3500	0.727	1.20	0.171	0.137	3.57	2.35	145	112	147	113
3 x 35 c.c	4.5	2 x 0.50	2.5	56.0	4430	3800	0.524	0.868	0.187	0.130	5.00	3.29	184	142	186	143
3 x 50 c.c	4.5	2 x 0.50	2.6	59.0	5050	4300	0.387	0.641	0.204	0.121	7.15	4.70	220	169	222	171
3 x 70 c.c	4.5	2 x 0.50	2.7	63.0	6120	4950	0.268	0.443	0.232	0.115	10.00	6.58	271	209	273	210
3 x 95 c.c	4.5	2 x 0.50	2.9	68.0	7300	5700	0.193	0.32	0.258	0.109	13.59	8.93	326	251	336	259
3 x 120 c.c	4.5	2 x 0.50	3.0	71.5	8150	6150	0.153	0.253	0.281	0.104	17.16	11.28	364	280	380	293
3 x 150 c.c	4.5	2 x 0.50	3.1	73.5	9300	6820	0.124	0.206	0.301	0.101	21.45	14.10	413	318	439	338
3 x 185 c.c	4.5	2 x 0.50	3.2	78.5	10850	7730	0.0991	0.164	0.329	0.098	26.46	17.39	457	352	506	390
3 x 240 c.c	4.5	2 x 0.50	3.3	83.5	13070	8850	0.0754	0.125	0.363	0.094	34.32	22.56	530	408	583	449
3 x 300 c.c	4.5	2 x 0.50	3.5	89.0	15450	10150	0.0601	0.100	0.398	0.091	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 8.7/15kV Rated voltage Uo/U
- 30.45KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

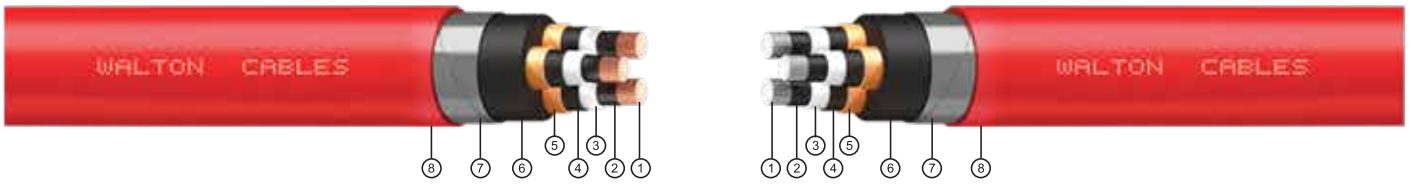
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
B = Galv. Steel Tape Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 12/20 (24)kV P.S.V: 12.7/22kV	2XSEYBY/A2XSEYBY/N2XSEYBY/ NA2XSEYBY/ZR-YJV22/ZR-YJLV22



①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	No. x Nom. Thickness of Steel Tape Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 35 c.c	5.5	2 x 0.50	2.7	62.0	5020	4420	0.524	0.868	0.162	0.137	5.00	3.29	184	142	186	143
3 x 50 c.c	5.5	2 x 0.50	2.8	65.0	5700	4960	0.387	0.641	0.177	0.127	7.15	4.70	220	169	222	171
3 x 70 c.c	5.5	2 x 0.50	2.9	68.5	6750	5600	0.268	0.443	0.200	0.120	10.00	6.58	271	209	273	210
3 x 95 c.c	5.5	2 x 0.50	3.0	72.5	7950	6380	0.193	0.32	0.222	0.114	13.59	8.93	326	251	336	259
3 x 120 c.c	5.5	2 x 0.50	3.1	76.0	8820	6810	0.153	0.253	0.241	0.109	17.16	11.28	364	280	380	293
3 x 150 c.c	5.5	2 x 0.50	3.2	79.5	10070	7600	0.124	0.206	0.257	0.106	21.45	14.10	413	318	439	338
3 x 185 c.c	5.5	2 x 0.50	3.3	83.5	11650	8530	0.0991	0.164	0.280	0.102	26.46	17.39	457	352	506	390
3 x 240 c.c	5.5	2 x 0.50	3.5	89.0	13850	9680	0.0754	0.125	0.307	0.098	34.32	22.56	530	408	583	449
3 x 300 c.c	5.5	2 x 0.50	3.7	95.5	17200	11940	0.0601	0.100	0.336	0.095	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 12/20kV Rated voltage Uo/U
- 42.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

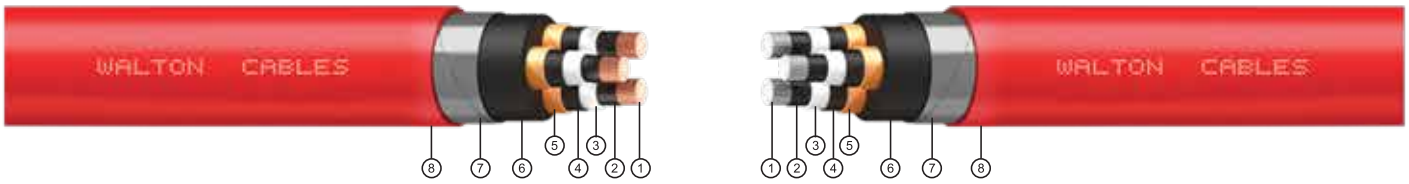
Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
B = Galv. Steel Tape Armour
Y = PVC inner/outer sheath
ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2, BS 6622, DIN VDE 0276-620, GB/T 12706	IEC 60228 V.G: 18/30 (36)kV P.S.V: 19/33kV	2XSEYBY/A2XSEYBY/N2XSEYBY/ NA2XSEYBY/ZR-YJV22/ZR-YJLV22



①	②	③	④	⑤	⑥	⑦	⑧
Conductor: Round Compacted Cu/Al	Conductor Scr: Semiconductive Compound	Insulation: Cross-Linked Polyethylene (XLPE)	Insulation Scr: Semiconductive Compound	Metal Scr: Annealed Cu Tape	Inner Covering: PVC	Armour: Galv. Steel Tape	Outer Sheath: PVC

Nominal Cross Section Area of Conductor	Nominal thickness of Insulation	No. x Nom. Thickness of Steel Tape Armour	Nominal thickness of Sheath	Approx. overall diameter of Complete cable	Approx. Weight of Complete Cable		Maximum D.C resistance of conductor at 20°C		Approx. Capacitance of Cable	Approx. Reactance of Cable at 50Hz frequency	Short Circuit rating of phase conductor for 1.0 sec duration		Current Carrying Capacity in Ground at 20°C in defined conditions		Current Carrying Capacity in Air at 30°C in defined conditions	
					Cu	Al	Cu	Al			Cu	Al	Cu	Al	Cu	Al
No. x mm²	mm	mm	mm	mm	Kg/Km	Kg/Km	Ω/km	Ω/km	μF/Km	Ω/km	KA/sec	KA/sec	Amps	Amps	Amps	Amps
3 x 50 c.c	8.0	2 x 0.50	3.2	78.0	7500	6780	0.387	0.641	0.138	0.140	7.15	4.70	220	169	222	171
3 x 70 c.c	8.0	2 x 0.50	3.3	82.0	8680	7620	0.268	0.443	0.154	0.132	10.00	6.58	271	209	273	210
3 x 95 c.c	8.0	2 x 0.50	3.4	86.0	9950	8430	0.193	0.32	0.169	0.125	13.59	8.93	326	251	336	259
3 x 120 c.c	8.0	2 x 0.50	3.5	89.0	10920	8950	0.153	0.253	0.183	0.120	17.16	11.28	364	280	380	293
3 x 150 c.c	8.0	2 x 0.50	3.6	93.0	13100	10680	0.124	0.206	0.194	0.116	21.45	14.10	413	318	439	338
3 x 185 c.c	8.0	2 x 0.50	3.7	97.0	14770	11720	0.0991	0.164	0.210	0.112	26.46	17.39	457	352	506	390
3 x 240 c.c	8.0	2 x 0.50	3.9	103.0	17180	13000	0.0754	0.125	0.229	0.107	34.32	22.56	530	408	583	449
3 x 300 c.c	8.0	2 x 0.50	4.1	108.0	19850	14670	0.0601	0.100	0.249	0.103	42.90	28.20	570	439	614	473

**c.c. = compacted circular

Technical Specification

- Min. bending radius 15 x D
- 250°C Max. short circuit temperature
- 90°C Max. operating temperature
- 18/30kV Rated voltage Uo/U
- 63.0KV AC test voltage
- Pb Lead Free
- Flame propagation test on single cable -IEC 60332-1

Installation Condition

- Industrial Use
- Outdoor Installation
- Open Air
- Buried
- In Duct

Application

1.0 Transmission of High Voltage from High voltage Transmission line to feeder.
2.0 Used in Urban/Industrial/residential/commercial areas for High Voltage transmission where short circuit currents are high.

Note

A = Aluminium Conductor
2X = Cross-linked Polyethylene (XLPE) Insulation
SE = Combination of metallic part with non-metallic screen of three cores combined
B = Galv. Steel Tape Armour
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ZR = Flame Retardant

V.G. = Voltage Grade
P.S.V. = Permissible Service Voltage
KV = Kilovolt

Non Conducting / Semi-conducting / Non-woven tape can be applied over conductor / Insulation screen.

VOLTAGE DROP FOR MV COPPER CABLES (VOLTAGE UP TO 33 KV)

Voltage drop per core = Milli-Volt / Ampere / Meter. Single Core

Conductor Area	3.6/6(7.2)kV		6/10(12)kV		8.7/15(17.5)kV		12/20(24)kV		18/30(36)kV	
	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured
No. mm²	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m
1x25	0.948	0.95	0.949	0.951	0.95	0.952	-	-	-	-
1x35	0.688	0.691	0.689	0.692	0.691	0.694	0.692	0.695	-	-
1x50	0.514	0.517	0.515	0.519	0.516	0.52	0.518	0.521	0.521	0.525
1x70	0.364	0.369	0.366	0.37	0.367	0.372	0.369	0.374	0.373	0.378
1x95	0.271	0.277	0.273	0.279	0.276	0.282	0.278	0.284	0.283	0.288
1x120	0.223	0.229	0.225	0.231	0.228	0.234	0.230	0.236	0.236	0.241
1x150	0.189	0.196	0.191	0.199	0.195	0.202	0.197	0.204	0.203	0.210
1x185	0.161	0.169	0.163	0.172	0.166	0.174	0.169	0.176	0.175	0.184
1x240	0.135	0.144	0.138	0.147	0.141	0.150	0.144	0.152	0.151	0.159
1x300	0.121	0.129	0.122	0.131	0.125	0.134	0.128	0.138	0.135	0.144
1x400	0.108	0.117	0.109	0.118	0.113	0.123	0.116	0.125	0.123	0.131
1x500	0.100	0.111	0.101	0.111	0.104	0.114	0.107	0.116	0.113	0.122
1x630	0.093	0.103	0.094	0.103	0.097	0.106	0.099	0.108	0.106	0.114
1x800	0.088	0.098	0.089	0.098	0.092	0.101	0.094	0.103	0.101	0.109
1x1000	0.085	0.094	0.085	0.095	0.088	0.097	0.090	0.099	0.096	0.104

Voltage drop per core = Milli-Volt / Ampere / Meter. Three Core

Conductor Area	3.6/6(7.2)kV		6/10(12)kV		8.7/15(17.5)kV		12/20(24)kV		18/30(36)kV	
	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured	Unarmoured	Armoured
No. mm²	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m
3x25	0.946	0.946	0.947	0.947	0.948	0.948	-	-	-	-
3x35	0.686	0.686	0.687	0.687	0.688	0.688	0.690	0.690	-	-
3x50	0.511	0.511	0.512	0.512	0.514	0.514	0.515	0.515	0.519	0.519
3x70	0.360	0.360	0.362	0.362	0.364	0.364	0.366	0.366	0.370	0.370
3x95	0.267	0.267	0.269	0.269	0.272	0.272	0.274	0.274	0.279	0.279
3x120	0.218	0.218	0.221	0.221	0.223	0.223	0.225	0.225	0.231	0.231
3x150	0.184	0.184	0.186	0.186	0.189	0.189	0.192	0.192	0.198	0.198
3x185	0.155	0.155	0.158	0.158	0.161	0.161	0.164	0.164	0.170	0.170
3x240	0.130	0.130	0.132	0.132	0.135	0.135	0.138	0.138	0.145	0.145
3x300	0.114	0.114	0.116	0.116	0.119	0.119	0.122	0.122	0.129	0.129

DERATING FACTOR OF CURRENT CARRYING CAPACITY OF MEDIUM VOLTAGE XLPE CABLES ACCORDING TO IEC 60502-2

Defined Conditions:

i) Max. conductor temperature = 90°C

ii) Underground soil temperature = 20°C

iii) Thermal resistivity of soil = 1.0 K.m/W

iv) Ambient air temperature = 30°C

v) Depth of underground laying: 900mm up to 6/10 (12)kV & 1050mm from 8.7/15 (17.5)kV to 18/30 (36)kV

vi) Single core cables installed in Trefoil / Flat formation & Multicore cables installed singly.

DERATING FACTORS FOR DEVIATED CONDITIONS

CABLES LAID DIRECT IN GROUND

1) Derating factors for ground temperature variation:

Temperature (°C)	15	20	25	30	35	40	45
Rating Factor	1.04	1.00	0.96	0.93	0.89	0.85	0.81

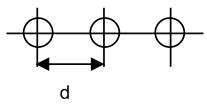
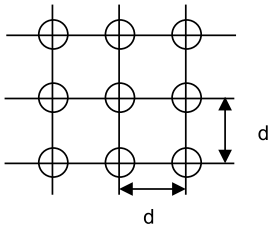
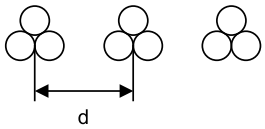
2) Derating factors for variation in thermal resistivity:

Soil thermal resistivity (K.m/W)	1.0	1.2	1.5	2.0	2.5	3.0
Rating Factor	1.00	0.94	0.84	0.75	0.68	0.62

3) Derating factors for various depth of laying:

Depth of laying (mm)	Up to 6/10 (12)kV	8.7/15 (17.5)kV & Above
900	1.00	-
1050	0.99	1.00
1200	0.98	0.99
1500	0.96	0.97
1800 & above	0.95	0.96

4) Derating factors for grouping of cables:

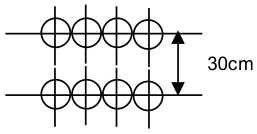
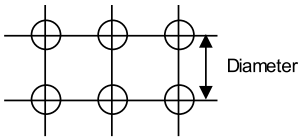
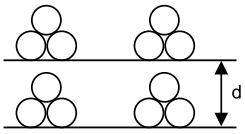
No. of cable/circuits in a group	Single cables in horizontal formation			Single cables in tier formation			Single cables in trefoil formation		
									
	Touching	d = 15cm	d = 30cm	Touching	d = 15cm	d = 30cm	Touching	d = 15cm	d = 30cm
2	0.79	0.82	0.86	-	-	-	0.78	0.82	0.85
3	0.69	0.72	0.76	-	-	-	0.68	0.71	0.76
4	0.62	0.66	0.72	0.60	0.64	0.69	0.61	0.65	0.71
6	0.54	0.59	0.65	0.51	0.55	0.60	0.53	0.57	0.64

CABLES LAID IN OPEN AIR ON RACK

1) Derating factors for air temperature variation:

Temperature (°C)	20	25	30	35	40	45	50
Rating Factor	1.07	1.04	1.0	0.96	0.91	0.86	0.83

2) Derating factors for grouping of cables:

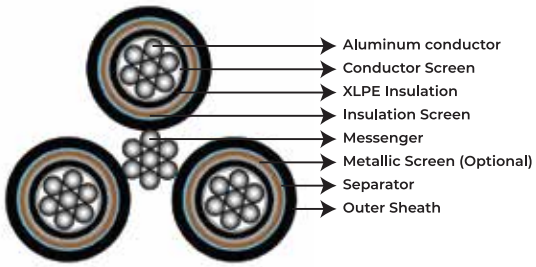
No. of cable/circuits in a group	Multicore cables in touching formation				Multicore cables spacing with equivalent diameter of cable				Single core cables in trefoil formation & group spacing is twice the diameter of cable			
												
	Number of racks				Number of racks				Number of racks			
	1	2	3	6	1	2	3	6	1	2	3	6
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	0.84	0.80	0.78	0.76	0.98	0.95	0.94	0.93	0.98	0.95	0.94	0.93
3	0.80	0.76	0.74	0.72	0.96	0.93	0.92	0.90	0.96	0.93	0.92	0.90
6	0.76	0.71	0.70	0.68	0.93	0.90	0.89	0.87	-	-	-	-

WALTON
Cables

Chapter 10: ABC Cable

waltonbd.com/cables

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 60502-2	EC 60228 CLASS-2 VG. U_o/U (Um): 6/10 kV (12 kV)	AERIAL BUNDLE CABLE (ABC CABLE)



Nominal cross-sectional area	Minimum number of wires	Nominal diameter of conductor	Nominal thickness of XLPE Insulation	Thickness of copper tape	Nominal thickness of outer-sheath	Nominal diameter over sheathing	Max.dc resistance at 20° c	Earth fault current carrying capacity of metallic screen at		Messenter Galvanized steel wire			Completed Cable	
								-1 second (1 Core)	-3 second (1 Core)	Nominal Cross-sectional area	Stranding	Overall Diameter	Approx. overall diameter	Approx. weight of cable
mm2		mm	mm	mm	mm	mm	ohm/km	kA	kA	mm2	No/mm			
3x50+30	6	8.1	3.4	0.2	2.3	23.0	0.641	1.57	0.90	50	7/3.15	9.45	55	2540
3x70+50	12	9.7	3.4	0.2	2.3	24.6	0.443	1.72	0.99	50	7/3.15	9.45	59	2890
3x95+50	15	11.5	3.4	0.2	2.3	26.3	0.320	1.88	1.08	50	7/3.15	9.45	62	3300
3x120+70	15	12.9	3.4	0.2	2.3	27.8	0.253	2.01	1.16	50	7/3.15	9.45	65	3660
3x150+70	15	14.3	3.4	0.2	2.3	29.2	0.206	2.14	1.23	50	7/3.15	9.45	67	4040
3x185+70	30	16.1	3.4	0.2	2.3	30.9	0.164	2.30	1.33	50	7/3.15	9.45	71	4540
3x240+70	30	18.4	3.4	0.2	2.3	33.3	0.125	2.52	1.45	50	7/3.15	9.45	75	5290

Application

MV Aerial Bunched Cable are composite cable especially intended for overhead line use in forest areas where tree clearance poses a serious problem and other cases where it is difficult to get clearance for bare conductor lines.

Weather Condition: (a) Maximum ambient temperature 50° C (b) Minimum ambient temperature 4° C (c) Thermal resistance of soil 150° C -cm/wtt (d) Maximum daily average ambient temperature: 45° C (e) Maximum relative humidity 100% (f) Average rainfall per annum 200cm (g) Maximum height above the sea level 1000 meter (h) Mazimum wind pressure/wind speed: 150kg/sq.m/50m/sec (i) Average no. of thunderstorm days per annum: 200

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Chapter 11: Telephone Data & Coaxial Cable

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STANDARDS	CONDUCTOR	CONSTRUCTION
ITS S/WJ-1D1C IEC 708	ASTM B3 V.G: 200V	MULTI PAIR (Cu/PE/PVC) PE INSULATED, FR-PVC SHEATHED MULTI PAIR TELECOMMUNICATION CABLE

Number of Pair	Nominal Cross Sectional Area	No.of Strand & diameter	Nominal Thickness of Insulation	Nominal thickness of sheath	Approx. Cable diameter	Approx. Weight of cable
			PHYSICAL DATA			
	Sq.mm	mm	mm	mm	mm	kg/km
1 Pair (2 Core)	0.125	1/0.4	0.2	0.8	4.2	20.0
2 Pair (4 Core)	0.125	1/0.4	0.2	0.8	4.3	24.0
3 Pair (6 Core)	0.125	1/0.4	0.2	1.0	5.0	35.0
4 Pair (8 Core)	0.125	1/0.4	0.2	1.2	6.5	45.0
5 Pair (10 Core)	0.125	1/0.4	0.2	1.2	7.1	55.0
6 Pair (12 Core)	0.125	1/0.4	0.2	1.4	7.7	70.0
7 Pair (14 Core)	0.125	1/0.4	0.2	1.4	8.1	78.0
8 Pair (16 Core)	0.125	1/0.4	0.2	1.4	8.3	82.0
10 Pair (20 Core)	0.125	1/0.4	0.2	1.4	9.5	103.0
15 Pair (30 Core)	0.125	1/0.4	0.2	1.4	11.5	140.0
20 Pair (40 Core)	0.125	1/0.4	0.2	1.6	13.4	180.0
30 Pair (60 Core)	0.125	1/0.4	0.2	1.6	15.0	240.0
1 Pair (2 Core)	0.282	1/0.6	0.2	0.8	4.2	23.0
2 Pair (4 Core)	0.282	1/0.6	0.2	0.8	4.5	30.0
3 Pair (6 Core)	0.282	1/0.6	0.2	1.0	5.5	44.0
4 Pair (8 Core)	0.282	1/0.6	0.2	1.2	6.6	68.0
5 Pair (10 Core)	0.282	1/0.6	0.2	1.2	7.2	75.0
6 Pair (12 Core)	0.282	1/0.6	0.2	1.4	8.0	90.0
7 Pair (14 Core)	0.282	1/0.6	0.2	1.4	8.5	100.0
8 Pair (16 Core)	0.282	1/0.6	0.2	1.4	9.0	106.0
10 Pair (20 Core)	0.282	1/0.6	0.2	1.4	10.0	136.0
15 Pair (30 Core)	0.282	1/0.6	0.2	1.4	12.5	200.0
20 Pair (40 Core)	0.282	1/0.6	0.2	1.6	14.2	260.0
30 Pair (60 Core)	0.282	1/0.6	0.2	1.6	16.8	360.0
50 Pair (100 Core)	0.282	1/0.6	0.2	1.6	20.0	530.0
100 Pair (200 Core)	0.282	1/0.6	0.2	1.6	27.0	940.0

Technical Specification

- Min. bending radius 10 x D
- 160° C — Max. short circuit temperature
- 70° C — Max. operating temperature
- 200 V — Rated voltage

Installation Condition

- Home Use
- Outdoor Installation
- Open Air
- In Conduit

Application

Application: Suitable for expose or concealed conduit Installation of telecommunication and signal circuits, permissible voltage 200 V.

STANDARDS	CONDUCTOR	CONSTRUCTION
VDE 0816 IEC 61196-1 MIL C17	ASTM B3	CO-AXIAL (Cu/FOAM PE/SC/PVC) FOAM PE INSULATED, Cu BRAIDED SCREEN, FR-PVC SHEATHED CABLE

Code Name	Nominal Cross Sectional Area Of Conductor	No. of stands & diameter of wire	Approx Diameteer of insulated core	Nominal Thickness of Sheath	Shield materials	Shield coverage factor	Approx. Overall Diameter	Approx. Wt. of cable	Max. D.C resistance of conductor at 20°c	Impedence
	mm²	mm	mm	mm		%	mm	kg/km	Ω/km	ohm
Low Loss 50 Ohm Wireless RF Transmission Cable										
RG 174	0.16	1/0.45	1.55	0.8	Al Mylar+ATC	85	2.90	24	110.99	50
RG 58	0.65	1/0.91	2.95	0.9	Al Mylar+ATC	85	5.00	50	27.32	50
RG 8X	1.65	1/1.45	3.81	1.0	Al Mylar+ATC	85	6.20	90	10.76	50
Low Loss 50 Ohm Wireless RF Transmission Cable										
3/C	0.2	1/0.50	3.00	0.9	PAC	60	5.40	34	88.79	75
4/C	0.42	1/0.73	3.81	1.0	PAC	60	6.35	50	42.28	75
5/C	0.64	1/0.90	4.20	1.2	PAC	60	7.20	62	27.75	75
6/C	1.23	1/1.25	5.46	1.2	PAC	60	8.20	67	14.44	75
RG 59/U	0.52	1/0.81	3.68	1.0	Al Mylar+ATC	60	6.15	55	34.15	75
RG 6/U	0.82	1/1.02	4.30	1.2	Al Mylar+ATC	60	7.50	80	22.77	75
RG 11/U	2.09	1/1.63	6.65	1.2	Al Mylar+ATC	60	9.80	110	8.50	75

Technical Specification

Min. bending radius 10 x D

160° C Max. short circuit temperature

70° C Max. operating temperature

Installation Condition

Home Use

Outdoor Installation

Open Air

In Conduit

Application

The tried and true coaxial cable can transmit all kinds of signal - HDTV, digital video, composite video, component video, S-video, FM, and more. we have several options of coax to choose from for wherever you need to use them: schools, hospital, security systems, or even just connecting your home cable TV Indoor & outdoor.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 11801 BS-EN 50288-3-1	ASTM B3	UTP CAT. 5 4 PAIR X 24 AWG (Cu/HDPE/PVC-FR) HDPE INSULATED, FR-PVC SHEATHED CABLE

Numer of Pair x Size	No. of stands & diameter of wire	Approx. Core Diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. Weight of cable	Conductor	Max. ring resistance	Max. Mutual capacitance	Min. Insulation resistance	Standard Impedance	Min. bennding radius
PHYSICAL DATA						TECHNICAL DATA					
no. x AWG	no./mm	mm	mm	mm	kg/km	Ω/km	Ω/100m	pF/100m	M.ohm.km	Ω	mm
4x2x24 AWG	1/0.50	0.9	0.7	5.20	30	84.2	16.8	49.0	500	100 ± 5	25

Frequency	Attenuation Min. value of EN 50288-3-1	Next Min. Value of EN 50288-3-1	PS Next Min. Value of EN 50288-3-1	Elfext Min. Value of EN 50288-3-1	PS Elfext Min. Value of EN 50288-3-1	Return Loss
TRANSMISSION SPECIFICATIONS						
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.10	65.30	62.30	63.80	60.80	-
10	6.30	50.30	47.30	43.80	40.80	25.00
16	8.00	47.30	44.20	39.70	36.70	25.00
31.25	11.40	42.90	39.90	33.90	30.90	23.60
62.5	16.50	38.40	35.40	27.90	24.90	21.50
100	21.30	35.30	32.30	23.80	20.80	20.10

CONSTRUCTION
UTP CAT. 5e 4 PAIR X 24 AWG (Cu/HDPE/PVC-FR) HDPE INSULATED, FR-PVC SHEATHED CABLE

Numer of Pair x Size	No. of stands & diameter of wire	Approx. Core Diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. Weight of cable	Conductor	Max. ring resistance	Max. Mutual capacitance	Min. Insulation resistance	Standard Impedance	Min. bennding radius
PHYSICAL DATA						TECHNICAL DATA					
no. x AWG	no./mm	mm	mm	mm	kg/km	Ω/km	Ω/100m	pF/100m	M.ohm.km	Ω	mm
4x2x24 AWG	1/0.52	1.0	0.8	5.40	34	84.2	16.8	49.0	500	100 ± 5	25

Frequency	Attenuation Min. value of EN 50288-3-1	Next Min. Value of EN 50288-3-1	PS Next Min. Value of EN 50288-3-1	Elfext Min. Value of EN 50288-3-1	PS Elfext Min. Value of EN 50288-3-1	Return Loss
TRANSMISSION SPECIFICATIONS						
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.05	65.30	62.30	60.80	60.80	20.00
10	6.49	50.30	47.30	40.80	40.80	25.00
16	8.28	47.24	44.24	39.72	36.72	25.00
31.25	11.77	42.88	39.88	33.90	30.90	23.64
62.5	17.07	38.36	35.36	27.88	24.88	21.54
100	22.07	35.30	32.30	23.80	20.80	20.11
200	32.55	30.78	27.78	17.78	14.78	18.00

Application

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 100MHz, for D Class applications in structured cabling systems for buildings. Specifications checked up to 200 MHz.

STANDARDS	CONDUCTOR	CONSTRUCTION
IEC 11801 BS-EN 50288-5-1	ASTM B3	UTP CAT. 6 4 PAIR X 23 AWG (Cu/HDPE/PE SEPARATOR/PVC-FR) HDPE INSULATED, FR-PVC SHEATHED CABLE

Numer of Pair x Size	No. of stands & diameter of wire	Approx. Core Diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. Weight of cable	Conductor	Max. ring resistance	Max. Mutual capacitance	Min. Insulation resistance	Standard Impedance	Min. bennding radius
PHYSICAL DATA						TECHNICAL DATA					
no. x AWG	no./mm	mm	mm	mm	kg/km	Ω/km	Ω/100m	pF/100m	M.ohm.km	Ω	mm
4x2x23 AWG	1/0.57	1.0	0.8	6.5	38	71.03	14.5	48.0	500	100 ± 5	25

Frequency	Attenuation Min. value of EN 50288-3-1	Next Min. Value of EN 50288-3-1	PS Next Min. Value of EN 50288-3-1	Elfext Min. Value of EN 50288-3-1	PS Elfext Min. Value of EN 50288-3-1	Return Loss
TRANSMISSION SPECIFICATIONS						
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.0	38.30	36.30	22.00	19.00	17.30

CONSTRUCTION

UTP CAT. 6e

4 Pair x 23 AWG (Cu/HDPE/PVC-FR) HDPE Insulated, FR-PVC Sheathed Cable

Numer of Pair x Size	No. of stands & diameter of wire	Approx. Core Diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. Weight of cable	Conductor	Max. ring resistance	Max. Mutual capacitance	Min. Insulation resistance	Standard Impedance	Min. bennding radius
PHYSICAL DATA						TECHNICAL DATA					
no. x AWG	no./mm	mm	mm	mm	kg/km	Ω/km	Ω/100m	pF/100m	M.ohm.km	Ω	mm
4x2x23 AWG	1/0.57	1.0	0.9	6.6	41	71.03	14.5	48.0	500	100 ± 5	25

Frequency	Attenuation Min. value of EN 50288-3-1	Next Min. Value of EN 50288-3-1	PS Next Min. Value of EN 50288-3-1	Elfext Min. Value of EN 50288-3-1	PS Elfext Min. Value of EN 50288-3-1	Return Loss
TRANSMISSION SPECIFICATIONS						
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.0	38.30	36.30	22.00	19.00	17.30
350	36.00	43.10	41.10	21.00	18.20	17.00
500	42.20	40.80	38.80	20.80	17.80	16.70

Application

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 200MHz, for E Class applications in structured cabling systems for buildings. Specifications checked up to 300 MHz.

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Chapter 12: Overhead conductor & service drop wire

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STANDARDS	CONDUCTOR	CONSTRUCTION
BDS 1036 BS 215 part-1	IEC 61089	ALL ALUMINIUM CONDUCTOR (AAC) OVERHEAD CONDUCTOR STRANDED ALUMINLUM WIRE TO BS 2627

1

Conductor All Aluminium Conductor

PHYSICAL DATA						ELECTRICAL DATA		
Code Name	Nominal Aluminium Area	Total Area	No. of stands & diameter of wire	Approx. Overall Diameter	Approx. Wt. of cable	Nominal breaking load	Maximum D.C Resistance of Conductor at 20°c	Current rating at 35°c ambient temp.
	mm²	mm²	no./mm	mm	kg/km	kgf	Ω/km	amp
MIDGE	22	23.3	7/2.06	6.2	64	408	1227	114
APH IS	25	26.4	3/3.35	7.2	73	419	1.081	139
GNAT	25	26.9	7/2.21	6.6	74	468	1.068	124
WEEVIL	30	31.6	3/3.66	7.8	87	496	0.9082	144
MOSQUITO	35	36.9	7/2.59	7.8	102	617	0.7731	147
LADYBIRD	40	42.8	7/2.79	8.4	118	701	0.6694	159
ANT	50	52.8	7/3.10	9.3	145	846	0.5419	181
FLY	60	63.6	7/3.40	10.2	174	1010	0.4505	199
BLUEBOTTLE	70	73.6	7/3.66	11.0	203	1156	0.3884	219
EARWIG	75	78.6	7/3.78	11.4	216	1218	0.3645	227
GRASSHOP PER	80	84.1	7/3.91	11.7	232	1303	0.3405	238
CLEGG	90	95.6	7/4.17	12.5	264	1482	0.2994	256
WASP	100	106.0	7/4.39	13.2	290	1632	0.2702	271
BEETLE	100	106.4	19/ 2.67	13.4	293.3	1776	0.2699	274
BEE	125	132.0	7/4.90	14.7	363.9	2033	0.2169	308
CRICKET	150	1S7.9	7/5.36	16.1	435.5	2632	0.1814	342
HORNET	150	157.6	19/3.25	16.3	434.6	2519	0.1825	346
CATERPILLER	175	185.9	19/3.53	17.7	412.7	2920	0.1547	380
CHAFER	200	213.2	19/3.78	18.9	578.9	3304	0.1349	414
SPIDER	225	237.0	19/3.99	20.0	655	3672	0.1214	439
COCK ROACH	250	265.7	19/4.22	21.1	732 .7	4120	0.1083	470
BUTTERFLY	300	322.7	19/4.65	23.3	889.6	4966	0.08916	528
MOTH	350	373.1	19/5.00	25.0	1028.6	5748	0.07709	572
DRONE	350	372.4	37/3.58	25.1	1026.8	5858	0.07723	572
LOCUST	400	428.7	19/5.36	26.8	1182	6601	0.06714	626
CENTIPED	400	415.2	37/3.78	26.5	1144.8	6434	0.06944	619
MAYBUG	450	486.1	37/4.09	28.6	1340.2	7547	0.05921	676
SCORPION	500	529.8	37/4.27	29.9	1460 .8	8156	0.05445	710
CICADA	600	628.3	37/4.65	32.6	1732.4	9682	0.04587	784
TARANTULA	750	793.9	37/5.23	36.6	2191.5	12247	0.03628	899

Application

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distrivution lines.

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-231 BDS 1036	IEC 61089	ALL ALUMINIUM CONDUCTOR (AAC) OVERHEAD CONDUCTOR STRANDED ALUMINLUM H14, TO ASTM B-231

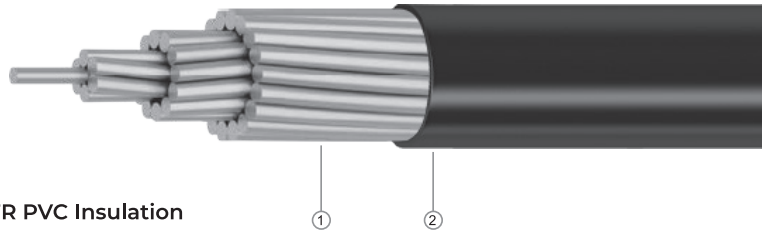
① Conductor All Aluminium Conductor

PHYSICAL DATA						ELECTRICAL DATA		
Code Name	Total Area		No. of stands & diameter of wire	Approx. Overall Diameter	Approx. Wt. of cable	Nominal breaking load	Maximum D.C Resistance of Conductor at 20°c	Current rating at 35°c ambient temp.
	AWG/MCM	mm²		no./mm	mm	kg/km	Ω/km	amp
ROSE	4	21.16	7/1.96	5.9	58	375	1.362	104
IRIS	2	33.61	7/2.47	7.4	92	574	0.8574	136
POPPY	1/0	53.48	7/3.12	9.4	148	846	0.539	180
ASTER	2/0	67.42	7/3.50	10.5	186	1066	0.4276	207
PHLOX	3/0	85.03	7/3.93	11.8	234	1291	0.339	237
OXLIP	4/0	107.2	7/4.42	13.3	296	1628	0.2688	273
VALERIAN	250	126.7	19/2.91	14.6	348	2044	0.227S	305
DAISY	266.8	135.2	7/4.96	14.9	373	2053	0.2133	313
PEONY	300	152	19/3.19	16	419	2404	0.1896	340
TULIP	336.4	170.5	19/3.38	16.9	470	2697	0.1692	364
DAFFODIL	350	177.4	19/3.4S	17.3	490	2805	0.162S	373
GOLDENTUFT	450	228	19/3.91	19.6	629	3462	0.1264	432
COSMOS	477	242	19/4.02	20 .1	665	3670	0.1193	447
ZINN IA	500	253	19/4.12	20.6	698	3847	0.1137	4S9
DAH LIA	556.5	282	19/4.3S	21.8	779	4282	0.1023	489

Application

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distrivution lines.

STANDARDS	CONDUCTOR	CONSTRUCTION
BS 215 part-1 BDS 1036 BS 6485	BS 2627	ALL ALUMINIUM CONDUCTOR (AAC-INSULATED) STRANDED ALUMINIUM WIRE TO BS 2627



① **Conductor** All Aluminium Conductor

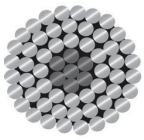
② **PVC** LF-FR PVC Insulation

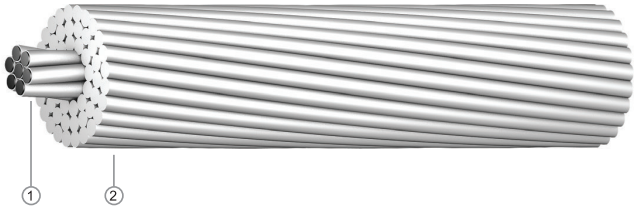
PHYSICAL DATA						ELECTRICAL DATA					
Code Name	Nominal Aluminium Area	Cross section area of conductor	No. of strands & diameter of wire	Approx. diameter of bare conductor	Approx. weight of bare conductor	Minimum thickness of insulation	approx overall diameter of insulated conductor	approx. Weight	Minimum breaking load	Max. D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
	mm²	mm²	no./mm	mm	kg/km	mm	mm	kg/km	kgf	Ω/km	amp
MIDGE	23	23.3	7/2.06	6.18	64	0.8	8.2	98	408	1.227	106
GNAT	25	26.9	7/2.21	6.6	74	0.8	8.6	110	468	1.068	115
MOSQUITO	35	36.9	7/2.59	7.8	102	0.8	9.8	143	617	0.7731	134
ANT	50	52.8	7/3.1	9.3	145	0.8	11.3	192	846	0.5419	172
FLY	60	63 .6	7/3.40	10.2	174	0.8	12.2	230	1010	0.4505	191
BLUEBOTIE E	70	73.6	7/3.66	11	203	0.8	13	261	1156	0.3884	210
EARWISE	75	78.6	7/3.78	11.4	216	0.8	13.4	275	1218	0.3645	218
GRASSHOP ER	80	84.1	7/3 .91	11.7	232	0.8	13.8	292	1303	0.3405	228
CLEGG	95	95 .6	7/4.17	12.5	264	0.8	14.6	330	1482	0.2994	245
WASP	100	106	7/4.39	13.2	290	0.8	15.6	372	1632	0.2702	260

Application

All Aluminium Conductor are the favoured type for use on relatively short spans, partlcularly low and medium voltage distrivutlon lines.

STANDARDS	CONDUCTOR	CONSTRUCTION
BS 215 PART-2 BDS 1037 IEC 61089	BS 2627	ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) GALVANIZED STEEL WIRE TO BS 4565 ALUMINIUM WIRE TO BS 2627





① Gl. Galvanized Steel Wire

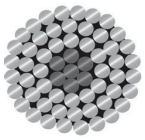
② Alu. Overall Aluminium Conductor

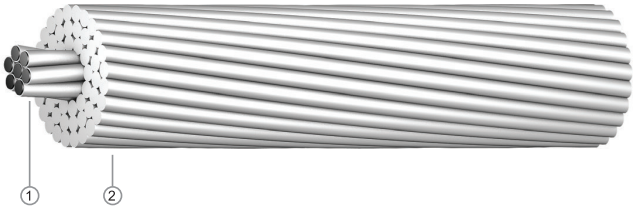
PHYSICAL DATA							ELECTRICAL DATA				
Code Name	Nominal Aluminium Area	Area of conductor			Number of strands & diameter of wire		Approx overall diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
		Al	Steel	Total	Al	Steel					
	mm²	mm²	mm²	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km	amp
SQIRREL	20	20.98	3.50	24.48	6/2.11	1/2.11	6.33	85	806	1.37	109
GOPHER	25	26.25	4.37	30.62	6/2.36	1/2.36	7.08	106	979	1.093	126
WEASEL	30	31.61	5.27	36.88	6/2.59	1/2.59	7.77	128	1163	0.9077	134
FOX	35	36.68	6.11	42.79	6/2.79	1/2.79	8.37	149	1346	0.7827	147
FERRET	40	42.41	7.07	49.48	6/3.00	1/3.00	9.00	172	1550	0.6766	161
RABBIT	50	52.88	8.81	61.69	6/3.35	1/3.35	10.05	215	1876	0.5426	185
HORESE	70	73.36	42.80	116.16	12/2.79	7/2.79	13.95	538	6241	0.3936	268
RACOON	75	79.22	13.20	92.42	6/4.10	1/4.10	12.30	321	2774	0.3623	231
CAT	95	95.43	15.90	111.33	6/4.50	1/4.50	13.50	387	3335	0.3008	248
HARE	100	104.98	17.50	122.48	6/4.72	1/4.72	14.16	425	3671	0.2733	273
DOG	100	104.98	13.55	118.53	6/4.72	7/1.57	14.15	395	6665	0.2733	273
TIGER	125	131.1	30.62	161.85	30/2.36	7/2.36	16.52	603	5914	0.2204	323
WOLF	150	158.06	36.88	194.94	30/2.59	7/2.59	18.13	726	7056	0.1828	355
DINGO	150	158.65	8.81	167.46	18/3.35	1/3.35	16.75	506	3640	0.1815	349
CARACAL	175	184.24	10.24	194.48	18/3.61	1/3.61	18.05	588	4181	0.1563	383
PANTHER	200	212.06	49.48	261.54	30/3.00	7/3.00	21.00	974	9402	0.1363	421
LION	225	238.27	55.60	293.87	30/3.18	7/3.18	22.26	1094	10258	0.1212	448
ELK	450	477.13	111.33	588.46	30/4.50	7/4.50	31.50	2190	20211	0.06058	679

Application

ACSR Is recommended for use as a transmission cable between the power station and substations, and as primary and secondary distribution cable.

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-232 BDS 1037 IEC 61089	ASTM B-232	ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) GALVANIZED STEEL WIRE, CLASS-A TO ASTM B-498 ALUMINIUM WIRE, 1350-H19 TO ASTM B-232





① Gl. Galvanized Steel Wire

② Alu. Overall Aluminium Conductor

PHYSICAL DATA							ELECTRICAL DATA				
Code Name	Nominal cross sectional area of conductor				Number of stands & diameter of wire		Approx overall diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
	Aluminium		Steel	Total	Aluminium	Steel					
	AWG or MCM	mm²	mm²	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km	amp
SWAN	4	21.16	3.55	24.71	6/2.12	1/2.12	6.36	85	848	1.356	105
SWALLOW	3	26.65	4.45	31.1	6/2.38	1/2.38	7.14	108	1040	1.076	121
SPARROW	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	136	1290	0.853	139
ROBIN	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	171	1620	0.6765	160
RAVEN	1/0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	216	1990	0.5364	183
QUAIL	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	272	2400	0.4255	210
PIGEON	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	345	3010	0.3373	241
PENGUIN	4/0	107.23	17.87	125.1	6/4.77	1/4.77	14.31	433	3790	0.2676	276
WAXWING	266.8	135.16	7.48	142.64	18/3.09	1/3.09	15.45	430	3120	0.2133	319
OSTRICH	300	152.00	24.77	176.77	26/2.73	1/2.12	17.28	614	5760	0.1906	346
MERLIN	336.4	170.45	9.48	179.93	18/3.47	1/3.47	17.35	543	3940	0.1692	366
CHICKADEE	397.5	201.42	11.16	212.58	18/3.77	1/3.77	18.85	642	4510	0.1432	403
PELICAN	477	241.68	13.42	255.1	18/4.14	1/4.14	20.70	774	5330	0.1193	449
HAWK	477	241.68	39.35	281.03	26/3.44	7/2.68	21.78	977	8870	0.1119	455
HEN	477	241.68	56.39	298 .07	30/3.20	7/3.20	22.40	1109	10800	0.1202	457
GROSBEAK	636	322.26	52.52	374.78	26/3.97	7/3.09	25.15	1301	11400	0.08989	538

Application

ACSR Is recommended for use as a transmission cable between the power station and substations, and as primary and secondary distribution cable.

STANDARDS	CONDUCTOR	CONSTRUCTION
BS 215 PART-2 BDS 1037 IEC 61089	BS 4565 BS 2627	ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) STRANDED GALVANIZED STEEL WIRE TO BS 4565 STRANDED ALUMINIUM WIRE TO BS 2627

① **Gl.** Galvanized Steel Wire

② **Alu.** Stranded Aluminium Wire

PHYSICAL DATA									ELECTRICAL DATA		
Code Name	Nominal Aluminium Area	Area of Conductor			Number of stands & diameter of wire		Approx overall diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
		Al	Steel	Total	Al	Steel					
	mm²	mm²	mm²	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km	amp
SQIRREL	20	20.98	3.50	24.48	6/2.11	1/2.11	6.33	85	806	1.37	109
GOPHER	25	26.25	4.37	30.62	6/2.36	1/2.36	7.08	106	979	1.093	126
WEASEL	30	31.61	5.27	36.88	6/2.59	1/2.59	7.77	128	1163	0.9077	134
FOX	35	36.68	6.11	42.79	6/2.79	1/2.79	8.37	149	1346	0.7827	147
FERRET	40	42.41	7.07	49.48	6/3.00	1/3.00	9.00	172	1550	0.6766	161
RABBIT	50	52.88	8.81	61.69	6/3.35	1/3.35	10.05	215	1876	0.5426	185
HORESE	70	73.36	42.80	116.16	12/2.79	7/2.79	13.95	538	6241	0.3936	268
RACOON	75	79.22	13.20	92.42	6/4.10	1/4.10	12.30	321	2774	0.3623	231
CAT	90	95.43	15.90	111.33	6/4.50	1/4.50	13.50	387	3335	0.3008	248
HARE	100	104.98	17.50	122.48	6/472	1/4.72	14.16	425	3671	0.2733	273
DOG	100	104.98	13.55	118.53	6/472	7/1.57	14.15	395	6665	0.2733	273
TIGER	125	131.1	30.62	161.85	30/2.36	7/2.36	16.52	603	5914	0.2204	323
WOLF	150	158.06	36.88	194.94	30/2.59	7/2.59	18.13	726	7056	0.1828	355
DINGO	150	158.65	8.81	167.46	18/3.35	1/3.35	16.75	506	3640	0.1815	349
CARACAL	175	184.24	10.24	194.48	18/3.61	1/3.61	18.05	588	4181	0.1563	383
PANTHER	200	212.06	49.48	261.54	30/3.00	7/3.00	21.00	974	9402	0.1363	421
LION	225	238.27	55.60	293.87	30/3.18	7/3.18	22.26	1094	10258	0.1212	448
ELK	450	477.13	111.33	588.46	30/4.50	7/4.50	31.50	2190	20211	0.06058	679

Application

ACSR Is recommended for use as a transmission cable between the power station and substations, and as primary and secondary distribution cable.

STANDARDS	CONDUCTOR	CONSTRUCTION
BS 215 PART-2 BDS 1037 IEC 61089	ASTM B-232	ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) STRANDED GALVANIZED STEEL WIRE, CLASS-A TO ASTM B-498 STRANDED ALUMINIUM WIRE, 1350-H19 TO ASTM B-232

① Gl. Galvanized Steel Wire

② Alu. Stranded Aluminium Wire

PHYSICAL DATA									ELECTRICAL DATA		
Code Name	Nominal Aluminium Area	Area of Conductor			Number of stands & diameter of wire		Approx overall diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
		Al	Steel	Total	Al	Steel					
	mm²	mm²	mm²	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km	amp
SWAN	4	21.16	3.55	24.71	6/2.12	1/2.12	6.36	85	848	1.356	105
SWALLOW	3	26.65	4.45	31.1	6/2.38	1/2.38	7.14	108	1040	1.076	121
SPARROW	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	136	1290	0.853	139
ROBIN	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	171	1620	0.6765	160
RAVEN	1/0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	216	1990	0.5364	183
QUAIL	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	272	2400	0.4255	210
PIGEON	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	345	3010	0.3373	241
PENGUIN	4/0	107.23	17.87	125.1	6/4.77	1/4.77	14.31	433	3790	0.2676	276
WAXWING	266.8	135.16	7.48	142.64	18/3.09	1/3.09	15.45	430	3120	0.2133	319
QSTRICH	300	152.00	24.77	176.77	26/2.73	1/2.12	17.28	614	5760	0.1906	346
MERLIN	336.4	170.45	9.48	179.93	18/3.47	1/3.47	17.35	543	3940	0.1692	366
CHICKADEE	397.5	210.42	11.16	212.58	18/3.77	1/3.77	18.85	642	4510	0.1432	403
PELICAN	477	241.68	13.42	255.1	18/4.14	1/4.14	20.70	774	5330	0.1193	449
HAWK	477	241.68	39.35	281.03	26/3.44	7/2.68	21.80	977	8870	0.1119	455
HEN	477	241.68	56.39	298.07	30/3.20	7/3.20	22.40	1109	10800	0.1202	457
GROSBEAK	636	322.26	52.52	374.78	26/3.97	7/3.09	25.15	1302	11400	0.08989	538

Application

ACSR Is recommended for use as a transmission cable between the power station and substations, and as primary and secondary distribution cable.

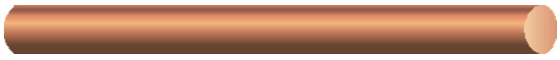
STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-398 & B-399 IEC 61089 BS EN 50182	T81 TO ASTM B-398	ALL ALUMINIUM ALLOY CONDUCTOR (AAAC) ALUMINIUM ALLOY WIRE T81 TO ASTM B-398

PHYSICAL DATA							ELECTRICAL DATA	
REB Item Code	Code Name	Size	Nominal area of conductor	Number of stands & diameter of wire	Approx diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c
		kcmil	mm²	no./mm	mm	kg/km	kgf	Ω/km
D-29	AMES	77.47	40	7/2.67208	8.0264	108.5	1270	0.8532
D-30	AZUSA	123.3	60	7/3.37058	10.1092	172.5	2023	0.535
D-31	ALLIANCE	246.9	125	7/4.77012	14.3002	345.7	3883	0.2678
D-32	DARIEN	559.5	280	19/4.53864	21.7932	783.2	8528	0.118
D-33	GREELY	927.2	470	37/4.02082	28.1432	1289	13800	0.0715

STANDARDS	CONSTRUCTION
ASTM B-233 & B-609 ASTM B-531 & B396	GROUND WIRE & TIE WIRE HARD DRAWN BARE ALUMINIUM WIRE, H14, TO ASTM B-233 SOFT DRAWN BARE ALUMINIUM WIRE, 1350-0 TO ASTM B-609

PHYSICAL DATA							ELECTRICAL DATA	
REB Item Code	Code Name	Size	Nominal area of conductor	Number of stands & diameter of wire	Approx diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20°c
		AWG	mm²	no./mm	mm	kg/km	kgf	Ω/km
D-4	Ground wire	4	21.15	1	5.189	57.2	342 (min)	1.3363
D-5	Tie wire	4	21.15	1	5.189	57.2	167 (Max)	1.3251

STANDARDS	CONSTRUCTION
ASTM B-3 & B-193	JUMPER WIRE SOFT BARE COPPER WIRE TO ASTM B-3

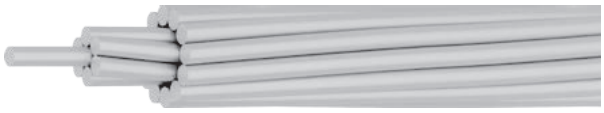


PHYSICAL DATA							ELECTRICAL DATA	
REB Item Code	Code Name	Size	Nominal area of conductor	Number of stands & diameter of wire	Approx diameter of conductor	Approx weight of conductor	Maximum breaking load of conductor	Max. D.C resistance of conductor at 25°c
		AWG	mm²	no./mm	mm	kg/km	kgf	Ω/km
D-6	Annealed copper wire	6	13.30	1/4.115	4.1148	118.4	346	1.404

Application

AAAC Is recommended for use as bare overhead conductor for primary and secondary distribution and in cases where high strength-to-weight ratio is required.

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM A-475 & ASTM B-498 BS 183	ASTM B-498	STRANDED GALVAN ZED GUY WIRE GALVANIZED STEEL WIRE, CLASS-A TO ASTMB-498

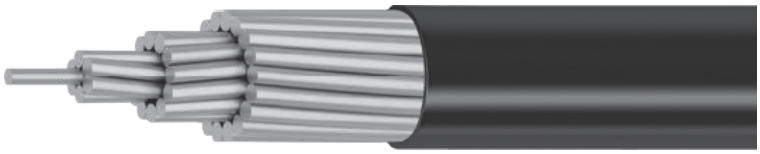


PHYSICAL DATA					TECHNICAL DATA
Name of Item	Nominal cross sectional area of conductor	Number of stands & diameter of wire	Overall diameter	Approx weight of cable	Minimum breaking load
		no./mm	no./mm	kg/km	kgf
Guy wire	30.62	7/2.36	7.1	240	3885
Guy wire	54.55	7/3.15	9.5	430	6400

Application

Guy Wire is composed of galvanized steel wires in various strengths and zinc coatings.Messenger Wire, Overhead Ground or Static Wire, Guy Wire.

STANDARDS	CONSTRUCTION
ASTM B-230,B- 232, B-498 NEMA WC-7 ICEA 5-66-524	HDPE INSULATED ACSR CONDUCTOR GALVANIZED STEEL WIRE, CLASS-A TO ASTM B-498 ALUMINIUM WIRE, 1350•H19 TO ASTM B-232



PHYSICAL DATA							TECHNICAL DATA		
REB Item Code	Conductor Size	No. of Stand & diameter of wire		Insulation Thickness	Approx. Overall diameter of conductor	Approx weight of conductor	Minimum breaking strength	Maximum D.C resistance of conductor at 20°c	Current rating at 35°c ambient temp.
		Al	Steel						
	AWG	no./mm	no./mm	mm	mm	kg/km	kgf	Ω/km	Amp
D-59	2	6/2.67	1/2.67	3.81	15.646	274	1228	0.853	126
D-61	1/0	6/3.37	1/3.37	3.81	17.729	370	1887	0.535	168
D-62	4/0	6/4.77	1/4.77	3.81	21.92	634	3598	0.2672	260

Application

High density polyethylene covered steel reinforced concentric-lay-stranded aluminium conductors (ACSR), to be used as 15 kV insulated tree wire on distribution lines.

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-2 & ASTM B-193	ASTM B-2	MEDIUM HARD DRAWN COPPER CONDUCTOR MHD BARE COPPER CONDUCTOR TO ASTM B-2

PHYSICAL DATA						ELECTRICAL DATA		
REB Item Code	Name of Conductor	Size of Conductor	Nominal area of conductor	Number of stands & diameter of wire	Approx diameter of conductor	Approx weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 25°c
	AWG or MCM	mm²	no./mm	no./mm	mm	kg/km	kgf	Ω/km
D-7	MHD Copper Conductor	3	26.688	3/3.360	7.254	240	1070	0.683
D-8	MHD Copper Conductor	1/0	53.488	7/3.119	9.347	486	2155	0.344
D-9	MHD Copper Conductor	4/0	107.264	7/4.417	13.259	969.2	3694	0.166
D-10	MHD Copper Conductor	2/0	67.425	7/3.502	10.510	616	2694	0.275
DS-9	MHD Copper Conductor	4/0	107.156	19/2.679	13.410	973	4371	0.173
DS-10	MHD Copper Conductor	2/0	67.766	19/2.131	10.655	613	2166	0.271
DS-37	MHD Copper Conductor	350	177.291	37/2.470	17.290	1620	5662	0.101
DS-38	MHD Copper Conductor	500	253.064	37/2.951	20.657	2297	10231	0.070

Application

Medium Hard Drawn (MHD) bare copper conductor are to be used on electric distribution systems.

STANDARDS	CONSTRUCTION
ASTM B-2 & 8-8 NEMA WC-7 ICEA S-66-524	XLPE INSULATED MHD COPPER CONDUCTOR MHD COPPER CONDUCTOR TO ASTM B-2

PHYSICAL DATA						ELECTRICAL DATA	
REB Item Code	Size of Conductor	No. of stands & diameter of wire	Nominal thickness of insulation	Approx overall diameter	Approx weight of conductor	Minimum breaking load	Max. D.C resistance of conductor at 25°c
	AWG	no./mm	Mills/mm	Mills/mm	kg/km	kgf	Ω/km
D-16	3	3/3.36	60/1.52	405/10.29	283	1070	0.683
D-17	1/0	7/3.12	62/1.57	481/12.22	541	2155	0.344
D-18	4/0	7/4.42	62/1.57	630/16.00	1050	3694	0.166
D-19	1000 MCM	61/3.25	94/2.38	1339/34.01	4830	17570	0.0356

Application

Cross-linked Polyethylene insulated medium hard drawn copper conductors are to be used as jumper on electric distribution system .

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-230,B-231, B-232& B-498 NEMA WC-7 ICEA 5-66-524	ASTM B-3	PVC INSULATED SERVICE DROP CABLE COPPER WIRE TO ASTM B-3 PVC, PVC/A TO IEC 60502-1

DUPLEX CABLE

PHYSICAL DATA						ELECTRICAL DATA			
Nominal Cross section area of conductor	No. of stands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. Weight of cable		Max. D.C resistance of conductor at 20°c		Current rating at 35°c ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
mm²	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
2.5 re x 2.5 re	1x1.78 / 1 1x1.78	1.6	10.0	95	70	7.41/7.41	12.10/12.10	27	21
2.5 rm x 2.5 rm	7x0.67 / 7x0.67	1.6	10.6	100	71	7.41/7.41	12.10/12.10	27	21
4 rm x 4 re	7x0.85 / 1x0.85	1.6	11.6	135	90	4.61/4.61	7.41/7.41	35	29
4 rm x 4 rm	7x0.85 / 7x0.85	1.6	11.8	140	91	4.61/4.61	7.41/7.41	35	29
6 rm x 6 re	7x1.05 / 1x2.77	1.6	12.6	182	103	3.08/3.08	4.61/4.61	45	37
6 rm x 6 rm	7x1.05 / 1x1.05	1.6	13.0	186	105	3.08/3.08	4.61/4.61	45	37
10 rm x 10 rm	7x1.53 / 7x1.35	1.6	14.5	270	136	1.83/1.83	3.08/3.08	62	47
16 rm x 16 rm	7x1.71 / 7x1.71	1.6	16.6	396	180	1.15/1.15	1.91/1.91	84	65
25 cc x 25 cc	Min 6 / Min 6	1.6	19.2	595	244	0.727/0.727	1.20/1.20	110	85

STANDARDS	CONSTRUCTION
ASTM B-230, B-231, B-232 & B-496 NEMA WC-7 ICEA 5-66-524	PVC INSULATED SERVICE DROP CABLE Copper wire to ASTM B-3 PVC, PVC/A to IEC 60502-1

QUADRUPLEX CABLE

PHYSICAL DATA						ELECTRICAL DATA			
Nominal Cross section area of conductor	No. of stands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. Weight of cable		Max. D.C resistance of conductor at 20°c		Current rating at 35°c ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
mm²	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
3x4 rm / 1x4 re	7x0.85 / 1x2.26	1.6	15.0	275	180	4.16/4.61	7.41/7.41	32	27
3x4 rm / 1x4 rm	7x0.85 / 1x0.85	1.6	15.5	290	182	4.16/4.61	7.41/7.41	32	27
3x6 rm / 1x6 rm	7x1.05 / 7x1.05	1.6	16.0	370	205	3.08/3.08	4.16/4.61	41	34
3x10 rm / 1x10 rm	7x1.35 / 7x1.35	1.6	18.5	538	270	1.83/1.83	3.08/3.08	56	43
3x16 rm / 1x16 rm	7x1.71 / 7x1.71	1.6	21.0	792	360	1.15/1.15	1.91/1.91	75	58
3x25 cc / 1x25 cc	Min 6 / Min 6	1.6	24.5	1180	488	0.727/0.727	1.20/1.20	98	76

Application

PVC Insulated copper cables supported by a PVC insulated copper messenger wire. Suitable for used in electricity supply in low voltage installation system for service voltage 600/1000 volts shall be used as aerial single phase and three phase service drop cable.

STANDARDS	CONDUCTOR	CONSTRUCTION
ASTM B-230,B-231, B-232& B-498 NEMA WC-7 ICEA S-66-524	ASTM B-232	XLPE INSULATED AERIAL CABLE GALVANIZED STEEL WIRE, CLASS-A TO ASTM B-498 ALUMINIUM WIRE, 1350-HL9 TO ASTM B-232

PHYSICAL DATA									ELECTRICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx. Weight of conductor	Max. D.C resistance of conductor at 20°c		Current rating at 35°c ambient temp.
		Size of Conductor	No. of Stand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of stand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mils/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	Amp
D-11	DUPLEX	6	7/1.56	45/1.143	6	6/ 1.68	1/1.68	114	2.169	2.157	70
D-12	DUPLEX	3	7/2.20	45/ 1.143	3	6/2.38	1/2.38	212	1.076	1.074	98
D-14	QUADRUPLE X	3	7/2.20	45/1.143	3	6/2.38	1/2.38	420	1.076	1.074	86
D-15	QUADRUPLE X	1/0	7/3.12	60/1.524	1/0	6/3.37	1/3 .37	835	0.5372	0.535	165
D-20	QUADRUPLE X	4	7/1.96	45/1.143	4	6/2.12	1/2.12	340	1.632	1.35	92
D-24	QUADRUPLE X	4/0	7/4.42	60/1.524	4/0	6/4.77	1/4.77	1580	0.2688	0.2676	198
D-25	QUADRUP LEX	6	7/1.56	45/1.143	6	6/1.68	1/ 1.68	230	2.169	2.157	60

Application

Pre-assembled cross-linked polyethylene insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerial single phase and three phase service drop cable.

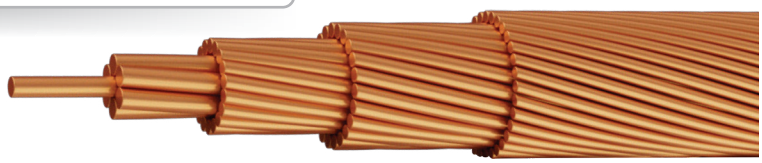
STANDARDS	CONSTRUCTION
ASTM B-230, B-231, B-232 & B-496 NEMA WC-7 ICEA 5-66-524	PVC INSULATED AERIAL CABLE GALVANIZED STEEL WIRE, CLASS-A TO ASTM 8-498 ALUMINIUM WIRE,1350-H19 TO ASTM 8-232

PHYSICAL DATA									ELECTRICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx weight of conductor	Max. D.C resistance of conductor at 20°c		Current rating at 35°c ambient temp.
		Size of conductor	No. of Stand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of Stand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mills/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	amp
D-63	DUPLEX	6	7/1.56	60/1.524	6	6/1.68	1/1.68	140	2.169	2.157	58

Application

Pre-assembled cross-linked polyethylene Insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerialsingle phase and three phase service drop cable.

WEIGHT OF BARE COPPER CONDUCTOR STRANDED MULTI WIRES



Nominal Cross Sectional Area	Number and Nominal Diameter of Wires	Max. DC. resistance at 20°C	Approx. Overall Diameter	Approx. Weight
mm^2	No x ø (mm)	Ω/km	mm	kg/km
1	1 x 1.13	18.10	-	-
1	7 x 0.40	18.10	-	-
1.5	1 x 1.38	12.10	-	-
1.5	3 x 0.80	12.10	-	4.10
1.5	7 x 0.52	12.10	-	-
2.5	1 x 1.78	7.41	-	-
2.5	3 x 1.03	7.41	-	6.86
2.5	7 x 0.67	7.41	-	-
4	1 x 2.25	4.61	-	10.77
4	7 x 0.85	4.61	-	10.98
6	1 x 2.76	3.08	-	16.19
6	7 x 1.04	3.08	-	16.43
10	7 x 1.43	1.8300	3.7	86.5
16	7 x 1.75	1.1500	4.7	137
25	7 x 2.18	0.7270	5.8	217
35	7 x 2.65	0.5240	6.9	298
50	19 x 1.86	0.3870	8.2	410
70	19 x 2.16	0.2680	10.1	595
95	19 x 2.65	0.1930	11.3	820
120	19 x 3.05	0.1530	12.7	1040
150	19 x 3.38	0.1240	14.1	1277
185	37 x 2.63	0.0991	15.8	1610
240	34 x 3.23	0.0754	18.2	2120
300	61 x 2.64	0.0601	20.6	2630
400	61 x 2.98	0.0470	23.2	3390
500	61 x 3.33	0.0366	26.6	4420

Application

Soft drawn copper conductos are used for grounding electrical systems, where high conductivity and flexibility are required.

WEIGHT OF BARE ALUMINIUM CONDUCTOR STRANDED MULTI WIRES

Nominal Cross Sectional Area	Number and Nominal Diameters of Wires	Max. DC. resistance at 20°C	Rated Strength	Approx. Overall Diameter	Approx. Weight
mm^2	No x ø (mm)	Ω /km	kN	mm	kg/km
1	1 x 1.13	18.10	-	-	-
1	7 x 0.40	18.10	-	-	-
1.5	1 x 1.38	12.10	-	-	-
1.5	3 x 0.80	12.10	-	-	4.10
1.5	7 x 0.52	12.10	-	-	-
2.5	1 x 1.78	7.41	-	-	-
2.5	3 x 1.03	7.41	-	-	6.86
2.5	7 x 0.67	7.41	-	-	-
4	1 x 2.25	4.61	-	-	10.77
4	7 x 0.85	4.61	-	-	10.98
6	1 x 2.76	3.08	-	-	16.19
6	7 x 1.04	3.08	-	-	16.43
10	7 x 1.43	1.8300	-	-	27.50
16	7 x 1.70	1.7986	3.02	5.10	43.4
25	7 x 2.10	1.1787	4.36	6.30	66.3
35	7 x 2.50	0.8317	6.01	7.50	93.9
50	7 x 3.00	0.5776	8.41	9.00	135.2
	19 x 1.80	0.5944	8.94	9.00	132.9
70	19 x 2.10	0.4367	11.85	10.5	180.9
95	19 x 2.50	0.3081	16.32	12.5	256.3
120	19 x 2.80	0.2456	19.89	14.0	321.5
150	37 x 2.25	0.1960	26.48	15.8	405.7
185	37 x 2.50	0.1588	31.78	17.5	500.9
240	61 x 2.25	0.1193	43.66	20.3	671.1
300	61 x 2.50	0.0966	52.40	22.5	828.5
400	61 x 2.89	0.0723	68.02	26.0	1107.1
500	61 x 3.23	0.0579	82.47	29.1	1382.9
625	91 x 2.96	0.0464	106.45	32.6	1739.7
800	91 x 3.35	0.0362	132.34	36.9	2228.3
1000	91 x 3.74	0.0291	159.95	41.1	2777.3

Application

All Aluminium bare conductors are used for aerial distribution lines having relatively short spans, aerial feeders and bus bars of substations.

WALTON
Cables

Chapter 13: Technical information & user guideline

waltonbd.com/cables

CONSTRUCTION OF CIRCULAR CONDUCTOR, COMPACTED CONDUCTOR & SECTOR SHAPED CONDUCTOR

According to IEC 60228:2023 conductors have been divided into four Classes. Class-1, 2, 5 & 6.

Class-1: Solid Conductors
Class-2: Stranded Conductors
Class-5: Flexible Conductors
Class-6: Flexible Conductors more than Class-5

Those of class 1 & 2 are intended for use in cables with fixed installations. Class 5 & 6 are used in flexible cables like flexible cords, Solar cables, DC cables, etc. for variable or fixed installation.

Difference Between Standard circular Conductor and Stranded Compact Circular conductor

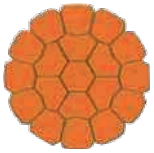
In the world of electrical conductors, there are several style that are used by electric utilities, The two common types of stranding that are using for power Cable. 1) Round wire conductor 2) Compact Conductor (CC)

Round Wire Conductor is the most common configuration that is used for bare conductor and insulated cables is made up of a number of the same size round wire that are cable together. This construction adds flexibility to the conductor, but the resulting air spaces that are introduced between the individual strands results in an overall increase in diameter of cable.

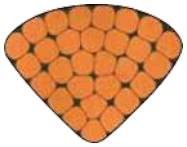
The first of the diameter reductin would be what is classified compact conductor. The individual strands of the conductor to reduce the total stranded diameter approximately 4% to 8% from the original diameter of the round wire conductor. This type of conductor have no air spaces that are introduced between the individual strands, Compact conductor is made from EC grade Scratch free and ensure excellent conductivity minimized electrical stress.

Circular Solid (re)

Stranded Round Wire (rm)



Stranded Circular Compacted (c.c)



Sector Shaped (sm)

Nominal Cross Sectional Area	Maximum D.C. Ressistance of conductor at 20 ° C		CIRCULAR CONDUCTOR		CIRCULAR COMPACTED CONDUCTOR			SECTOR SHAPED CONDUCTOR	
			No. & Diameter of wire	Nominal Diameter of conductor	No. of wire in conductor (Cu/Al)	Diameter of conductor		No. of wire in conductor (Cu/Al)	Conductor depth
	Cu	Al			Min.	Min.	Max.	Min.	3C/4C
mm2	0hm/km	0hm/km	no./mm	mm	no.	mm	mm	no.	mm
1.0	18.1	-	1/1.13	1.13	-	-	-	-	-
1.0	18.1	-	3/0.65	1.40	-	-	-	-	-
1.5	12.1	-	1/1.38	1.38	-	-	-	-	-
1.5	12.1	18.1	7/0.52	1.56	-	-	-	-	-
2.5	7.41	-	1/1.78	1.78	-	-	-	-	-
2.5	7.41	12.1	7/0.67	2.01	-	-	-	-	-
4	4.61	7.41	7/0.85	2.55	-	-	-	-	-
6	3.08	4.61	7/1.04	3.12	-	-	-	-	-
10	1.83	3.08	7/1.35	4.05	-	-	-	-	-
16	1.15	1.91	7/1.70	5.10	-	-	-	-	-
25	0.727	1.20	7/2.14	6.42	-	-	-	-	-
35	0.524	0.868	19/1.53	7.65	6	6.6	7.5	6	5.6/6.6
50	0.387	0.641	19/1.83	9.15	6	7.7	8.6	6	6.6/7.2
70	0.268	0.443	19/2.17	10.85	12	9.3	10.2	12	7.9/9.3
95	0.193	0.320	19/2.52	12.60	15	11.0	12.0	15	9.4/10.5
120	0.153	0.253	37/2.03	14.21	18/15	12.3	13.5	18/15	10.7/11.7
150	0.124	0.206	37/2.27	15.89	18/15	13.7	15.0	18/15	11.9/12.6
185	0.0991	0.164	37/2.52	17.64	30	15.3	16.8	30	12.8/14.4
240	0.0754	0.125	61/2.25	20.25	34/30	17.6	19.2	34/30	14.9/16.1
300	0.0601	0.100	61/2.52	22.68	34/30	19.7	21.6	34/30	16.5/18.6
400	0.0470	0.0778	61/2.89	26.01	53	22.3	24.6	53	19.5/21.6
500	0.0366	0.0605	61/3.23	29.07	53	25.3	27.6	-	-
630	0.0283	0.0469	127/2.52	32.76	53	28.7	32.5	-	-
800	0.0221	0.0367	127/2.85	37.05	53	32.6	36.7	-	-
1000	0.0176	0.0291	127/3.20	41.60	53	36.3	40.5	-	-

CABLE SELECTION PROCESS:

The following factors are important when selecting a suitable cable construction which is required to transport electrical energy from the power station to the consumer:

• Maximum operating voltage. • Insulation level. • Frequency. • Load to be carried. • Magnitude and duration of possible overload. • Magnitude and duration of short-circuit current.• Voltage drop. • Length of line. • Type of installation. Underground (direct or in ducts).In air. • Chemical and physical properties of soil. • Max. and min. ambient air temperatures and soil temperature.
• Specification and requirements to be met.

Voltage: The strandard rated voltage of a cable is denoted by Uo/U (Um),

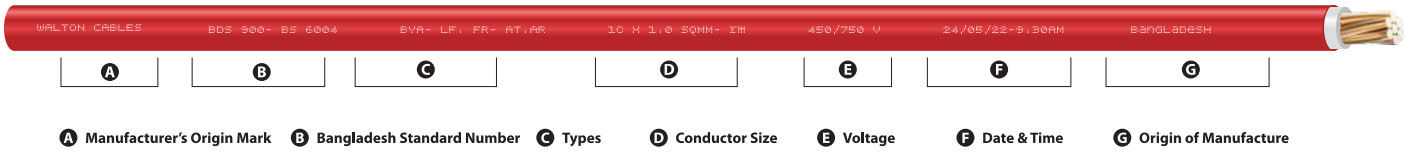
Where:
Uo : is the rated power-frequency voltage between conductor and earth or metallic screen.
U : is the rated power-frequency voltage between conductors.
Um : is the maximum continuously permissible operating voltage of a cable at time or in any part of the network

Uo/U (kV)	0.6/1	1.8/3	3.6/6	6/10	8.7/15	12/20	18/30	38/66	76/132	127/220
Um (kV)	1.2	3.6	7.2	12	17.5	24	36	72.5	145	245

Note: Cable design for 6/10, 12/20 and 18/30 kV is applicable for 6.35/11, 12.7/22 and 19/33 kV respectively.

Standards: Cables described in this catalogue are standard types, and their performance has been proved in operation. Construction and tests are in accordance with the recommendation of IEC publications where ever applicable. Power cables in accordance to other standard (e.g. BS, HD, NEMA) can be manufactured upon customer's request.
Weight and Dimension: Weight and dimension are approximate.
The deviations are due to manufacturing tolerance.

Cable Markings Guide Line: With changes in legislation it's now vital that buyers and installers of electrical cable use only products from reputable cable manufacturers. With many poor quality cables still available in the market, Draka has produced this simple cable markings guide showing you what to look for.
All good quality cable should have the following cable markings to signify to the buyer or the installer that it's a product of authenticity



A Manufacturer's Origin Mark B Bangladesh Standard Number C Types D Conductor Size E Voltage F Date & Time G Origin of Manufacture

A. Cable Manufacturer's Origin Mark - All cable should bear a manufacturer's name.
B. Standard Number – By marking the cable with this standard number, the manufacturer has confirmed conformity to this standard. This amounts to a claim by or on behalf of the manufacturer that the product meets the requirement of the standard. The accuracy of this claim is solely the claimants and it should not be confused with 3rd party accreditation.
C. Type: All cable Should bear type of cable with special features.
D. Size: All Cables Should bear number of core & size of conductor.
E. Voltage Grage: All cable Should bear voltage grade.
F. Date & Year Letter: A letter marking that is attributable to date and year of manufacture of the cable.
G. Origin of Manufacture – Country of origin.

Laying of Cables

The cable should preferably be drawn to its position in a continuous manner during steps. The cable will settle between rollers and may cause high strain on men and machines during restarting whether the pulling is manual or with a winch. It is necessary for one man to be stationed at the drum with a plank of wood wedged against the flange of the drum so that over running of the drum is prevented if the pulling stops. Otherwise, many loose turns can easily develop on the drum.

When pulling by a winch it is advantageous for the cable end to be taken by hand as far as possible before attaching the winch rope. This allows the leading cable rollers, skid plates, etc to take the load and settle under well- controlled conditions. The winch operator must at alltimes, carefully observe the dynamometer to prevent overloading. Onlong pul s, good communication is essential, preferably by radio.

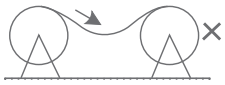
When pulling a power winch, more attention has to be given to the maximum pulling load which is permissible. For such installations a pulling eye attached to the conductors is necessary and for copper conductors a pulling tension of 6 kg force per sq. mm of total conductor area can be applied [with the provision of 2000 kg force maximum).

Graphite paste should be used for lubrication when cables are being pulled into ducts or pipes.

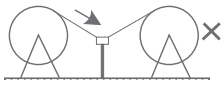
For open trench and Straight installation, a cable stocking can be used. It is advisable, however, to protect the PVC oversheath with a layer of bitumen tape applied with 50% overlap.

Cables should never be bent to a small radius. As large a radius as space permits should be adopted. Under no circumstances should the bending radius be less than the minimum permissible limits. It is particularly important to have a generous bending radius when cables are to be pulled by a power winch, so as to keep within the maximum permissible pulling tension and prevent the cable being flattened around bends or in ducts.

DO NOT PULL CABLE ACROSS LONG UNSUPPORTING SPANS

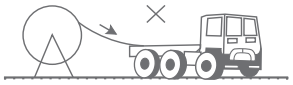


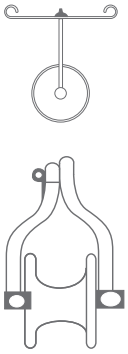
DO NOT DRAG CABLE AGAINST SHARP EDGES

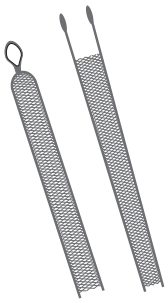


PROVIDE FREELY ROTATING SUPPORTS

DO NOT PULL CABLES WITH POWER VEHICLES







Final Placing of Cable

Before disconnecting the pulling rope, the cable is laid off. i.e. starting at one end. It is carefully lifted from the rollers and deposited on the bottom of the trench. About 1Om of cable should be lifted at one time, any slack being carried forward. The end position of a cable run may require double handling because it is not possible to draw cables straight into buildings. In this case the cable is over pulled, then man- handled into the required position. At all times the loops should be kept as large as possible so that the bending radius is always above the minimum permitted. Similarly at the drum locations the necessary length of cable may be unwound from the drum and laid out in a figure of '8' if space is limited, prior to cutting to length and placing into position. Immediately after cutting the cable ends must be suitably sealed, prevent ingress of moisture. In this respectit is also important to carefully examine the pulling end seal to ensure that it has not been damaged during laying.

Backfilling and Reinstatement.

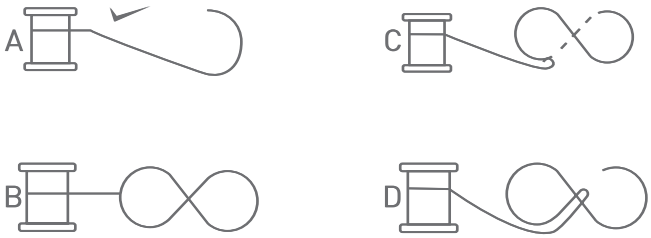
Prior to backfilling, it is necessary to carry out a visual inspection, and items which need to be checked are:

1) The cables have a suitable bedding, such as sieved sand or soil. Stone chips and other sharp objects in the cable route should be removed.
2) The spacing is correct if there is more than one cable in the trench.
3) Pulling equipment is carefully removed.

4) The cable is free from obvious damage caused during installation. A very high proportion of cable failures in service are due to such damages. It may be necessary to inspect the underside with a mirror. In such cases it is advisable to make a first inspection whilst the cable is still on rollers.

DO NOT ATTEMPT COILING
OF CABLE ON THE GROUND

ON THE GROUND CABLE CAN BE FLAKED
IN A FIGURE OF EIGHT FORMATION



Cable lugs are electrical components used to safely connect wires and cable terminals to electrical equipment or terminate them. Without using good quality, correct lug, tools, dies, proper Busbar under following problem that can be happen:

A) Heat generation in the terminal side
B) Aging of the cable's insulation in the terminal side
C) Imbalance current carrying per phase

They are essential for using electricity across applications as they allow different electrical systems to connect. Therefore, one must account for the quality of material used, the correct type of lug, tools & dies used while crimping when installing cable lugs, as they play a crucial role in ensuring the durability and reliability of the joint. Cable lugs are made of copper or aluminum. Bimetallic Cable Lugs are of copper and aluminum, such as to avoid galvanic action, in which two dissimilar metals are in contact with each other causing corrosion of one metal on the other.

Good Clamping System

Classification of Cable Lugs:

A) Compression Type Lugs:
Here the connection is made by compressing the lug along with the cable to make a connection. The process is done by crimping the joint using appropriate crimping tools and dies. There is a lesser current loss in cable connections while using these cable lugs. Always use the exact crimping tool recommended by the cable lug manufacturer.

B) Mechanical Type Lugs:
A mechanical lug has a bolting mechanism on one end and a cable barrel for inserting the cable on the other. Here the connection is made by tightening the bolts using spanners or other fixing tools.

C) Cable Lug Design:
Cable lugs are designed such that one end of it is used for connecting to a cable, by soldering, welding, or crimping depending on the type of connection. The other end of the lug is then fastened to the terminal or connection point using a bolt, screw, or spring clip. The connector end of a cable lug is selected considering the compatibility with the terminal type and method of connecting it.

Procedure for Installing Cable lugs

Correct Identification of the Cable Lug:
Cable lugs are available in different sizes and specifications. There are four standards for them: The Indian Standards, DIN standards, BS Standards, and AS/NZ Standards.

Pre-requisites:
1) Before any electrical installation or maintenance activity, ensure that the persons involved follow safety precautions and personal protection equipment.
2) Identify the correct type of Cable lug for the particular electrical connection or application.
3) Choose the crimping tool with the exact dimensions recommended by the manufacturer of the cable lug. This can be done by checking the marking on the connector or from the labels on the packages.

Necessary Cable Preparation:
a) Using a suitable stripper remove the insulation to a distance equal to the insertion depth of the connector and leave suitable extra allowances (3mm to 5mm).
b) Clean or brush the surface of the cable or conductor to remove any oxides present.

Cable Lug Connection:
1) Insert the wire/cable/conductor into the barrel of the cable lug.
2) Ensure that the palm of the cable lug is oriented towards the terminal of the equipment, to which the connection is to be made.
3) Select suitable crimping dies and tools to ensure that the joints made are mechanically strong. Good joints provide efficient electrical connections.
4) Ensure proper crimping series.
5) Clean the surfaces of the connection to avoid resistance and corrosion.
6) Use appropriate nuts, bolts, washers for a firm and secure electrical connectivity.

Do's:
a) Remove the cable insulation carefully, after removing the cable insulation do not cut or disturb any wire strand.
b) Confirm that cable strands have entered completely into the length of the barrel.
c) Use the complete barrel for crimping.
d) Ensure that all the wires are inserted into the long barrel.
e) Use only the recommended size of lugs for recommended size of cable.
f) In situations where multiple crimping is needed, do the crimping that is closer to the lug palm first.

Don'ts:
a) Do not strip cable insulation more than what is recommended.
b) Do not use mismatching crimping dies.
c) Do not use any other tool for crimping other than the recommended ones.

Proper Installation Procedure:
While installing cable lugs, it is imperative to specify and install the correct type of cable lug based on its application and compatibility to ensure safe and reliable results. Improper connections can lead to increased joint resistance that can cause fires. Therefore, the correct installation of cable lugs is crucial. One can recognize the quality of lugs by their visual characteristics. For example, burr-free (without sharp edges) cable lugs with a flat palm and a cleanly shaped end are signs of a high-quality electrical connector. Despite the wide variety of cable lugs, each of them has a specific use and application stated by the manufacturer to avoid incompatible connections. The correct cable lug can ensure the safe installation of a permanent electrical connection.

Cable Preparation:

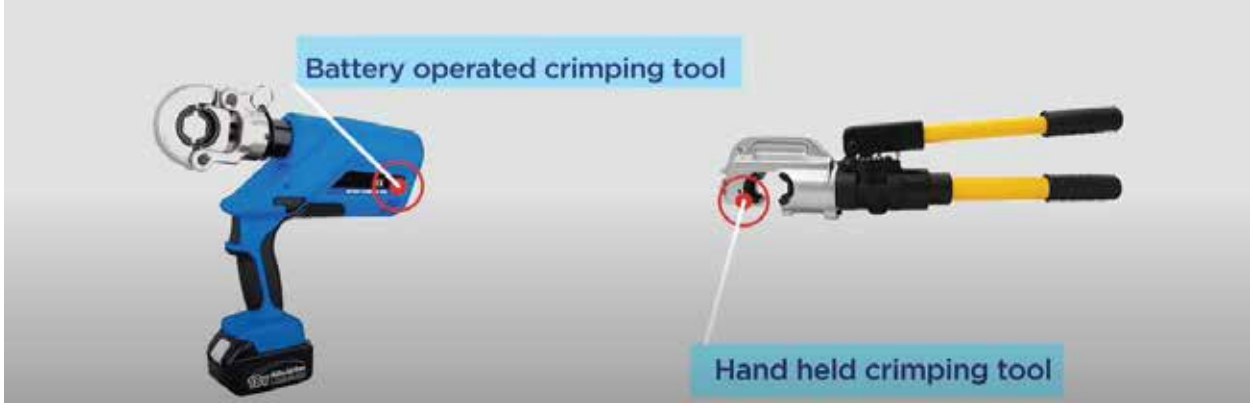




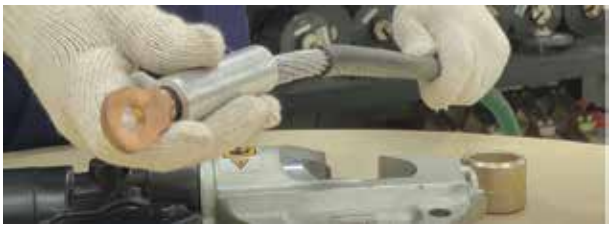
The cable is insulated and, the insulation layer needs to be stripped away for it to be connected with the cable lug. Use an insulation stripper instead of knives or pliers for best results, as specialized tools will minimize the risk of damaging or fraying wire strands of the cable that would lead to improper connections. The amount of insulation coating (to be removed) should be approximate to the depth of the barrel of the cable lug with some allowance of a few millimetres.
Cleaning the exposed wire before connecting it to the cable lug is mandatory. It can be done with a brush and should be done to each strand in the cable to ensure oxidation or tarnish is eliminated before use.

The Process of Connecting the Cable to the Cable Lug:

1) Insert the exposed strands of the cable into the barrel of the lug. The direction of the lug's palm (the flat outer part of the lug) should be such that it becomes easier to connect the cable where it is to be connected.
2) Make a joint using a crimping tool and die. After connecting the insulation-free part of the cable to the lug, ensure a secure connection between both. Following this, the barrel of the lug has to be squeezed around the strands of the cable so that all points of contact on the exposed cable touch the barrel of the lug, maximizing the efficiency of the connection. As cable lugs ensure long-lasting connection, the proper crimping tool dies are used as specified by manufacturers. Proper crimping allows for no air spaces to exist in the cable and the barrel of the lug. Any lug (irrespective of its type) can be crimped properly, only by using an appropriate cable crimping tool. Wrong crimping tools or an incorrect crimp can result in increased joint resistance, increased temperatures, and even fire. If you are using an aluminum cable lug a special compound is used, which allows it to deal with higher electrical loads to those cable lug connections without using the compound. These compounds use additives such as corundum that provide joint protection from oxidation, corrosion resistance, temperature stabilization, and friction. Using the compound material (like sand) cleans any remnants of oxidation, and allows for a clean contact surface for the cable lug and sleeve to connect. Furthermore, a hermetic seal produces an excess compound that flows out of the lug or connector (which can be wiped off easily).



Hand held crimping tool:




When the power cable passes a certain load current, it will certainly generate heat. With the increase of the load current, the temperature of the cable surface will be higher. If it is not handled in time, the consequences can be imagined. Such as: polyvinyl chloride (PVC) cable is based on the core temperature of 70˚C as the upper limit, the surface temperature will be 15˚C to 20˚C lower. Therefore, the cable surface temperature below 50˚C is basically safe. Considering power supply maintenance, the lower the temperature, the better. The cause of the cable heating during operation is as follows:

1. Conductor Resistance: Cable conductor resistance does not meet the requirements, causing the cable to generate heat during operation.

Test Example

Max. Dc resistance at 200^{0}C			
Conductor Size	Required Value (m.ohm/m)	Found Value (m.ohm/m)	Result
1x630 rm	0.0283	0.0310	Fail

2. Selection of Cables: Improper selection of cables causes the cross-section of the cable used to be too small and overload during operation. After prolonged use, the heating of the cable and unbalanced heat dissipation cause heat generation.

Example:
Required Cable 1c X300 Rm NYY
Selection Cable is 1c x 240 Rm NYY

3, Laying Arrangement: The cable is too densely arranged during installation, the ventilation and heat dissipation effect is not good, or the cable is close to other heat sources, which affects the normal heat dissipation of the cable, and may also cause the cable to generate heat during operation.

Proper Laying Arrangement

4, Cables Joint: joints manufacturing technology is not good, crimping is not close, resulting in contact resistance at the joint is too large, it will cause the cable to generate heat.

5, Cables Insulation: insulation performance between the cables is not good, resulting in a small insulation resistance and heating during operation.

6. Damage Of Sheath: The partial sheath of the armored cable is damaged. After the water enters the water, the insulation performance will cause a slow destruction. As a result, the insulation resistance will gradually decrease, which will also cause heating in the cable operation. Wire and cable overheating causes and solutions! After the cable generates heat, if the cause is not found and the fault is eliminated in time, the cable will continue to heat up and run, causing thermal insulation breakdown. The occurrence of phase-to-phase short circuit tripping of the cable may cause serious fire hazards.

7. Cable Lug: Cable lugs are electrical components used to safely connect wires and cable terminals to electrical equipment or terminate them. Without using good quality, correct lug, tools, dies, proper busbar under following problem that can be happen:
A) Heat generator in the terminal side (B) Aging of the cable's insulation in the terminal Side (C) Imbalance current carrying per phase.

8. Loose Connections: When electrical connections are installed incorrectly of they are not connected properly then heat can accumulate. Conductors and wires will heat up where the insulation of the wire can begin to melt.

House waring Cable overheating causes and solutions:

Plug power cord heating causes and solutions Power cord in the home life can be seen everywhere, the appliance is basically inseparable from the power cord, this little power cord may despise him. Water heater power cord plug heating is usually caused by poor fit with the socket, while taking into account the normal heating phenomenon, if the plug surface temperature is less than the ambient temperature plus 50^{0}C is normal. Abnormal heat needs to consider replacing the socket or checking the fit of the plug and socket.

1. Poor contact between plug and socket, plus large load power, cause the plug to heat up. Such as electric kettles, irons and so on.

2. The looseness of the thread inside the new plug is caused by the rough production process.

3. The old plugs are used for a long time and the insulation performance is reduced (or the plug is loosened).
How to use the plug cable safely?

The main reason for the electrical heating of the plug wire is that the power consumption of the wire is increased because of the long-term use of electricity in the electrical equipment. In particular, when the multi-functional outlet is connected with several kinds of high-power electrical equipment, the power cord of the outlet must be overloaded, and in that case, it is very easy to cause damage to the electrical cord. Therefore, we must pay attention to reasonable distribution of electricity in life, and we must periodically check the plug wires and sockets to see whether the wires are old and whether the contact between the plug and the socket is bad. Sometimes, because the process of the production department is not fine, the plug of the plug will not be firm, so plugging the power supply will cause poor contact and cause the plug to heat up. At the same time, each household should pay attention to the fact that long-term use of the plug will become old, and the nature of the insulation will also be reduced. It should be replaced in a timely manner. For plugs of high-power electrical appliances, we recommend the use of an increased type of wire core, and it is preferable to use a grounded foot plug.

Figure-1

Figure-2

If it is found that the power outlet or the wire plug has a serious heat, which leads to the electrical equipment being burned, it is imperative that you must act with care.

ANALYSIS OF COMMON CAUSES OF AGING OF WIRES AND CABLES

1. External Damage: According to the operation analysis in recent years, quite a lot of cable faults are caused by mechanical damage.For example: wire and cable installation is not standard construction, easy to cause mechanical damage;It is also easy to damage wires and cables in operation during civil construction on directly buried wires and cables.Sometimes, if the damage is not serious, it will take several months or even years to cause the damaged part to break down completely and form a fault. Sometimes, the damage is serious and short-circuit fault may occur, directly affecting the safe production of the power unit.

2. Damp Insulation: It is also very common and occurs at the ends of wires and cables that are buried directly or in the drain.For example: cable joints made unqualified and in humid climate conditions to do the joint, will make the joint water or mixed with water vapor, for a long time under the action of the electric field to form water branches, gradually damage the insulation strength of the cable caused by fault.

3. Chemical corrosion: If the cables are buried directly in the area with acid and alkali effect, the armored, lead or outer protective layer of the cables will often be corroded. The protective layer will suffer chemical corrosion or electrolytic corrosion for a long time, resulting in the failure of the protective layer and the reduction of insulation, which will also lead to the failure of the wires and cables.The corrosion of cables in chemical units is quite serious.

4. Long term over load operation: In overload operation, due to the thermal effect of the current, the conductor will inevitably heat up when the load current passes through the cable. Meanwhile, the skin effect of the charge, the eddy current loss of steel armor and the insulation medium loss will also produce additional heat, which will increase the temperature of the wire and cable.In long-term overload operation, excessive temperature will accelerate the aging of insulation and even the insulation will be broken down.Especially in the hot summer, the temperature rise of the cable often leads to the first breakdown of the cable insulation weakness, so in the summer, the cable faults are particularly frequent.

5. Cable joint failure: The cable joint is the weakest link in the cable line. The fault of the cable joint caused by the personnel's direct fault (poor construction) often occurs.In the process of making the wire and cable connector, if the connector is not pressed tightly and the heating is not sufficient, the original network will lead to the decrease of the insulation of the cable head, thus causing an accident.

6. Environment and temperature: The external environment and heat source in which the cable is located will also cause the cable temperature to be too high, the insulation to break down, and even the explosion and fire.

Aging Cable Image

KA SHORT CIRCUIT CURRENT - COPPER CONDUCTOR - XLPE INSULATED

C.S.A	Short circuit duration sec.									
mm²	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
1.5	0.7	0.5	0.4	0.3	0.3	0.21	0.15	0.12	0.11	0.10
2.5	1.1	0.8	0.7	0.6	0.5	0.36	0.25	0.21	0.18	0.16
4	1.8	1.3	1.0	0.9	0.8	0.57	0.40	0.33	0.29	0.26
6	2.7	1.9	1.6	1.4	1.2	0.86	0.61	0.50	0.43	0.38
10	4.5	3.2	2.6	2.3	2.0	1.4	1.0	0.8	0.7	0.6
16	7.2	5.1	4.2	3.6	3.2	2.3	1.6	1.3	1.1	1.0
25	11.3	8.0	6.5	5.7	5.1	3.6	2.5	2.1	1.8	1.6
35	15.8	11.2	9.1	7.9	7.1	5.0	3.5	2.9	2.5	2.2
50	22.6	16.0	13.1	11.3	10.1	7.2	5.1	4.1	3.6	3.2
70	31.7	22.4	18.3	15.8	14.2	10.0	7.1	5.8	5.0	4.5
95	43.0	30.4	24.8	21.5	19.2	13.6	9.6	7.8	6.8	6.1
120	54.3	38.4	31.3	27.1	24.3	17.2	12.1	9.9	8.6	7.7
150	67.8	48.0	39.2	33.9	30.3	21.5	15.2	12.4	10.7	9.6
185	83.7	59.2	48.3	41.8	37.4	26.5	18.7	15.3	13.2	11.8
240	108.5	76.7	62.7	54.3	48.5	34.3	24.3	19.8	17.2	15.3
300	135.7	95.9	78.3	67.8	60.7	42.9	30.3	24.8	21.5	19.2
400	180.9	127.9	104.4	90.4	80.9	57.2	40.4	33.0	28.6	25.6
500	226.1	159.9	130.5	113.1	101.1	71.5	50.6	41.3	35.8	32.0
630	284.9	201.4	164.5	142.4	127.4	90.1	63.7	52.0	45.0	40.3
800	361.8	255.8	208.9	180.9	161.8	114.4	80.9	66.0	57.2	51.2
1000	452.2	319.8	261.1	226.1	202.2 1	43.0	101.1	82.6	71.5	64.0

KA SHORT CIRCUIT CURRENT - ALUMINIUM CONDUCTOR - XLPE INSULATED

C.S.A	Short circuit duration sec.									
mm²	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	4.7	3.4	2.7	2.4	2.1	1.5	1.1	0.9	0.75	0.67
25	7.4	5.2	4.3	3.7	3.3	2.3	1.7	1.4	1.2	1.0
35	10.4	7.3	6.0	5.2	4.6	3.3	2.3	1.9	1.6	1.5
50	14.8	10.5	8.6	7.4	6.6	4.7	3.3	2.7	2.3	2.1
70	20.7	14.7	12.0	10.4	9.3	6.6	4.6	3.8	3.3	2.9
95	28.1	19.9	16.3	14.1	12.6	8.9	6.3	5.1	4.5	4.0
120	35.6	25.1	20.5	17.8	15.9	11.2	8.0	6.5	5.6	5.0
150	44.4	31.4	25.7	22.2	19.9	14.1	9.9	8.1	7.0	6.3
185	54.8	38.8	31.6	27.4	24.5	17.3	12.3	10.0	8.7	7.8
240	71.1	50.3	41.1	35.6	31.8	22.5	15.9	13.0	11.2	10.1
300	88.9	62.9	51.3	44.4	39.8	28.1	19.9	16.2	14.1	12.6
400	118.5	83.8	68.4	59.3	53.0	37.5	26.5	21.6	18.7	16.8
500	148.2	104.8	85.5	74.1	66.3	46.9	33.1	27.0	23.4	21.0
630	186.7	132.0	107.8	93.3	83.5	59.0	41.7	34.1	29.5	26.4
800	237.0	167.6	136.9	118.5	106.0	75.0	53.0	43.3	37.5	33.5
1000	296.3	209.5	171.1	148.2	132.5	93.7	66.3	54.1	46.9	41.9

KA SHORT CIRCUIT CURRENT - COPPER CONDUCTOR - PVC INSULATED

C.S.A	Short circuit duration sec.									
mm²	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
1.5	0.55	0.39	0.31	0.27	0.24	0.17	0.12	0.10	0.09	0.08
2.5	0.91	0.64	0.52	0.45	0.41	0.29	0.20	0.17	0.14	0.13
4	1.45	1.03	0.84	0.73	0.65	0.46	0.33	0.27	0.23	0.21
6	2.18	1.54	1.26	1.09	0.98	0.69	0.49	0.40	0.35	0.31
10	3.6	2.6	2.1	1.8	1.6	1.2	0.8	0.7	0.6	0.5
16	5.8	4.1	3.4	2.9	2.6	1.8	1.3	1.1	0.9	0.8
25	9.1	6.4	5.2	4.5	4.1	2.9	2.0	1.7	1.4	1.3
35	12.7	9.0	7.3	6.4	5.7	4.0	2.8	2.3	2.0	1.8
50	18.2	12.9	10.5	9.1	8.1	5.8	4.1	3.3	2.9	2.6
70	25.5	18.0	14.7	12.7	11.4	8.1	5.7	4.6	4.0	3.6
95	34.5	24.4	19.9	17.3	15.5	10.9	7.7	6.3	5.5	4.9
120	43.6	30.9	25.2	21.8	19.5	13.8	9.8	8.0	6.9	6.2
150	54.5	38.6	31.5	27.3	24.4	17.3	12.2	10.0	8.6	7.7
185	67.3	47.6	38.8	33.6	30.1	21.3	15.0	12.3	10.6	9.5
240	87.3	61.7	50.4	43.6	39.0	27.6	19.5	15.9	13.8	12.3
300	109.1	77.1	63.0	54.5	48.8	34.5	24.4	19.9	17.3	15.4
400	130.0	91.9	75.1	65.0	58.2	41.1	29.1	23.7	20.6	18.4
500	162.5	114.9	93.8	81.3	72.7	51.4	36.3	29.7	25.7	23.0
630	204.8	144.8	118.2	102.4	91.6	64.8	45.8	37.4	32.4	29.0
800	260.1	183.9	150.1	130.0	116.3	82.2	58.2	47.5	41.1	36.8
1000	325.1	229.9	187.7	162.5	145.4	102.8	72.7	59.4	51.4	46.0

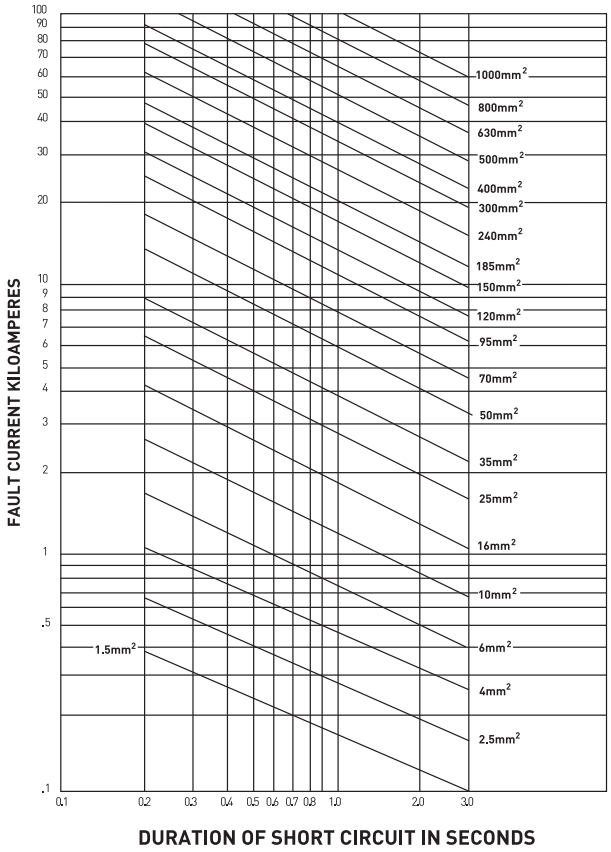
KA SHORT CIRCUIT CURRENT - ALUMINIUM CONDUCTOR - PVC INSULATED

C.S.A	Short circuit duration sec.									
mm²	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	3.8	2.7	2.2	1.9	1.7	1.2	0.9	0.7	0.6	0.5
25	6.0	4.2	3.5	3.0	2.7	1.9	1.3	1.1	1.0	0.8
35	8.4	5.9	4.9	4.2	3.8	2.7	1.9	1.5	1.3	1.2
50	12.0	8.5	6.9	6.0	5.4	3.8	2.7	2.2	1.9	1.7
70	16.8	11.9	9.7	8.4	7.5	5.3	3.8	3.1	2.7	2.4
95	22.8	16.1	13.2	11.4	10.2	7.2	5.1	4.2	3.6	3.2
120	28.8	20.4	16.7	14.4	12.9	9.1	6.4	5.3	4.6	4.1
150	36.0	25.5	20.8	18.0	16.1	11.4	8.1	6.6	5.7	5.1
185	44.5	31.4	25.7	22.2	19.9	14.1	9.9	8.1	7.0	6.3
240	57.7	40.8	33.3	28.8	25.8	18.2	12.9	10.5	9.1	8.2
300	72.1	51.0	41.6	36.0	32.2	22.8	16.1	13.2	11.4	10.2
400	86.0	60.8	49.7	43.0	38.5	27.2	19.2	15.7	13.6	12.2
500	107.5	76.0	62.1	53.8	48.1	34.0	24.0	19.6	17.0	15.2
630	135.5	95.8	78.2	67.7	60.6	42.8	30.3	24.7	21.4	19.2
800	172.0	121.6	99.3	86.0	76.9	54.4	38.5	31.4	27.2	24.3
1000	215.0	152.1	124.2	107.5	96.2	68.0	48.1	39.3	34.0	30.4

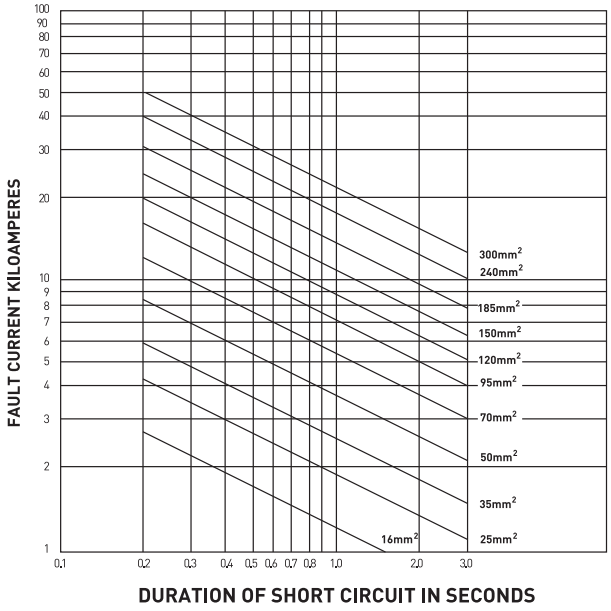
PVC Insulated Cables

The values of fault current given in the graph are based on the cable being fully loaded at the start of the short circuit (conductor temperature 70˚C and a final conductor temperature of 160˚C for conductor sizes up to and including 300mm2 and 140˚C for conductor sizes above 300mm2.

Copper Conductors



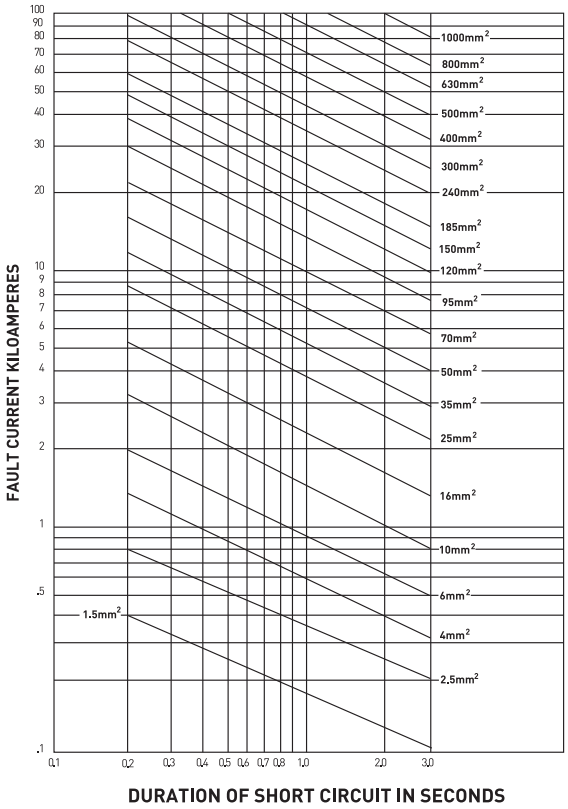
Alluminium Conductors



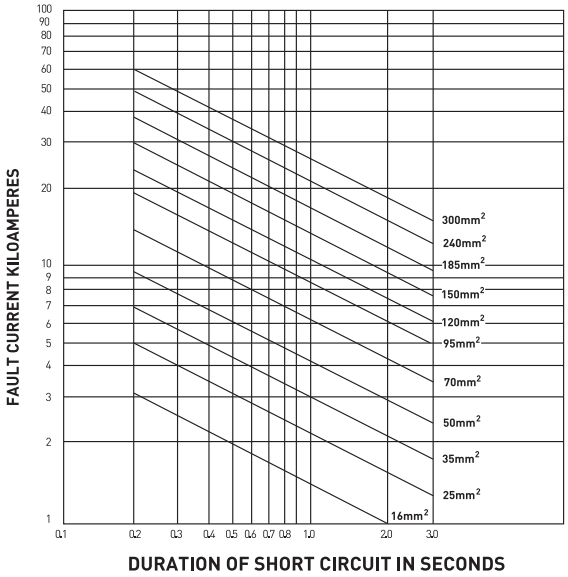
XLPE Insulated Cables

The values of fault current given in the graph are based on the cable being fully loaded at the start of the short circuit (conductor temperature 90˚C and a final conductor temperature of 250˚C. It should be ensured that the accessories accociated with the cable are also capable of operation at these values of fault current and temperature.

Copper Conductors



Alluminium Conductors



PERFORMANCE OF CABLES IN THE EVENT OF FIRE

It is clear that the hazard from cables involved in a fire can take many forms, from the ease of ignition and flame propagation to the evolution of smoke and toxic gases. Many tests have been developed over the years in an attempt to evaluate the potential performance of both individual materials and complete cables.

Fire test methods relating to cables can be split into two categories, those which test the whole cable and those which evaluate individual component materials. The tests on materials are not specific to cable standards but are often specified therein.

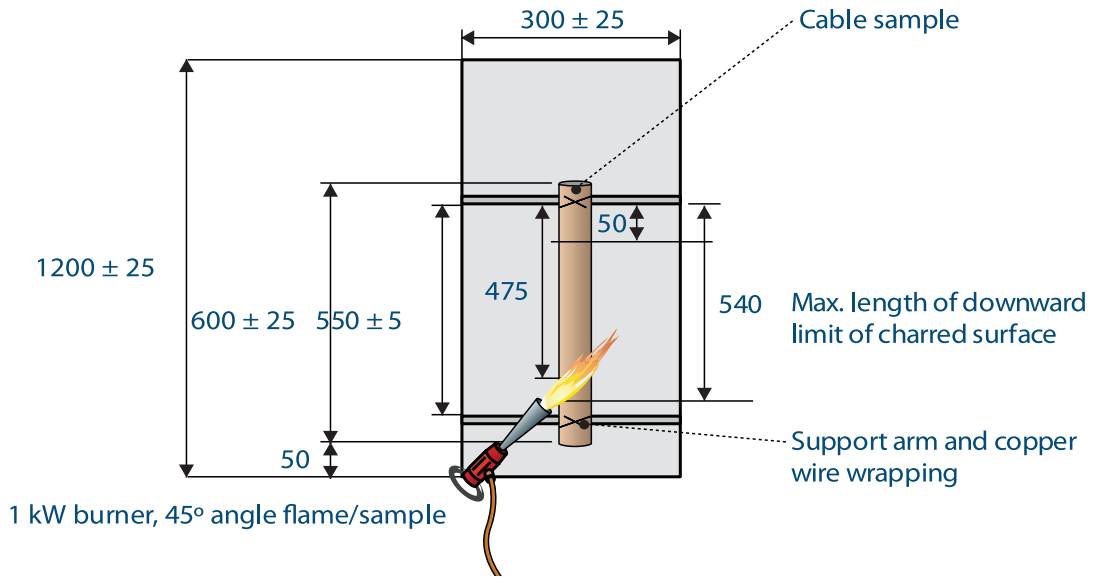
The performance of cables under fire conditions is defined in a number of international standards, the outline of which is as follows:-

1. Flame Propagation Test: (IEC 60332-1, BS EN 60332-1)

This test is used to measure the resistance to vertical flame propagation for a single vertical electrical insulated conductor or cable under fire conditions.

A 600 mm long cable sample is suspended vertically in a draught-free enclosure and the lower end is exposed to a gas burner angled at 45°C to the horizontal. The flame application time is from 1-8 min depending on the cable diameter.

The single insulated conductor or cable shall pass the test if the distance between the lower edge of the top support and the onset of charring is greater than 50 mm. In addition, a failure shall be recorded if charring extends downwards to a point greater than 540 mm from the lower edge of the top support.



Vertical flame propagation test for a single insulated wire or cable (IEC 60332-1)

2. Flame Spread Test: (IEC 60332-3, BS EN 60332-3)

This series of standards covered by parts 3-22, 3-23, 3-24 and 3-25 define the tests used to measure the resistance to vertical flame spread of **vertically-mounted bunched wires or cables under fire conditions.**

This test attempts to simulate a real installation environment and uses bunched cables, 3.5m long, fixed in a vertical arrangement. The ignition source is a ribbon type propane/air burner with a fuel input of 73.7 MJ/hour. The burner is arranged horizontally at the foot of the ladder to which the cables are fastened and is applied for 20 or 40 minutes, depending on the category.

The test categories are distinguished by test duration, the volume of non-metallic material of the test sample and the method of mounting the sample for the test as follows:

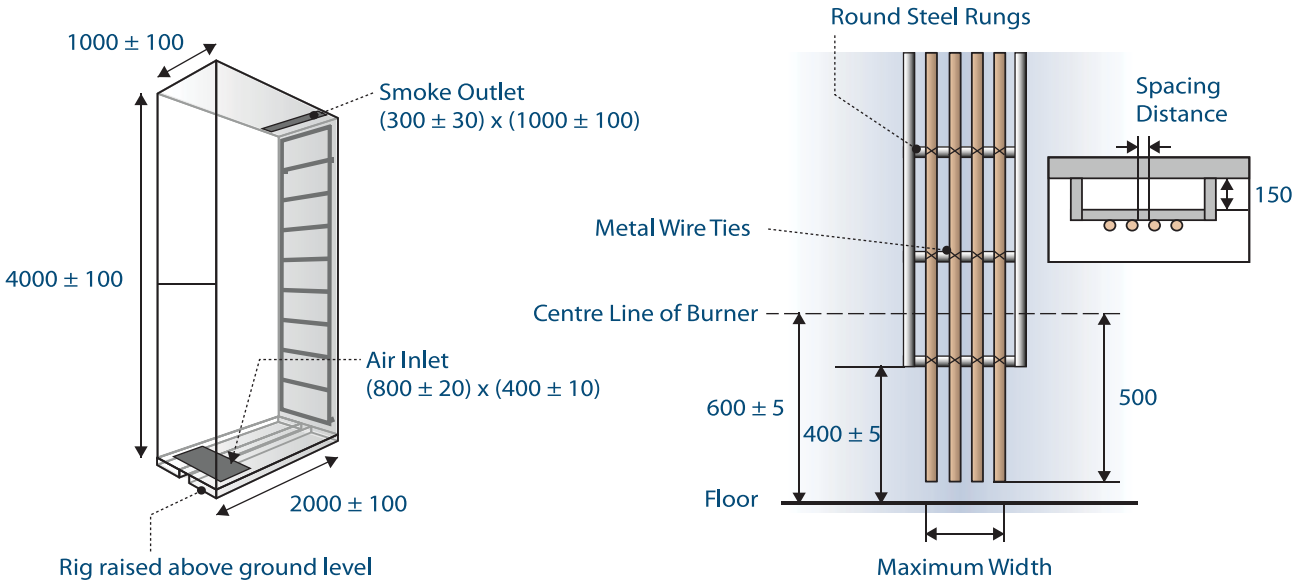
IEC 60332-3-22 (Category A): The number of test pieces required to provide a total volume of 7.0 l/m of non-metallic material shall be bunched on a ladder exposed to flame for 40 minutes.

IEC 60332-3-23 (Category B): The number of test pieces required to provide a total volume of 3.5 l/m of non-metallic material shall be bunched on a ladder exposed to flame for 40 minutes.

IEC 60332-3-24 (Category C): The number of test pieces required to provide a total volume of 1.5 l/m of non-metallic material shall be bunched on a ladder exposed to flame for 20 minutes.

IEC 60332-3-25 (Category D): The number of test pieces required to provide a total volume of 0.5 l/m of non-metallic material shall be bunched on a ladder exposed to flame for 20 minutes.

The bunched wires or cables shall pass the test if the maximum extent of the charred portion measured on the samples shall not have reached a height exceeding 2.5 m above the bottom edge of the burner.



Vertical flame spread test for vertically-mounted bunched wires or cables (IEC 60332-3)

3. Acid Gas Emission Tests: (IEC 60754, BS EN 50267)

These tests use a tube furnace to generate fire gases, which are then analyzed by a variety of methods. Several subsidiary parts of these standards set out methods for the determination of halogen and other acid gases.

Determination of the Halogen Acid Gas Content

IEC 60754-1 and BS EN 50267-2-1 Standards specify a test for determination of the halogen acid gas other than the hydrofluoric acid evolved during combustion of compound based on halogenated polymers and compounds containing halogenated additives taken from cable constructions.

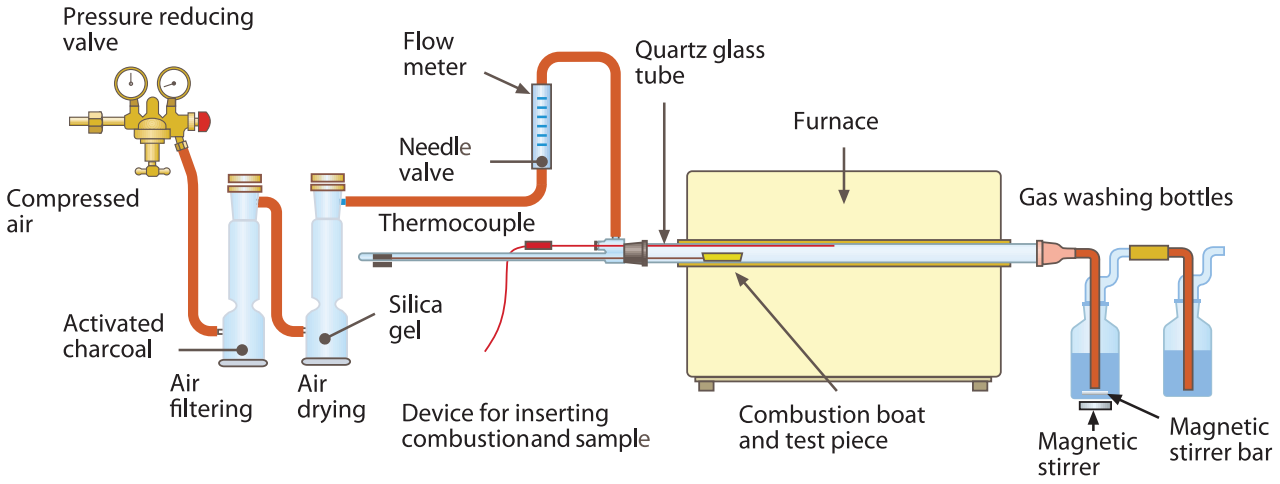
In this test, when the burner is heated to 800 °C, 1g sample is placed inside and the HCL is absorbed into water inside the chamber fed with air flow. The water is then tested with its acidity. If the hydrochloric acid yield is less than 5 mg/g, the cable specimen is categorized as LSHF.

IEC 60754-1 standard cannot be used for measuring the exact HCL yield if the yield is less than 5mg/g. This test cannot determine if the cable is 100% halogen free or not. To determine if the cable specimen is 100% halogen free or not, IEC 60754-2 has to be employed.

Determination of Acidity

IEC 60754-2 and BS EN 50267-2-2 Standards specify a test for the determination of degree of acidity of gases evolved during combustion of the cable specimen by measuring its pH and ionic conductivity.

The specimen is deemed to pass this test if the pH value is not less than 4.3 when related to 1 litre of water and the weighted value of conductivity is less than10 µS/mm.



Acid gas emission test apparatus (IEC 60754)

4. Smoke Emission Test: (IEC 61034, BS EN 61034)

Smoke evolution is another critical performance indicator which needs to be evaluated on a laboratory scale and there are a number of methods used, based either on gravimetric or optical techniques.

IEC 61034 and BS EN 61034 Standards specify a test for determination of smoke density. The 3 meter cube test measures the generation of smoke from electric cables during fire. A light beam emitted from a window is projected across the enclosure to a photocell connected to a recorder at the opposite window. The recorder is adjusted to register from 0% for complete obscuration to 100% luminous transmissions.

Smoke density 3 m test cube (IEC 61034)

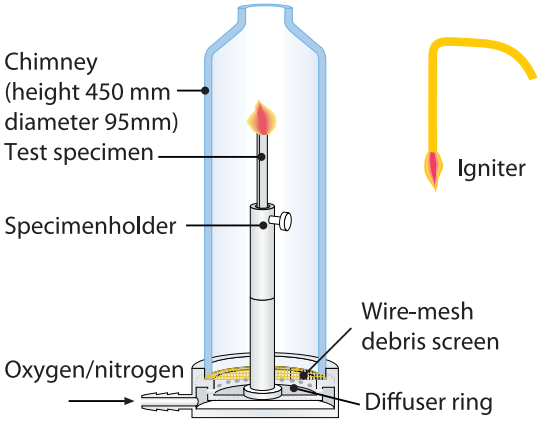
A one-meter length of cable is placed in the 3 m3 enclosure, and a fire is then generated within the container and the minimum light transmission is recorded. The result is expressed as percentage of light transmitted.

The specimen is deemed to pass this test if the value is greater than 60%. The higher the light transmittance, the less smoke emitted during a fire.

5. Limiting Oxygen Index (LOI): (BS EN ISO 4589, ASTM D 2863)

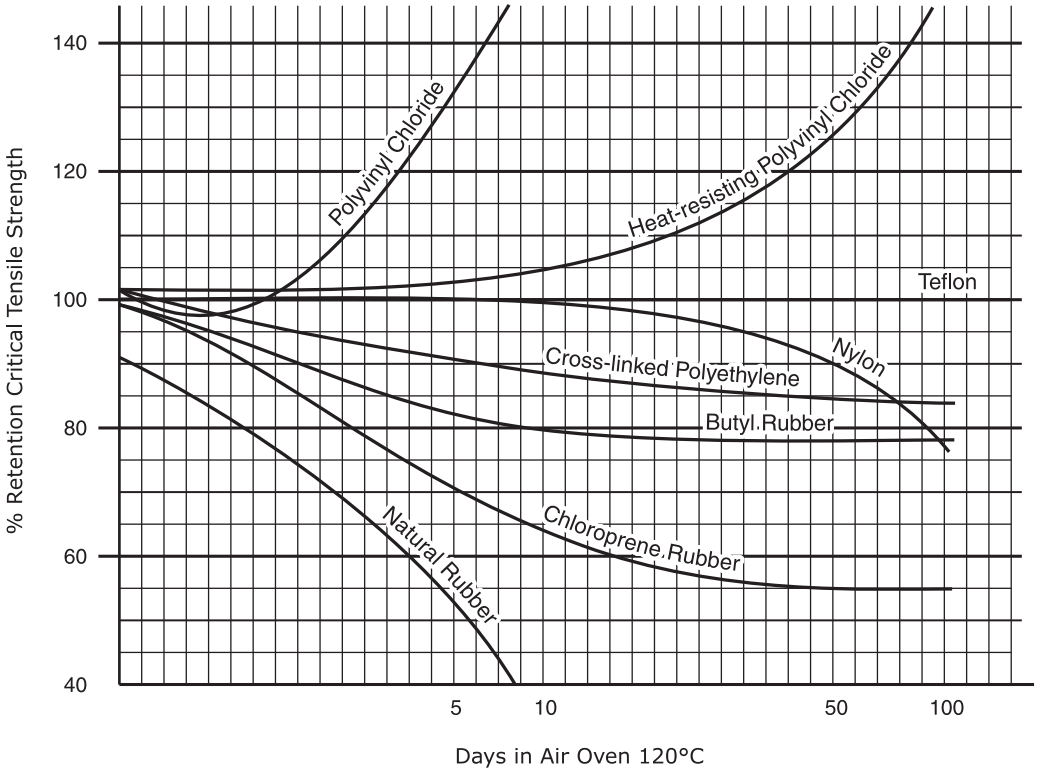
Oxygen index is perhaps the most widely used indicator of a material's flammability. It is the minimum percentage of oxygen in an oxygen/nitrogen mixture required to support combustion of a given material at room temperature.

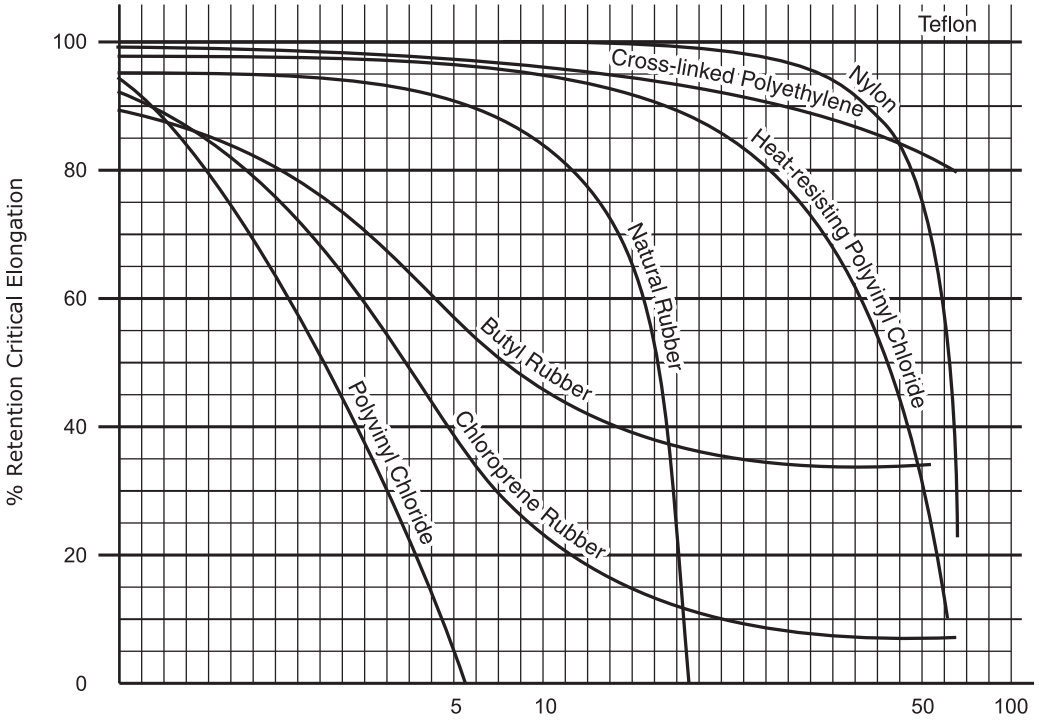
BS EN ISO 4589 and ASTM D 2863 Standards Specify methods for the determination the minimum concentration of oxygen, in a mixture with nitrogen, which will support combustion of small vertical test specimens under specified test conditions over a range of temperatures between 25 °C and 150 °C. The results are defined as oxygen index values at the test temperature.

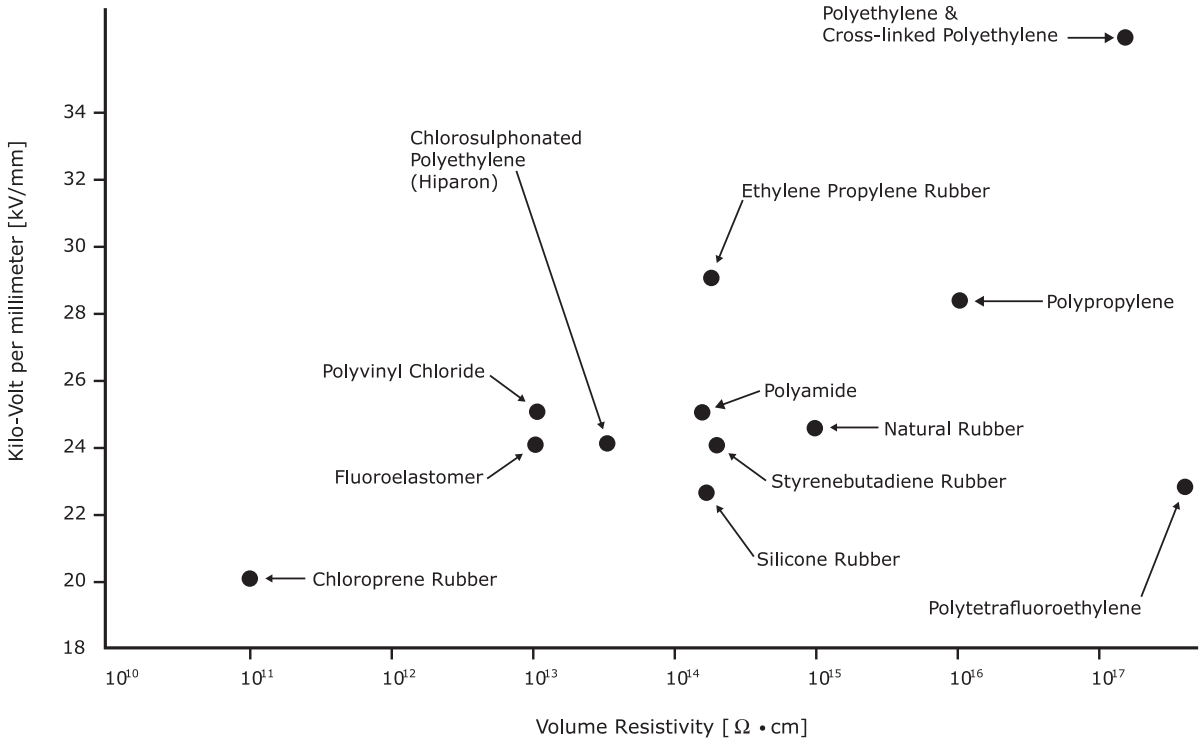


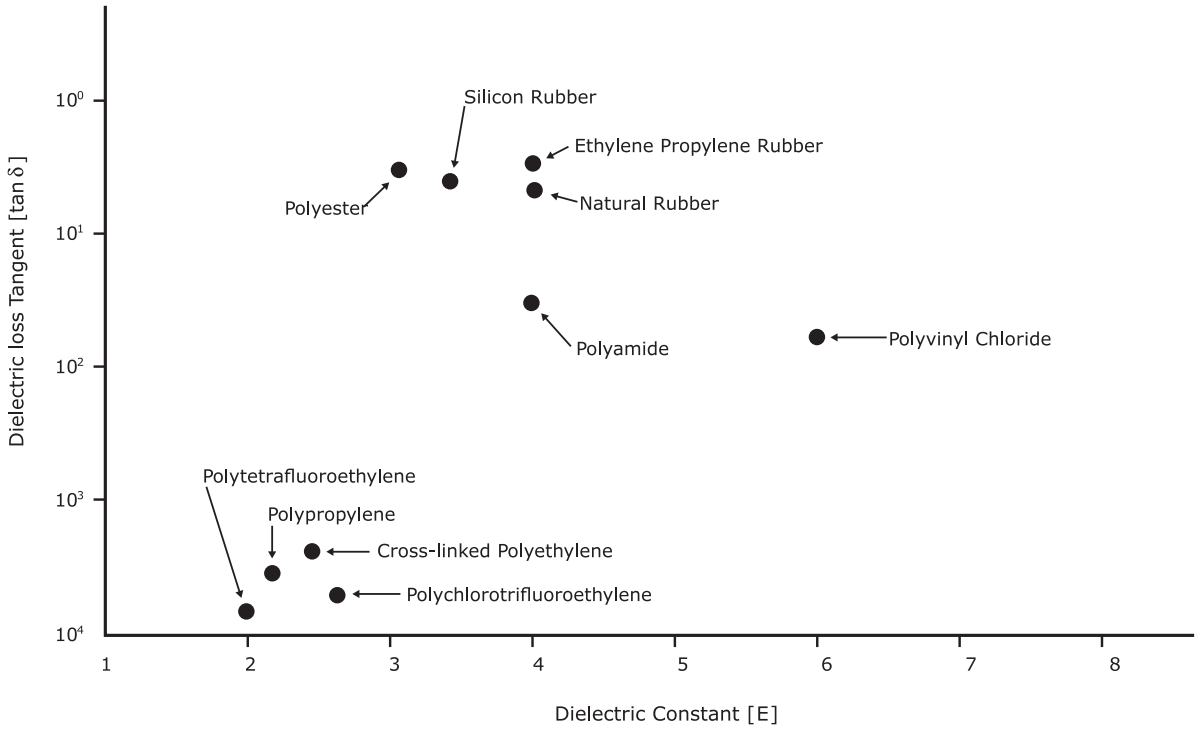
Flame retardant materials require a level of oxygen higher than that normally present in the atmosphere (21%) for burning to be maintained and a material having an oxygen index of 26 or above is considered to be self-extinguishing. In general, the oxygen index of flame retardant PVC jacketed cables ranges from 28% to 32%, and for LSHF cables ranges from 33% to 45%.

LONG-TIME HEAT AGING CURVES






Polyethylene &
Cross-linked Polyethylene
Chlorosulphonated
Polyethylene
(Hiparon)
Ethylene Propylene Rubber
Polypropylene
Polyvinyl Chloride
Polyamide
Natural Rubber
Fluoroelastomer
Styrenebutadiene Rubber
Silicone Rubber
Chloroprene Rubber
Polytetrafluoroethylene
Kilo-Volt per millimeter [kV/mm]
34
32
30
28
26
24
22
20
18
10^{10}
10^{11}
10^{12}
10^{13}
10^{14}
10^{15}
10^{16}
10^{17}
Volume Resistivity [Ω • cm]


Silicon Rubber
Ethylene Propylene Rubber
Polyester
Natural Rubber
Polyamide
Polyvinyl Chloride
Polytetrafluoroethylene
Polypropylene
Cross-linked Polyethylene
Polychlorotrifluoroethylene
Dielectric loss Tangent [tan δ]
10^0
10^1
10^2
10^3
10^4
1
2
3
4
5
6
7
8
Dielectric Constant [E]

INSULATION & SHEATH RESISTANCE TO INDUSTRIAL CHEMICALS

Reagent	Relative Rating							Reagent	Relative Rating						
	BR	CR	EPR	PVC	PE	XLPE	NYLON		BR	CR	EPR	PVC	PE	XLPE	NYLON
Acetone	◎	○	◎	×	◎	◎	○	Chloring Gas	△	△	×	×	×	×	◎
Aniline	○	×	○	○	○	○		Ozone	○		○	○	◎	◎	×
Ethanol	◎	◎	◎	△	○	○	○	Bromine	×	×	×	×	×	×	
Ethyleneglycol	○	◎	○	△	◎	◎	○	Nitric Acid, conc.	×	×	×	×	△	△	×
Xylene	×	×	×	×	○	○	○	Nitric Acid, 10%	×	×	△	○	○	○	△
Glycerin	◎	◎	◎	○	◎	◎	○	Fuming Nitric Acid	×	×		×	×	×	
Cresol	○	△	○	△	○	○	×	Tap Water	◎	◎	◎	◎	◎	◎	◎
Chloroform	×	×	×	×	△	△	×	Sea Water	○	◎	◎	◎	◎	◎	
Acetic Acid, conc,	○	△	○	×	○	○	△	Sulfuric Acid, conc.	×	×	×	△	△	△	×
Acetic Acid, 10%	○	×	○	△	◎	◎	○	Sulfuric Acid, 10%	○	○	○	◎	○	○	○
Ethyl Acetate	○	×	△	×	○	○	○	Phosphoric Acid	○	△	○	×	◎	◎	○
Carbon Tetrachloride	×	×	×	×	×	×	△	Sodium Hydroxide, 10%	○	○	○	○	○	○	◎
Cyclohexane	△	×	×		△	△		Freon	×	×		○	○	○	
Dioctyl Phthalate	◎	×		×				Formic Acid	△	×		○	○	○	◎
Trichloroethylene	×	×	×	△	△	△	△	JIC No. 1 Oil (OF Oil)	×	△	×	△	○	○	
Trichlorobenzene	×	×	×		△	△		ASTM No.1 Oil	○	○	△	△	○	○	
Toluene	×	×	×	×	△	△	○	ASTM No.2 Oil	△	○	△	△	○	○	
Carbon Disulfide	×	×	×	△	○	○		ASTM No.3 Oil	×	△	×	△	△	△	
Phenol	○	△	○	×	○	○	×	Gasolin	×	△	×	×	○	○	○
Furtural	◎	○	◎	△	◎	◎		Creosote Oil	△	×	×	×	△	△	
Hexane	×	△	×	△	○	○		JIS No.2 Oil	×	×	×	△	○	○	
Benzene	×	×	×	×	△	△	○	Heavy Oil	×	×	×	△	△	△	
Methanol	◎	◎	◎	×	○	○	△	Lube Oil	×	△	△	△	△	△	○
Methyl Ethyl Ketone	△	×	△	×	○	○		Silicone Oil	◎	◎	◎	○	◎	◎	
Dioxane				×	○	○		Vegetable Oil	◎	◎	○		◎	◎	
Nitrobenzene	○	×	○	×	○	○		Petroleum Ether	△	△		×	◎	◎	
Formaline	○	○		○	○	○	△	Trans Oil	×	△	×	○	○	○	
Ammonia, conc.	○	△	○	△	○	○	○	Naphtha	×	×	×	○	○	○	○
Ammonia, 10%	○	△	○	○	○	○	◎	Coal Tar					○	○	
Sodium Chloride	○	○	○	○	◎	◎	◎								
Hydrochloric Acid, conc.	○	○	○	△	○	○	×								
Hydrochloric Acid, 10%	◎	○	○	○	◎	◎	○								

Where : ◎ : High Resistance
× : Not Applicable
○ : Fair Resistance
△ : Poor Resistance, care on use

Electrical formulas for determining Ampere, Kilowatt, Kilovolt-ampere and Horse Power

DIRECT CURRENT	ALTERNATING CURRENT	
	SINGLE PHASE	THREE PHASE
$A = \frac{kW \times 1000}{V}$	$A = \frac{kW \times 1000}{V \times P.F.}$	$A = \frac{kW \times 1000}{1.73 \times V \times P.F.}$
$A = \frac{kVA \times 1000}{V}$	$A = \frac{kVA \times 1000}{V}$	$A = \frac{kVA \times 1000}{1.73 \times V}$
$A = \frac{HP \times 746}{V \times (\%Eff.)}$	$A = \frac{HP \times 746}{V \times (\%Eff.) \times P.F.}$	$A = \frac{HP \times 746}{1.73 \times V \times (\%Eff.) \times P.F.}$
$kW = \frac{A \times V}{1000}$	$kW = \frac{A \times V \times P.F.}{1000}$	$kW = \frac{A \times V \times 1.73 \times P.F.}{1000}$
$kVA = \frac{A \times V}{1000}$	$kVA = \frac{A \times V}{1000}$	$kVA = \frac{A \times V \times 1.73}{1000}$
$HP = \frac{A \times V \times (\%Eff.)}{746}$	$HP = \frac{A \times V \times (\%Eff.) \times P.F.}{746}$	$HP = \frac{A \times V \times 1.73 \times (\%Eff.) \times P.F.}{746}$

APPROXIMATE MOTOR AMPERES PER TERMINAL :

	220 V a - c = 4	amperes per H.P.
3 phase	220 V a - c = 2.5	amperes per H.P.
3 phase	380 V a - c = 1.41	amperes per H.P.
3 phase	440 V a - c = 1.25	amperes per H.P.
3 phase	550 V a - c = 1	amperes per H.P.

Note:
P.F. = Power Factor of equipment or system, values ranging from 0.80-1.0
%Eff. = Efficiency of motor or machineries.
V = Line Voltage
KW = Kilowatt
KVA = Kilovolt Ampere
HP = Horse Power
1HP = 746 watts

1. Resistance

The values of conductor DC resistance given in the previous tables are based on 20 °C. In case the DC resistance is required at any other temperature the following formula is used :

$$R_\theta = R_{20} \times [\, 1 + \alpha(\theta - 20)\,] \qquad \Omega / Km$$

Where

R_θ	:	Conductor DC resistance at θ °C	Ω / Km
R_{20}	:	Conductor DC resistance at 20 °C	Ω / Km
θ	:	Operating temperature	°C
α	:	Resistance temperature coefficient	$1 / °C$
	=	0.00393 for Copper	
	=	0.00403 for Aluminum	

To get the AC resistance of the conductor at its operating temperature the following formula is used

$$R_{a.c} = R_\theta \times (\, 1 + y_p + y_s\,) \qquad \Omega / Km$$

Where

y_p and y_s are the proximity and skin effect factors respectively which depend on the laying and operating temperature and frequency of the cable.

2. Inductance

Self and mutual inductance are formulated as follow :

$$L = K + 0.2 \ln \left(\frac{2S}{d} \right) \qquad mH / Km$$

Where

L	:	Inductance	mH / Km
K	:	Constant depends on the conductor's number of wires	
D	:	Conductor diameter	mm
S	:	Axial spacing between cables	mm
	=	1 x S in case of trefoil formation	
	=	1.26 x S in case of flat formation	

3. Capacitance

$$C = \frac{\epsilon_r}{18 \ln \frac{D}{d}} \qquad \mu F / Km$$

Where

C	:	Operating capacitance	$\mu F / Km$
ϵ_r	:	Relative permittivity of insulation	
D	:	Diameter over insulation	mm
d	:	Diameter under insulation	mm

4. Insulation Resistance

$$R = K \ln \left(\frac{D}{d} \right) \qquad M\Omega / Km$$

Where

R	:	Insulation resistance	$M\Omega / Km$
K	:	Constant depends on the insulation	
d	:	Diameter of the conductor	mm
D	:	Diameter of the insulated core	mm

5 Charging Current

The charging current is the capacitive current which flows when an AC voltage is applied to the cables as a result of the capacitance between the conductor and earth, and for a multi-core cable in which cores are not screened, between conductors. The value can be derived from following the equation :

$$I_C = U_o\, \omega C\, 10^{-6} \qquad A / Km$$

Where

I_C	:	Charging current	A / Km
U_o	:	Phase voltage	V
ω	:	$2 \pi f$	
f	:	Operating frequency	Hz
C	:	Capacitance to neutral	$\mu F / Km$

6. Dielectric Losses

The dielectric losses of an AC cable are proportional to the capacitance, the frequency, the phase voltage and the power factor. The value can be derived from the following equation :

$$W_d = \omega C\, U_o^2 \tan \delta\, 10^{-6} \qquad W/Km/Ph$$

Where

W_d	:	Dielectric Losses	$W/Km/Ph$
ω	:	$2 \pi f$	
f	:	Operating frequency	Hz
C	:	Capacitance to neutral	$\mu F / Km$
U_o	:	Phase voltage	V
$\tan \delta$	:	Dielectric power factor	

7. Short Circuit Capacity

A. Short circuit starts from the maximum operating conductor temperature

XLPE	=	90	°C
PVC	=	70	°C

B. Maximum temperature during short circuit

XLPE	=	250	°C		
PVC	=	160	°C	for C.S.A	≤ 300 mm^2
	=	140	°C	for C.S.A	> 300 mm^2

C. Maximum short circuit current duraton is 5 seconds.

If the short circuit current is required at duration not mentioned in the catalogue, it is obtained by dividing the short circuit current for 1 second by the square root of the required duration as follows :

$$I_{s.c.t} = \frac{I_{s.c.1}}{\sqrt{t}}$$

Where

$I_{s.c.t}$	:	Short circuit current for 1second	kA
$I_{s.c.1}$	:	Short circuit current for 1 second	kA
t	:	Duration	$Sec.$

8. Voltage Drop

When current flows in a cable conductor there is a voltage drop between the ends of the conductors which is the product of the current and impedance. The following equations should be used to calculate the voltage drop :

A. Single phase circuit :

$$V_d = 2\,I\,\ell\,(R\cos\Phi + X\sin\Phi) \qquad V$$

B. Three phase circuit :

$$V_d = \sqrt{3}\,I\,\ell\,(R\cos\Phi + X\sin\Phi) \qquad V$$

Where

V_d	:	Voltage drop	V
I	:	Load current	A
ℓ	:	Route length	Km
R	:	AC Resistance	Ω / Km
X	:	Reactance	Ω / Km
$\cos\Phi$	:	Power factor	

Where

$$X = \omega\,L\,10^{-3} \qquad \Omega / Km$$

Where

ω	:	$2\pi f$	
f	:	Operating frequency	Hz
L	:	Inductance	mH/Km

Relation between cos Φ and sin Φ :

cos Φ	1.0	0.9	0.85	0.8	0.6
sin Φ	0.0	0.44	0.53	0.6	0.8

- LV cable systems should be planned so as not to exceed voltage drop of 3-5% in normal operating conditions

SYMBOLS OF ELECTRICAL UNITS

ELECTRICAL UNIT		SYMBOL
CURRENT	(AMPERE)	A
VOLTAGE	(VOLT)	V (kV)
RESISTANCE	(OHM)	Ω (kΩ, MΩ)
ELECTRIC POWER	(WATT)	W (kW), (MW.)
ELECTRIC ENERGY	(WATT HOUR)	WH (kWH.)
HORSE POWER		HP
POWER FACTOR	(COS θ)	P.F.
FREQUENCY	(HERTZ)	Hz
CAPACITANCE	(FARAD)	F (μ F, ρF)
APPARENT POWER	(VOLT, AMPERE)	VA (kVA)
DIRECT CURRENT		DC
ALTERNATING CURRENT		AC
EFFICIENCY		Eff.
MAXIMUM VALUES	(VOLT, AMPERE)	Em, Im
AVERAGE VALUES	(VOLT, AMPERE)	Eav, Iav
EFFECTIVE VALUES	(VOLT, AMPERE)	E, I
INSTANTANEOUS VALUES	(VOLT, AMPERE)	e, I

MINIMUM COPPER EARTHING CONDUCTOR SIZE

Nominal Size of Active Conductor	Nominal Size of Copper Earthing Conductor	
	With Cu Active Conductors	With Aluminium Active Conductors
mm^2	mm^2	mm^2
1.0	1[a]	-
1.5	1.5[a]	-
2.5	2.5	-
4	2.5	-
6	2.5	-
10	4	-

16	6	4
25	6	6
35	10	6
50	16	10
70	25	10
95	25	16
120	35	25
150	50	25
185	70	35
240	95	50
300	120	70
400	≥120	≥95
500	≥120	≥95
630	≥120	≥120
>630	≥25% of active size	≥25% of active size

[a]These earthing conductors may be used only where incorporated in a multicore cable or flexible cord.

RATED CURRENT FOR MOTOR

Average Induction Motor						
Nominal Motor Rating		1 Phase		3 Phase		
		110V	230V	380V	415V	440V
HP	KW	amp	amp	amp	amp	amp
1/2	0.37	7.8	3.7	1.2	1.1	1.0
3/4	0.55	10.4	5.0	1.6	1.5	1.4
1	0.75	13.2	6.3	2.0	1.9	1.8
1 1/2	1.1	19.2	9.2	3.0	2.8	2.6
2	1.5	25.0	12.2	3.9	3.6	3.4
3	2.2	37.0	17.9	5.8	5.3	5.0
5	3.7	59.0	28.0	9.2	8.4	7.9
7 1/2	5.5	84.0	40.0	13.1	11.9	11.3
10	7.5	109.0	52.0	16.8	15.4	14.5
15	11.0	157.0	75.0	24.0	22.0	21.0
20	15.0	-	-	32.0	29.0	27.0
30	22.0	-	-	46.0	42.0	40.0
50	37.0	-	-	75.0	69.0	65.0
75	55.0	-	-	111.0	102.0	96.0
100	75.0	-	-	146.0	134.0	126.0

Pure Resistive Load					
Power	1 Phase		3 Phase		
	110V	230V	380V	415V	440V
KW	amp	amp	amp	amp	amp
1	9.1	4.3	1.5	1.4	1.3
2	18.2	8.7	3.0	2.8	2.6
3	27.3	13.0	4.6	4.2	3.9
4	36.4	17.4	6.1	5.6	5.3
5	45.5	21.7	7.6	7.0	6.6
6	54.6	26.1	9.1	8.4	7.9
7	63.6	30.4	10.6	9.7	9.2
8	72.7	34.8	12.2	11.1	0.5
9	81.8	39.1	13.7	12.5	11.8
10	91.0	43.5	15.2	13.9	13.1
20	182	87.0	30.4	27.9	26.3
40	364	170.0	60.8	55.7	52.5
60	545	261.0	91.3	83.6	78.8
80	727	348.0	122.0	111.0	105.0
100	909	435.0	152.0	139.0	131.0

MEASUREMENT COMPARISON IN VARIOUS SYSTEM

Gauge System		Diameter		Cross-sectional Area			Weight of Copper
AWG	SWG	mm	mill	mm2	inch2	c.mil	Kg/Km
6/0	-	14.73	580	170.4105	0.2641	336400	1514.9
5/0	-	13.11	516	134.9883	0.2092	266256	1200.0
-	7/0	12.70	500	126.6772	0.1963	250000	1126.2
-	6/0	11.79	464	109.1738	0.1692	215296	970.6
4/0	-	11.68	460	107.1462	0.1661	211600	952.5
-	5/0	10.97	432	94.5157	0.1465	186624	840.2
3/0	-	10.41	410	85.1123	0.1319	168100	756.6
-	4/0	10.16	400	81.0734	0.1257	160000	720.7
-	3/0	9.449	372	70.1233	0.1087	138384	623.4
2/0	-	9.271	365	67.5063	0.1046	133225	600.1
-	2/0	8.839	348	61.3617	0.09511	121104	545.5
0	-	8.255	325	53.5211	0.08296	105625	475.8
-	0	8.230	324	53.1974	0.08246	104976	472.9
-	1	7.620	300	45.6038	0.07069	90000	405.4
1	-	7.341	289	42.3254	0.0656	83521	376.3
-	2	7.010	276	38.5946	0.05982	76176	343.1
2	-	6.553	258	33.7265	0.05228	66564	299.8
-	3	6.401	252	32.18	0.04988	63504	286.1
-	4	5.893	232	27.2749	0.04228	53824	242.5
3	-	5.817	229	26.576	0.04119	52441	236.3
-	5	5.385	212	22.7752	0.0353	44944	202.5
4	-	5.182	204	21.0904	0.03269	41616	187.5
-	6	4.877	192	18.6808	0.02896	36864	166.1
5	-	4.623	182	16.7857	0.02602	33124	149.2
	7	4.470	176	15.693	0.02432	30976	139.5
6	-	4.115	162	13.2994	0.02061	26244	118.2
-	8	4.065	160	12.9781	0.02012	25600	115.4
7	9	3.658	144	10.5094	0.01629	20736	93.43
8	10	3.251	128	8.3009	0.01287	16384	73.80
-	11	2.948	116	6.8257	0.01058	13456	60.68
9	-	2.896	114	6.587	0.01021	12996	58.56
-	12	2.642	104	5.4822	0.0085	10816	48.74
10	-	2.591	102	5.2726	0.00817	10404	46.87
-	13	2.337	92	4.2895	0.00665	8464	38.13
11	-	2.311	91	4.1946	0.0065	8281	37.29
12	-	2.057	81	3.3232	0.00515	6561	29.54
-	14	2.032	80	3.2429	0.00503	6400	28.83
13	15	1.828	72	2.6245	0.00407	5184	23.33
14	16	1.626	64	2.0765	0.00322	4096	18.46
15	-	1.448	57	1.6468	0.00255	3249	14.64
-	17	1.422	56	1.5881	0.00246	3136	14.12
16	-	1.295	51	1.3171	0.00204	2601	11.71
-	18	1.291	51	1.309	0.00203	2601	11.64
17	-	1.143	45	1.0261	0.00159	2025	9.122
18	19	1.016	40	0.8107	0.00126	1600	7.207
19	20	0.9144	36	0.6567	0.00102	1296	5.838
20	21	0.8128	32	0.5189	0.0008	1024	4.613
21	-	0.7239	29	0.4116	0.00064	841	3.659
-	22	0.7112	28	0.3973	0.00062	784	3.532
22	-	0.6428	25	0.3245	0.0005	625	2.885
-	23	0.6096	24	0.2919	0.00045	576	2.595
23	-	0.5733	23	0.2581	0.0004	529	2.295
-	24	0.5588	22	0.2452	0.00038	484	2.180
24	-	0.5105	20	0.2047	0.00032	404	1.820
-	25	0.508	20	0.2027	0.00031	400	1.802

MEASUREMENT COMPARISON IN VARIOUS SYSTEM

Gauge System		Diameter		Cross-sectional Area			Weight of Copper
AWG	SWG	mm	mill	mm2	inch2	c.mil	Kg/Km
-	26	0.4572	18.0	0.1642	0.00025451	324.00	1.4597
25	-	0.4547	17.9	0.1624	0.00025172	320.41	1.4437
26	-	0.4039	15.9	0.1281	0.000198555	252.81	1.1388
-	27	0.4166	16.4	0.1363	0.000211265	268.96	1.2117
-	28	0.3759	14.8	0.1110	0.00017205	219.04	0.9868
27	-	0.3607	14.2	0.1022	0.00015841	201.64	0.9086
-	29	0.3454	13.6	0.09370	0.000145233	184.96	0.8330
28	-	0.3211	12.6	0.08098	0.000125519	158.76	0.7199
-	30	0.315	12.4	0.07793	0.000120792	153.76	0.6928
-	31	0.2946	11.6	0.06816	0.000105648	134.56	0.6059
29	-	0.2859	11.3	0.06420	0.00009951	127.69	0.5707
-	32	0.2743	10.8	0.05909	0.00009159	116.64	0.5253
30	33	0.254	10.0	0.05067	0.000078539	100.00	0.4505
-	34	0.234	9.2	0.04290	0.000066495	84.64	0.3814
31	-	0.2261	8.9	0.04015	0.000062233	79.21	0.3569
-	35	0.213	8.4	0.035767	0.000055439	70.56	0.3180
32	-	0.2019	7.9	0.032016	0.000049625	62.41	0.2846
-	36	0.193	7.6	0.029255	0.000045345	57.76	0.2601
33	-	0.1803	7.1	0.025532	0.000039575	50.41	0.2270
-	37	0.1727	6.8	0.023425	0.000036309	46.24	0.2082
34	-	0.1601	6.3	0.020131	0.000031203	39.69	0.1790
-	38	0.1524	6.0	0.018242	0.000028275	36.00	0.1622
35	-	0.1422	5.6	0.015881	0.000024616	31.36	0.1412
-	39	0.1321	5.2	0.013706	0.000021244	27.04	0.1218
36	-	0.127	5.0	0.012668	0.000019635	25.00	0.1126
-	40	0.1219	4.8	0.011671	0.00001809	23.04	0.1038
37	-	0.1131	4.5	0.010047	0.000015573	20.25	0.0893
-	41	0.1118	4.4	0.009817	0.000015216	19.36	0.0873
38	42	0.1016	4.0	0.008107	0.000012566	16.00	0.0721
-	43	0.0914	3.6	0.006561	0.00001017	12.96	0.0583
39	-	0.0889	3.5	0.006207	0.000009621	12.25	0.0552
-	44	0.0813	3.2	0.005191	0.000008046	10.24	0.0461
40	-	0.0787	3.1	0.004865	0.000007541	9.61	0.0432
41	45	0.0711	2.8	0.00397	0.000006154	7.84	0.0353
42	-	0.0635	2.5	0.003167	0.000004909	6.25	0.0282
-	46	0.061	2.4	0.002922	0.000004529	5.76	0.0260
43	-	0.0559	2.2	0.002454	0.000003804	4.84	0.0218
44	47	0.0508	2.0	0.002027	0.000003142	4.00	0.0180
45	-	0.0447	1.8	0.001569	0.000002432	3.24	0.0139
-	48	0.0406	1.6	0.001295	0.000002007	2.56	0.0115
46	-	0.0399	1.57	0.001250	0.000001938	2.46	0.0111
47	-	0.0356	1.40	0.0009954	0.000001543	1.96	0.0088
48	-	0.0315	1.24	0.0007793	0.000001208	1.54	0.0069
-	49	0.0305	1.20	0.0007306	0.000001132	1.44	0.0065
49	-	0.0282	1.11	0.0006246	0.000000968	1.23	0.0056
-	50	0.0254	1.00	0.0005067	0.000000785	1.00	0.0045
50	-	0.0251	0.99	0.0004948	0.000000767	0.98	0.0044

Note:

1mil = 0.001 inch

S.W.G. = Standard Wire Gauge (British)

A.W.G. = American Wire Gauge

1 c.mil = 0.7854 x 10-4 inch2

METALS USED FOR CABLES

ELECTRICAL PROPERTIES			
Metal	Relative Conductivity Copper 100	Electrical Resistivity at 20˚C Ω .m (10^{-8})	Temperature Coefficient of Resistance per ˚C
Copper (Annealed)	100	1.7241	0.00393
Copper (Harddrawn)	97	1.7770	0.00393
Tinned Copper	95-97	1.741-1.814	0.00393
Aluminum	61	2.8264	0.00403
Lead	8	21.40	0.00400

PHYSICAL PROPERTIES				
Property	Unit	Copper	Aluminum	Lead
Densityat 20˚C	Kg/m3	8890.0	2703.0	11340.0
Coeff. of thermal expansion	˚Cx10-6	17.0	23.0	29.0
Melting point	˚C	1083.0	659.0	327.0
Thermal conductivity	W/Cm. ˚C	3.8	2.4	0.34

CONDUCTIVITY AND DENSITY OF METALS

KIND	SYMBOL	CONDUCTIVITY (% IACS)	DENSITY (g/cm^3)
SILVER	Ag	108.6	10.50
STANDARD COPPER (ANNEALED)	Cu	100.0	8.89
GOLD	Au	72.5	19.30
ALUMINIUM	Al	61.0	2.70
IRON	Fe	13.0	7.78
TIN	Sn	12.2	7.29
STEEL	-	11.6	7.78

INSULATION MATERIALS USED FOR CABLES

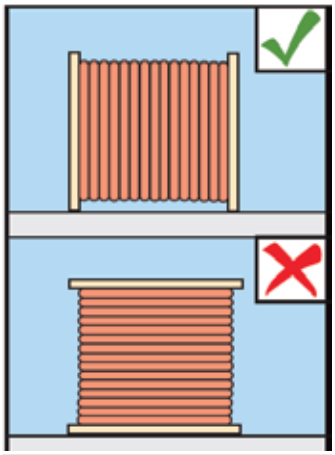
Properties		XLPE	PVC	EPR
Rated Temp.	Max. Operating Emergency Short Circuit	90 130 ≤250	70 95 140 * or 160 **	90 130 ≤250
Mechanical Strength	Min.TensileStrength (N/mm²) Min.Elongation %	12.5 200	12.5 150	4.2 200
Heat deformation at 150 ºC		Good	Poor	Excellent
Relative permittivity		2.3-2.5	8.0	3.0
Specific gravity g/cm3		0.93	1.4-1.5	1.4
Solvent resistance		Good	Poor	Poor
Volume Resistivity at max. conductor temperature in normal operation	Ω.cm	10^{12}	10^{10}	10^{12}
Splicing & termination		Easy	Easy	Easy
Environmental stress cracking		Good	Good	Poor

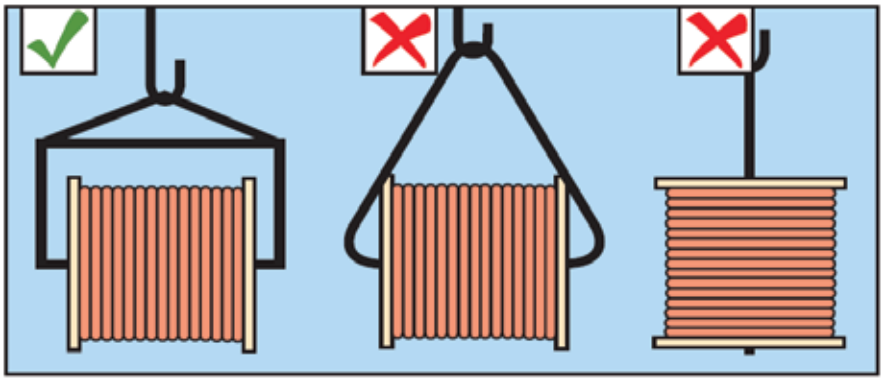
* For sizes >300 mm²

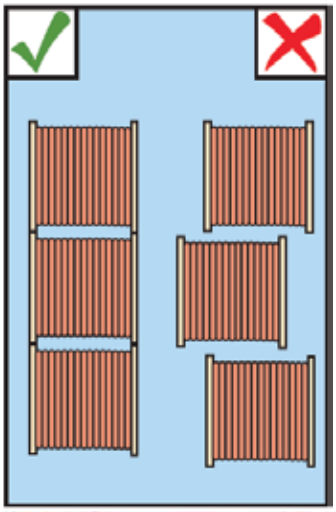
** For sizes ≤ 300 mm²

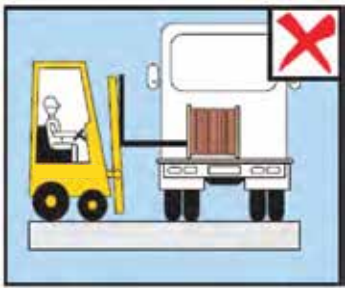
MAX. SHORT CIRCUIT TEMPERATURE FOR CABLE COMPONENTS

Material	Cable component	Max. short circuit temp. ºC
Insulation	PVC Insulation	140 For C.S.A > 300 mm2
		160 For C.S.A 300 mm2
	XLPE Insulation	250
Sheathing	PVC Sheath	200
	LDPE Sheath	150
	HDPE Sheath	180
	Lead Sheath	170
	Lead Alloy Sheath	200

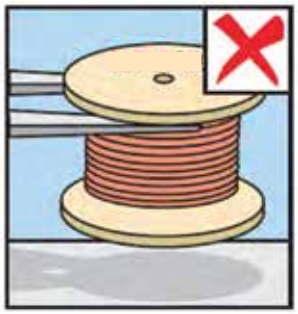




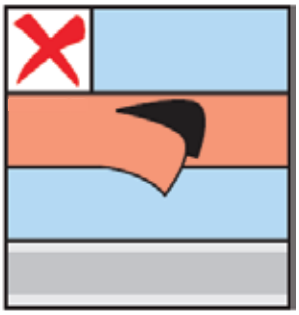




Do not use the fork lift tynes to push cable drums sideways on a truck tray or the ground as damage to the flanges can result in the drum being unacceptable to customers.



Do not attempt to lift drums of cable without inserting the fork lift tynes fully under both flanges as the tynes can damage the cable, making it unserviceable. Do not attempt to lift drums by the flange or to lift drums into the upright (correct) position by lifting the top flanges as it may break the flange from the drum barrel. The drum will then be undeliverable. Use a length of steel pipe through the centre of the drum to provide leverage and control.

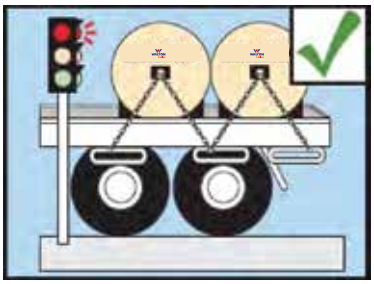


This cable has been rendered unserviceable through fork lift tyne damage and may necessitate the scrapping of the whole drum.

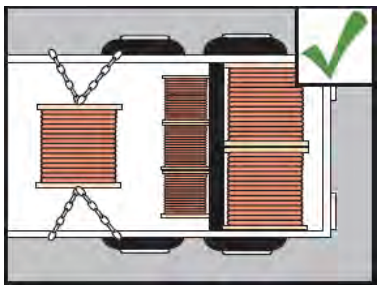
When rewinding cables, drums shall be of suitable construction and in good condition. All drums shall be held firmly in appropriate pay-off stands to prevent vibration and ensure smooth, even rotation to minimise inner end cable grow-out and tangling. Cables shall be wound evenly and uniformly, then secured.

DRUM HANDLING

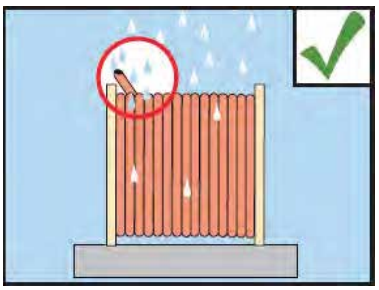
Lower drums gently onto the ground or transport.



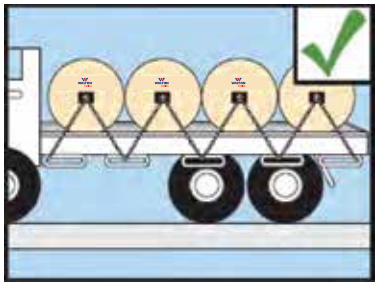
Ensure drums are restrained to restrict movement during sudden stop/starts.



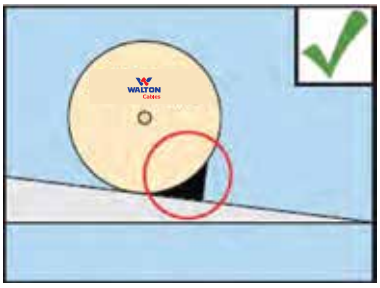
Always protect cable from rubbing or damage.adjust load or use separators.



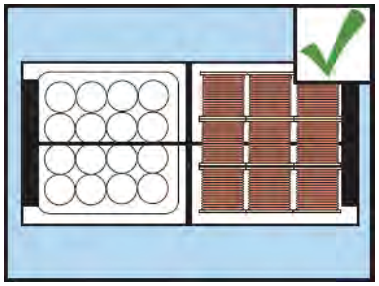
Ensure cable sealing is intact so moisture cannot seep into cable. Report damage.



Heavy drums should be chained appropriately for transit, with protection from the chain rubbers for the spindle hole in the centre of the drum. Under no circumstances are drums to be transported on their side.

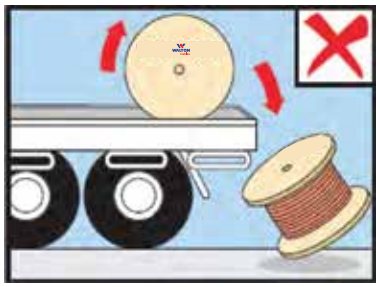


When placing drums on an uneven surface be prepared to check drums against rolling and chock is required.

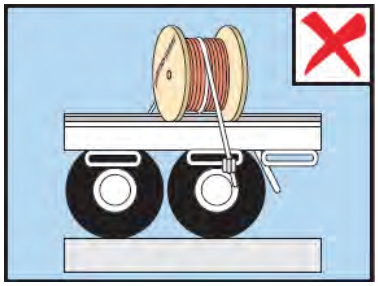


Always protect product, especially spools, against rope damage during tying down of load.

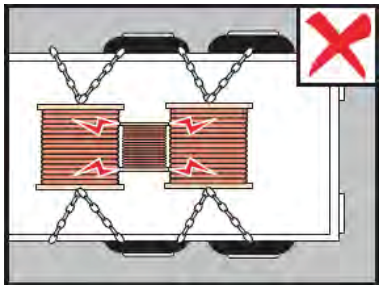
DRUM HANDLING



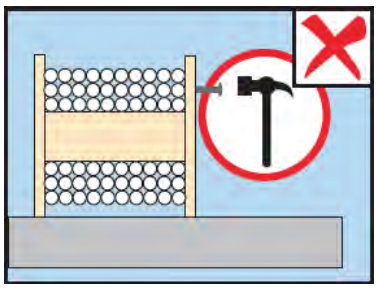
Avoid impact force loadings. Never drop drums.



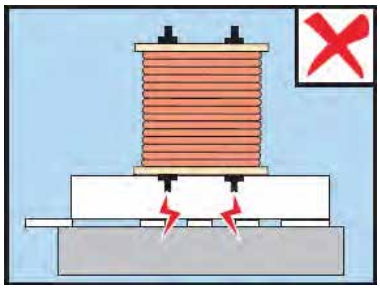
When securing drums for transit, do not place ropes or chains over cable as damage can occur to the outer insulation rendering the cable unserviceable.



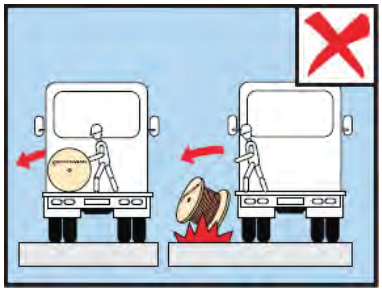
Never let drum flanges contact cable on adjacent drums.



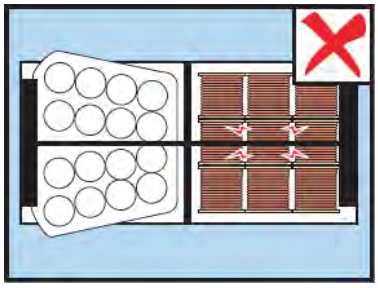
Avoid use of additional nails on drums or cable, because flange thickness vary.



Never lay drums on their side, even on top of pallets, as protruding bolts damage spools and cable.

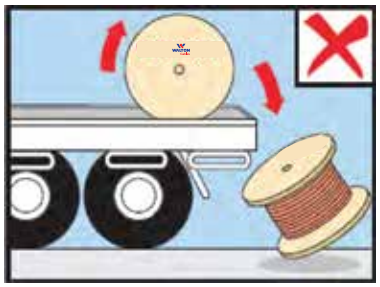


Do not roll cable drums from the back of a delivery truck to the ground as with the resulting flange damage the cable will not be able to be rollded off the drum.



Never use rope directly over shrinkwrapped cable.

DRUM HANDLING



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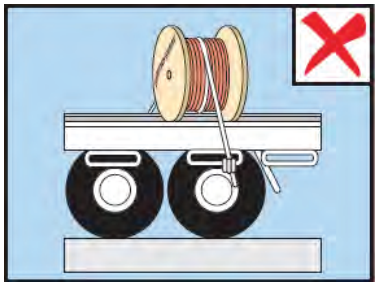

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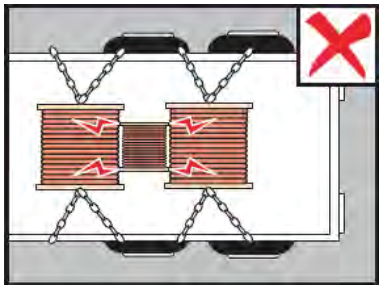

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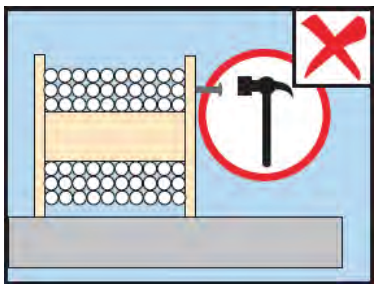

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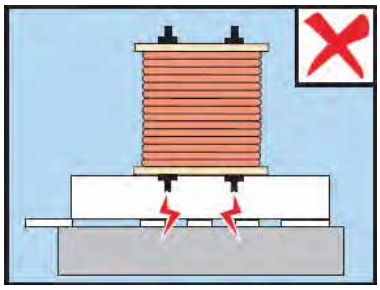

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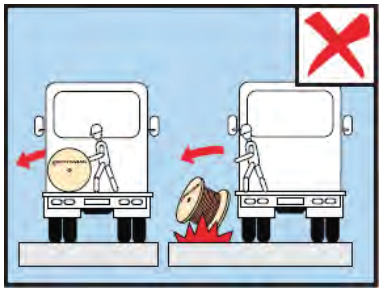

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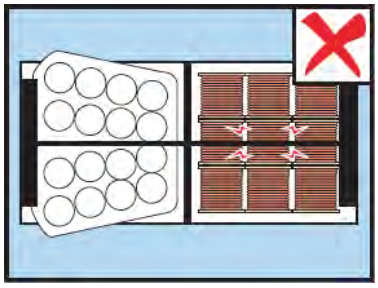


Never use rope directly over shrinkwrapped cable.

STORAGE RECOMMENDATIONS

When storing cable drums for long periods, please take the following guidelines into consideration:

• Select a site for storage that is level and dry, preferably indoors with a concrete surface, with no risk of falling objects, chemical spills (oil, grease, etc.) open flames and excessive heat.

• If indoors, and concrete storage is not available, select a well-drained surface that will prevent the reel flanges sinking into it.

• The drums must always be stored with their flanges vertical.

• Leave enough space between stored drums for air circulation.

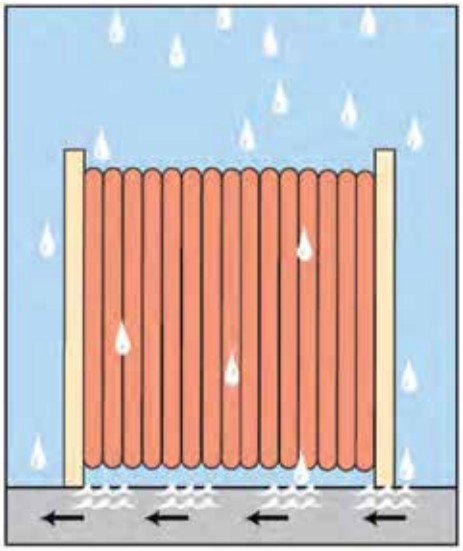
• If drums are stored in a high traffic area (fork lifts frequent transit) suitable barriers should be erected to prevent damage from moving equipment.

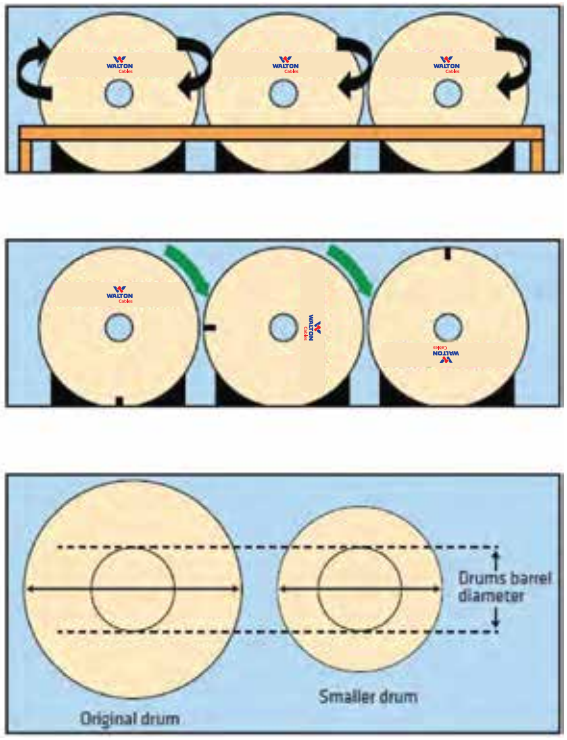
• The bolts should be tightened at regular intervals.

• During storage, the drums should be rolled to an angle of 90° every three months.

• When only a portion of the cable is used, the open end of the cable remaining on the drum should immedia tely be re-sealed to prevent the entrance of moisture. Once it has been re-sealed, the cut end should be fixed to the inside edge of the drum flange to prevent the end from extending beyond the flanges during drum movement.

• When it is required to rewind the cable on to another drum, always consider that the diameter of the new drum barrel should be at least the same size of the original drum barrel diameter.





WALTON
Cables

BREB | CPRI | BUET | BSTI | ISO | RoHS Compliant Certified | ISO 9001: 2015, ISO 14001: 2015 & ISO 45001: 2018 Certified Company

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