VENKATESWARA WIRES (P) LTD.

INDIA

INSPIRED INNOVATION
FOR A BETTER
TOMORROW.

UNCOMPROMISED QUALITY. EFFICIENT SERVICES.

AN ISO: 9001:2015 COMPANY

- ACSR CONDUCTORS
- AAA CONDUCTORS
- AA CONDUCTORS
- AL-59 CONDUCTORS
- LT AB CABLES
- LT PVC POWER & CONTROL CABLE
- LT XLPE POWER & CONTROL CABLES

COMPANY PROFILE

With over 25 years of experience and acquiring industry know-hows by working alongside the top players, VWPL has grown multi-fold and today, is a renowned cable and conductor manufacturer in the Power Transmission & Distribution Industry. We stay committed to our mission of being a reliable, quality conscious and price-friendly supplier to our esteemed clients. Now that we enjoy the trust of our clients in India, we are already spreading our wings to provide our quality products & services to prospective clients abroad.

Our highly experienced Director, Mr. Sanjay Saboo, incorporated Venkateswara Wires (P) Ltd in 1988. With his knowledge and networking throughout the industry, his teams at various departments are motivated to achieve results with the best offering to the clients. With a turn over of USD. 33 mn (Approx) VWPL is engaged in the manufacturing of high quality products:

- ACSR (Aluminum Conductor Steel Reinforced)
- AAAC (All Aluminum Alloy Conductor)
- AAC (All Aluminum Conductor)
- AL-59 (Conductor)
- LT Aerial Bunched Cables.
- PVC insulated & PVC sheathed (UA/A) cable
- XLPE insulated & PVC sheathed (UA/A) cable
- Railway signaling cable

The Manufacturing Unit is a well planned and high-output generating one with modern equipment. Spread on over 10000 Sq.m. of works facility with a production capacity of 1500 MT/Month, all units work 24/7 on three shift basis with 8 lab specialists keeping check on all outputs. It is equipped to manufacture multi strand conductors with up to 61 strands that are used in transmission of electric power of upto 765kv transmission lines. Strict and rigorous quality control is maintained and the company manufactures conductors of various sizes as per Bureau of Indian Standards (BIS), or IEC/BS specs ASTM, or any international standards.

VWPL has developed a trusted relation with its clients across the country. With timely deliveries being the crux of our efforts, we strive to achieve results at the least cost. We are proud to have strong associations with our suppliers who are highly informed market participants and help us take calls on various fronts to achieve high economies.

OUR MISSION

To be a reliable and quality conscious producer of innovative cables and conductors. And be a price friendly supplier to all our esteemed clients. To achieve the objectives of the quality policy, the company follows TQM methodologies at multiple points of production. It's our continuous effort to go beyond norms and limits set by standards and create our own standards, to achieve excellence. Working in accordance with quality systems has now become a way of life at Venkateswara Wires (P) Ltd.

QUALITY POLICY

At VWPL, we are committed to efficiently produce material of Quality appreciable by customer and supply in time with a continued effort towards reducing cost and increasing customer satisfaction by continuously improving our Quality Management System.

This shall be achieved by following:

- Reducing customer complaints through improved Quality System.
- Supplying desired Quantity to customer on time, every time.
- Reducing wastage and manufacturing costs.
- Improving productivity by better utilization of machine and manpower.
- Improving Internal and External Customer Satisfaction level.
- Development of Human Resources and team spirit through better training and interaction.

INFRASTRUCTURE

PLANT MACHINERY

WIRE DRAWING
4 x 9 Die Wire Drawing Machine
2 x 11 Die Wire Drawing Machine
Copper Wire Drawing Machine
Annealer

STANDING
7 x 7 Bobbin Tubular Machine
19 Bobbin Tubular Machine
2 x 61 Bobbin Tubular Machine
Steel Rewinding Line
Skip Standing Machine

PVC/ XL PE Extruders
65 MM Extruder
80 MM Extruder
90 MM Extruder
120 MM Extruder
Spark Testers
Sequential Marking Machine
Core Printing Machine

LAYING MACHINES
4x1+3 Bobbin Machine
37 Bobbin Machine

ARMOURING MACHINES
24 Bobbin Amouring Machine
48 Bobbin Amouring Machine
Cable Rewinding Machines

OTHERS
EOT Cranes
Hydra Cranes
Generator
UPS

We are equipped with Tensile testing Machines, Kalvin Bridges etc.
All the measuring equipment are calibrated at regular intervals through independent testing laboratories/certification agency.

TESTING EQUIPMENTS

- Tensile Testing Machines
- Kelvin's Double Bridge
- Two Roll Mill
- Hydraulic Press
- Dumb-bell Cutter
- Thermal Ageing Ovens With Hour Meter, Pid Temperature Controller
- Universal Oven
- Hot Deformation Test Equipment
- Cold Impact/ Cold Bend Test Apparatus
- Thermal Stability Test Apparatus
- Muffle Furnace
- Conditioning Chamber
- Flammability Test Apparatus
- Hot Set Test Apparatus
- Torsion Cum Wrapping Testing Machine
- Bunsen Burners
- Digital Temperature Indicators
- Digital Weighting Balance
- Insulation Resistance Tester
- Standard Resistance Box
- Standard Megohm Box
- High Voltage Calibrator
- Ac High Voltage Tester
- Dc High Voltage Tester
- Digital Micro-ohm Meter
- Meggar
- Water Baths
- Water Absorption Test Apparatus
- Hydro Meter
- Carbon Content & Dispersion Test Apparatus
- Day-Light Exposure Test Apparatus
- Different Mandrels
- Chemicals
- Melt Flow Index Test Apparatus
- Vicat Softening Point Test Apparatus
- Facilities For Optional Tests

FACILITIES AT OUR WORKS

- Routine Tests
- Type Tests
- Acceptance Tests
- Optional / Additional Tests

TYPE TESTS

- UTS & Surface condition test on complete conductor.
- Corona & RIV Test (For 400 kV to 800 kV)
- D.C. Resistance Test on Complete conductor.
- Stress Strain Test of Composite Conductor & Steel Core.
- Any other test viz. Creep Test etc. as per customer requirement.

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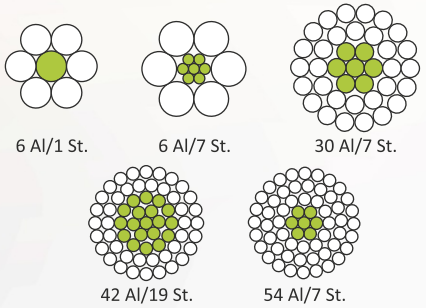
CONDUCTORS

LT CABLES

ALUMINIUM CONDUCTORS STEEL REINFORCED

All Aluminium Conductors Steel Reinforced (ACSR) consists of stranded or solid steel core enclosed by strands of aluminum. These are made available in broad range of steels varying from as low as 6% to as high as 40 %. The superior strength of ACSR is ideal for overhead ground wires, river crossings, installations involving extra long span. Manufactured using best quality materials, these conductors ensure high tensile strength.



STRANDED BARE ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) IS-398-II : 1976 & IS-398-V : 1992

ACSR Code Word	Cond. Area mm2	Stranding Nos./mm		Calculated sectional Area Sq.mm		Approx overall Dia mm	Weight kg/km			Calc. Electrical Resistance at 200C Ohms/km	Approx Calc. Breaking Load (KN)
		Alum.	Steel	Alum.	ACSR	ACSR	ACSR	Alum.	Steel	Cond.	Cond.
MOLE	10	6/1.50	1/1.50	10.60	12.37	4.50	43	29	14	2.780	3.97
SPECIAL	18	6/1.96	1/1.96	18.10	21.12	5.88	73	50	23	1.618	6.74
SQUIRREL	20	6/2.11	1/2.11	20.98	24.48	6.33	85	58	27	1.394	7.61
WEASEL	30	6/2.59	1/2.59	31.61	36.88	7.77	128	87	41	0.929	11.12
RABBIT	50	6/3.35	1/3.35	52.88	61.70	10.05	214	145	69	0.552	18.25
RACCOON	80	6/4.09	1/4.09	78.83	91.97	12.27	319	216	103	0.371	26.91
DOG	100	6/4.72	7/1.57	105.00	118.50	14.15	394	288	106	0.279	32.41
WOLF	150	30/2.59	7/2.59	158.10	194.90	18.13	726	437	289	0.187	67.34

PANTHER	200	30/3.0	7/3.00	212.10	261.50	21.00	974	586	388	0.139	89.67
KUNDAH	400	42/3.50	7/1.96	404.10	425.20	26.88	1281	1116	165	0.073	88.79
ZEBRA	420	54/3.18	7/3.18	428.90	484.50	28.62	1621	1186	435	0.069	130.32
MOOSE	520	54/3.53	7/3.53	528.50	597.00	31.77	2004	1467	537	0.056	161.20
BERSIMIS	690	42/4.57	7/2.54	688.90	724.40	35.04	2187	1907	280	0.042	146.87

STRANDED BARE ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR) BS-215-II - 1970

ACSR Code Word	Cond. Area sq. mm.	Stranding Nos./mm		Calculated Sectional Area Sq.mm		Overall Diameter mm.	Approx. Weight kg/km			Ultimate Strength kg	Calculated Resistance at 20° C (Max)
		Alum.	Steel	Alum.	ACSR	ACSR	ACSR	Alum.	Steel		Ohm/km.
Gopher	25	6/2.36	1/2.36	26.24	30.62	7.08	106	72	34	980	1.093
Weasel	30	6/2.59	1/2.59	31.61	36.88	7.77	128	87	41	1,170	0.9077
Fox	35	6/2.79	1/2.79	36.68	42.80	8.37	148	101	47	1,340	0.7822
Ferret	40	6/3.00	1/3.00	42.41	49.48	9.00	172	117	55	1,550	0.6766
Rabbit	50	6/3.35	1/3.35	52.88	61.70	10.05	214	145	69	1,870	0.5426
Mink	60	6/3.66	1/3.66	63.17	72.64	10.98	255	173	82	2,220	0.4546
Horse	70	12/2.79	7/2.79	73.37	116.20	13.95	538	203	335	6,240	0.3936
Dog	100	6/4.72	7/1.57	105.00	118.50	14.15	394	288	106	3,330	0.2733
Coyote	130	26/2.54	7/1.91	131.70	151.80	15.89	521	364	157	4,730	0.2191
Wolf	150	30/2.59	7/2.59	158.10	194.90	18.13	726	437	289	7,060	0.1828
Lynx	175	30/2.79	7/2.79	183.40	226.20	19.53	842	507	335	8,140	0.1576
Panther	200	30/3.00	7/3.00	212.10	261.50	21.00	974	586	388	9,430	0.1363
Jaguar	200	18/3.86	7/3.86	210.60	222.30	19.30	671	580	91	4,750	0.1367
Goat	320	30/3.71	7/3.71	324.30	400.00	25.97	1,489	896	593	13,850	0.08912
Bison	380	54/3.00	7/3.00	381.70	431.20	27.00	1,443	1,055	888	12,330	0.07574
Zebra	400	54/3.18	7/3.18	428.90	484.50	28.62	1,622	1,186	436	13,450	0.06740
Deer	425	30/4.27	7/4.27	429.60	529.80	29.89	1,973	1,187	786	16,210	0.06727
Moose	525	54/3.53	7/3.53	528.50	597.00	31.77	1,998	1,461	537	16,420	0.05470

ALL ALUMINIUM CONDUCTORS

We manufacture a wide variety of All Aluminium Conductors (AAC) using E.C.GRADE aluminium, ensuring purity of minimum 99.55%. The entire assortment of aluminum conductors are widely demanded in urban areas for short spacing. These conductors are made with one or more strands depending upon the usage requirements. Also, these conductors are ideal for coastal areas due to its high degree rust resistance features.

STRANDED BARE ALUMINIUM CONDUCTOR (AAC) BS-215-I-1970

Code Word	Conductor Size sq.mm.	Stranding Nos./mm.	Sectional Area sq.mm.	Overall Diameter mm.	Approx Weight kg./km.	Ultimate Strength kg.	Calculated Resistance At 200C (max) Ohm./km	Copper Equivalent sq.mm.
Midge	22	7/2.06	23.33	6.18	64	407	1,227	14
Gnat	25	7/2.21	26.85	6.63	74	468	1,066	16
Ant	50	7/3.10	52.83	9.30	145	844	0.5419	32
Fly	60	7/3.40	63.55	10.20	174	1,010	0.4505	38
Wasp	100	7/4.39	106.0	13.17	290	1,632	0.2702	64
Hornet	150	19/3.25	157.6	16.25	434	2,620	0.1825	96
Chafer	200	19/3.78	213.2	18.90	587	3,300	0.1349	130
Cockroach	250	19/4.22	265.7	21.10	731	4,120	0.1083	162
Butterfly	300	19/4.65	322.7	23.25	888	4,976	0.08916	196
Centipede	400	37/3.78	415.2	26.46	1,145	6,430	0.06944	253

STRANDED BARE ALUMINIUM CONDUCTOR (AAC) IS-398-I:1976

Code Word	Nominal Aluminium Area mm2	Stranding Nos./mm	Approx Over all Dia mm	Approx Mass Kg/Km	Calculated Resistance at 200C Max/ KM	Approx Calculated Breaking Load KN
Gnat	25	7/2.21	6.63	74	1.096	4.52
Ant	50	7/3.10	9.30	145	0.5525	8.25
Wasp	100	7/4.39	13.17	290	0.2752	15.96
Special	150	19/3.18	15.90	415	0.1942	23.28
Spider	240	19/3.99	19.95	654	0.1235	35.74
Butterfly	300	19/4.65	23.25	888	0.09107	48.74

ALL ALUMINIUM ALLOY CONDUCTORS

Aluminium alloy wires used in the construction of standard aluminium alloy conductors.
Our offered All Aluminum Alloy Conductors (AAAC) is made from aluminium-magnesium-silicon alloy. These alloys ensure high electrical conductivity containing sufficient magnesium silicide to provide it superior mechanical properties after conduction.These conductors are basically made out of aluminium alloy 6201. AAAC CONDUCTOR has a enhanced corrosion resistance and improved strength to weight ratio and improved electrical conductivity than ACSR CONDUCTOR on equal diameter basis.

Physical contents of alluminium alloy :-

1. Resistivity - 0.0325 ohm mm2/m at 20°C
2. Density - 2.70 g / cm3 at 20°C
3. Coefficient of Linear Expansion - 23 x 10-6 / °C
4. Constant Mass Temperature Coefficient (a) - 0.00360/ °C
5. Material - Heat treated Al. Mg. Si. Alloy
   - Approximately 0.5% Mg & 0.5% Si

STRANDED BARE ALL ALUMINIUM ALLOY CONDUCTORS IS:398-IV-1994

Mechanical & Electrical properties are as specified in the table below :

Sl. No.	Nom. Al Area mm	Standing & wire Dia in mm	Approx. Overall Dia in mm	Approx. Mass in kg/km	Calculated Maximum Resistance at 20 C (Ohms/km)	Approx. Calculated Breaking Load (Kn)
1	15	3/2.5	5.39	40.15	2.3040	4.33
2	22	7/2.00	6.00	60.16	1.5410	6.45
3	34	7/2.50	7.50	94.00	0.9900	10.11
4	55	7/3.15	9.45	149.20	0.6210	16.03
5	80	7/3.81	11.43	218.26	0.4250	23.41
6	100	7/4.26	12.78	272.86	0.3390	29.26
7	125	19/2.89	14.45	342.51	0.2735	36.64
8	148	19/3.15	15.75	406.91	0.2290	43.50
9	173	19/3.40	17.00	474.02	0.1969	50.54
10	200	19/3.66	18.30	549.40	0.1710	58.66
11	232	19/3.94	19.70	636.67	0.1471	68.05
12	288	37/3.15	22.05	794.05	0.1182	84.71
13	346	37/3.45	24.15	952.56	0.0984	101.58
14	400	37/3.71	25.97	1101.63	0.0829	117.40
15	465	37/4.00	28.00	1280.50	0.0734	136.38
16	525	61/3.31	29.79	1448.39	0.0651	146.03
17	570	61/3.45	31.05	1573.71	0.0598	158.66
18	604	61/3.55	31.95	1666.00	0.0568	167.99
19	642	61.3.66	32.94	1771.36	0.0534	178.43
20	695	61/3.81	34.29	1919.13	0.0492	193.25
21	767	61/4.00	36.00	2115.54	0.0446	213.01

AL-59 CONDUCTORS

AL-59 Alloy Conductors are used in power transmission and distribution lines for a wide voltage range-low voltage to Ultra high Voltage.

COMPLIANCE WITH STANDARDS

AL-59 Alloy Conductor complies with the standard SS4240814 and AL-59 alloy wires complies with standard SS4240813 that specifies the limits for conductivity, strength and creep irrespective of the chemical composition which is not discussed in this standard. Other properties are similar to conventional AAAC conductors.

MATERIAL PROPERTIES

Size of the conductor
AL-59 conductors range form AL-59 31 sq-mm (7/2.38 mm) to AL-59 910 sq-mm (61/4.36 mm)

Strength of the wire
- For diameter less than 3.5 mm: 250 MPA
- For diameter less than 4 mm: 240 MPA
- For diameter less than 4.5 mm: 230 MPA

Resistivity of the wire
- Individual resistivity: 29.30 nΩm
- Average resistivity: 29.08 nΩm

Creep of the conductor
Maximum conductor creep at 23ºC at 40% of rated tensile strength and 1500 hours are as follows
- 7 strands: 350 mm/Km
- 19 and 37 strands: 400 mm/Km
- 61 strands: 450 mm/Km

COMPARISON WITH CONVENTIONAL ACSR AND AAAC

The comparison is based on the current carrying capacity, strength of the conductor and sag.

The comparison for transmission as well as for the distribution is as detailed below:

COMPARISON OF VARIOUS TRANSMISSION CONDUCTORS

	ACSR MOOSE	AAAC MOOSE	AL-59 ALLOY
Typical Factors	54/7/3.53	61/3.55	61/3.52
Reference Specification	IS 398 PART II	IS 398 PART IV	SS 4240814
Conductor Diameter (mm)	31.77	31.95	31.68
Cross Sectional area (sq-mm)	596.69	603.47	593.31
Ambient Temperature (ºC)	40	40	40
Current Carrying Capacity (Amperes) at 80ºC	1092	1089	1313
Current Carrying Capacity (Amperes) at 100ºC	***	1343	1620
Sag (meter)			
At 350 meter span, 80ºC	10.917	9.472	10.515
At 350 meter span, 100ºC	***	10.402	11.387
Mass per unit length			
kg/km	1998	1666	1640
Tensile Strength			
Kgf	16269	17124	14577
DC Resistance			
Ohm/km	0.05595	0.0568	0.0501

Note: Current Carrying Capacity calculation based on wind velocity of 1 m/sec and solar absorption coefficient is 0.6

COMPARISON OF 7 STRAND DISTRIBUTION CONDUCTORS

	ACSR WEASEL	AAAC WEASEL	AL-59 ALLOY
Typical Factors	6/1/2.59	7/2.50	7/2.50
Reference Specification	IS 398 PART II	IS 398 PART IV	SS 4240814
Conductor Diameter (mm)	7.77	7.50	7.50
Cross Sectional area (sq-mm)	36.86	34.34	34.34
Ambient Temperature (ºC)	40	40	40
Current Carrying Capacity (Amperes) at 80ºC	183	176	187
Current Carrying Capacity (Amperes) at 100ºC	***	212	225
Sag (meter)			
At 350 meter span, 80ºC	90.03	72.85	86.74
At 350 meter span, 100ºC	***	72.99	86.86
Mass per unit length			
kg/km	128	94	94
Tensile Strength			
Kgf	109.09	99.18	84.10
DC Resistance			
Ohm/km	0.9289	0.9900	0.8777

INTRODUCTION

LOW VOLTAGE CABLES come in a variety of sizes, materials, and types, each particularly adapted to its uses. Cables consist of three major components: conductors, insulation, and protective outer sheath. The makeup of individual cables varies according to application.

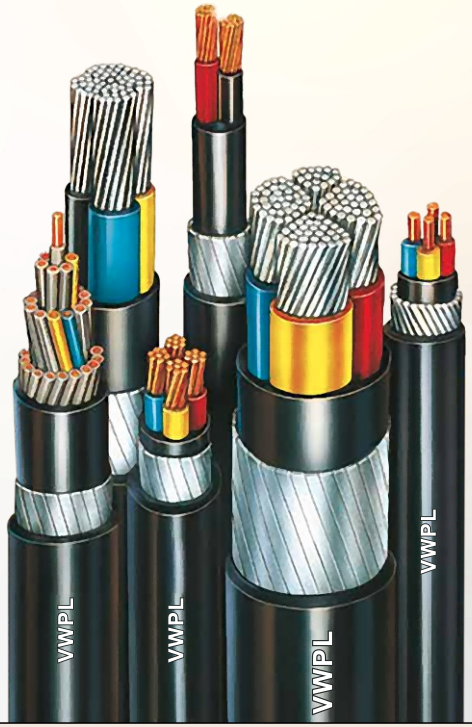
The construction and material are determined by three main factors:

- Working voltage, determining the thickness of the insulation
- Current-carrying capacity, determining the cross-sectional size of the conductor(s)
- Environmental conditions such as temperature, water, chemical or sunlight exposure, and mechanical impact, determining the form and composition of the outer sheath of cable.

LV cables use stranded copper or aluminum conductors. although small conductor of cables may use solid conductors. The overall assembly may be round or flat. Non-conducting filler strands may be added to the assembly to maintain its shape. Special purpose LV cables for overhead or vertical use may have additional elements such as steel structural supports. Some LV cables for outdoor overhead use may have no outer sheath.

Technical Information

TYPE	SIZES	VOLTAGE RATING
PVC / XLPE insulated cables conforming to IS:1554-I / IS:7098-I, BS:6346, IEC:60502, BS:5467, BS:6724 and Customer specific requirements	Single Core 1.5 to 1000 sq. mm Multi Core 1.5 to 630 sq. mm	Upto1.1 kV



Construction

Conductor	Stranded / Solid / Circular / shaped
Material	Aluminum / Copper
Insulation	PVC /XLPE
Inner Sheath	PVC
Armour	G.S Steel Round Wire /G.S. Steel Formed Wire (Strip) / G.S. Steel Tape/Aluminium Round Wire / Aluminium Formed Wire (Strip)/ Aluminium Tape
Outer Sheath	PVC

Application

LV cable is used widely in many industries ranging from industries involved in water, renewable energy, distribution and power networks, nuclear and thermal power stations, airports, marine, defense, telecommunications, windmills, building, mining, offshore, applications, ship wiring, railways, automation, audio-visual and manufacturing industries, these cables can be suitable for a huge amount of applications.

AERIAL BUNCH CABLES

Aerial Bunch Cables (ABC) is a new concept for over head power distribution. It gives superior level of dependability and safety, decreases power losses and ultimate system economy by dropping installation, maintenance and operative cost. The range of ABC cables is extensively used in LT Distribution Lines to avoid theft of electricity. All these ABC cables are perfect for replacing of bare line in rural areas, in woods and in other localities, where the space is restricted.

Also these cables ensure high degree of stability of supply voltage and better conductivity. It is the most preferred option in congested urban areas.

LT AERIAL BUNDLED CONDUCTOR (ABC) POLYMERIC INSULATED AS PER BS: 7870 (PT-5) 1999

Nominal Cross Sectional Area of Conductor	Maximum D.C. resistance at 20 Deg. C.	Minimum Average thickness of XLPE insulation	Ultimate Tensile strength of conductor
Sq.mm	Ohm/km	mm	KN
25	1.20	1.3	4.1
35	0.868	1.3	5.6
50	0.641	1.5	7.6
70	0.443	1.5	11
95	0.320	1.7	15.3
120	0.253	1.7	19.4

LT AERIAL BUNCHED CABLES AS PER IS :14255-1995 SIZE AND REQUIREMENT OF PHASE, STREET LIGHTING AND MESSENGER CONDUCTOR

Phase Conductor (Aluminum)			Street Lighting Conductor (Aluminum)			Messenger Conductor (Aluminum Alloy)		
Nominal Area	Conductor D.C Resistance at 20°C	Nominal Thickness of Insulation	Nominal Area	Conductor D.C Resistance at 20°C	Nominal Thickness of Insulation	Nominal Area	Maximum D.C Resistance at 20°C	Minimum Breaking Load
Sq.mm	Ohm/km	mm	Sq.mm	Ohm/km	mm	Sq.mm	Ohm/km	kN
16	1.910	1.20	16	1.910	1.2	25	1.380	7.00
25	1.200	1.20	16	1.910	1.2	25	1.380	7.00
35	0.868	1.20	16	1.910	1.2	25	1.380	7.00
50	0.641	1.50	16	1.910	1.2	35	0.986	9.80
70	0.443	1.50	16	1.910	1.2	50	0.689	14.00
95	0.320	1.50	16	1.910	1.2	70	0.492	19.70

CHARACTERISTICS OF CONDUCTORS AND CORES FOR LT AERIAL BUNCHES CABLES AS PER NFC: 33-209

DESIGNATION		CONDUCTOR					Average Thickness of Insulating Sheath Specified Value (mm)	Core	
					Breaking Strength			Outside Diameter	
Type	Nominal Cross Sectional Area (sqmm)	Number of Strands	Maximum Linear Resistance at 20 Deg.C (Ohm/km)	Minimum Conductor Diameter (mm)	Minimum (daN)	Maximum (daN)		Minimum (mm)	Maximum (mm)
Phase	16	7	1.91	4.7	190	290	1.2	7.0	7.9
or	25	7	1.20	6.0	300	450	1.4	8.7	9.6
Neutral	35	7	0.868	7.0	420	630	1.6	10.1	11.1
Non	50	7	0.641	8.2	600	900	1.6	11.3	12.3
Return	70	12	0.443	9.8	840	1260	1.8	13.3	14.3
Neutral Return	54.6	7	0.63	9.2	1660	-	1.6	12.3	13

PVC INSULATED ARMOURED/UNARMOURED CONTROL CABLES 1.5 SQ.MM

No. of Cores & cross of sectional area	Min. Thickness of PVC	ARMOURED							UNARMOURED		
		YWY (WIRE ARMOURED)				YFY (STRIP ARMOURED)			YY		
		Nominal Dimensions of Armour inner sheath	Min. Thickness of PVC Outer Wire	Overall Diameter (Approx.) Sheath	Approx. Net Wt. of Cable	Min. Thickness of PVC Outer	Overall Diameter (Approx.) Sheth	Approx. Net Wt. of Cable	Nom. Thickness of PVC Outer	Overall Diameter (Approx.) Sheth	Approx. Net Wt. of Cable
	mm	mm	mm	mm	kg/km	mm	mm	kg/km	mm	mm	kg/km
2Cx1.5	0.3	1.40	1.24	14	425	-	-	-	1.80	12.5	185
3Cx1.5	0.3	1.40	1.24	14.5	460	-	-	-	1.80	13.0	190
4Cx1.5	0.3	1.40	1.24	15	520	-	-	-	1.80	13.5	225
5Cx1.5	0.3	1.40	1.24	16	530	-	-	-	1.80	14.0	260
6Cx1.5	0.3	1.40	1.24	17	590	-	-	-	1.80	15.0	295
7Cx1.5	0.3	1.40	1.24	17	610	-	-	-	1.80	15.0	315
10Cx1.5	0.3	1.40	1.40	21	820	-	-	-	1.80	18.5	425
12Cx1.5	0.3	1.60	1.40	21.5	930	1.24	19.5	740	1.80	19.0	480
14Cx1.5	0.3	1.60	1.40	22.5	1020	1.40	21	820	1.80	20.0	535
16Cx1.5	0.3	1.60	1.40	23.5	1100	1.40	22	890	1.80	21.0	595
19Cx1.5	0.3	1.60	1.40	25	1230	1.40	23	1020	2.00	22.5	720
24Cx1.5	0.3	1.60	1.40	28	1480	1.40	26.5	1220	2.00	26.0	880
27Cx1.5	0.3	1.60	1.40	28.5	1570	1.40	27	1320	2.00	26.5	960
30Cx1.5	0.3	1.60	1.40	29.5	1660	1.40	28	1400	2.00	27.5	1040
37Cx1.5	0.3	1.60	1.40	31.5	1910	1.40	30	1630	2.00	29.0	1230

1. Insulation Thickness is 0.80 mm (Nom) for all cables.
2. Strip Dimension is of 4x0.80 mm.

COPPER CONDUCTOR PVC INSULATED ARMOURED / UNARMOURED CONTROL CABLES 2.5 SQ.MM

No. of Cores & cross of sectional area	Min. Thickness of PVC inner sheath	ARMOURED							UNARMOURED		
		YWY (WIRE ARMOURED)				YFY (STRIP ARMOURED)			YY		
		Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
	mm	mm	mm	mm	kg/km	mm	mm	kg/km	mm	mm	kg/km
2Cx2.5	0.3	1.40	1.24	15.5	495	-	-	-	1.80	13.5	230
3Cx2.5	0.3	1.40	1.24	16.0	550	-	-	-	1.80	14.0	240
4Cx2.5	0.3	1.40	1.24	17.0	620	-	-	-	1.80	15.0	290
5Cx2.5	0.3	1.40	1.24	17.5	540	-	-	-	1.80	16.0	335
6Cx2.5	0.3	1.40	1.24	19.0	720	-	-	-	1.80	17.0	385
7Cx2.5	0.3	1.40	1.24	19.0	760	-	-	-	1.80	17.0	420
10Cx2.5	0.3	1.60	1.40	23.5	1110	1.40	21	900	1.80	21.0	570
12Cx2.5	0.3	1.60	1.40	24.5	1240	1.40	22	1000	2.00	22.5	690
14Cx2.5	0.3	1.60	1.40	25.5	1340	1.40	24	1100	2.00	23.5	775
16Cx2.5	0.3	1.60	1.40	26.5	1455	1.40	25	1200	2.00	24.5	860
19Cx2.5	0.3	1.60	1.40	27.5	1605	1.40	26	1320	2.00	25.5	985
24Cx2.5	0.3	1.60	1.56	31.0	1970	1.40	30	1600	2.00	29.5	1215
27Cx2.5	0.3	1.60	1.56	32.0	2100	1.40	31	1720	2.00	30.0	1330
30Cx2.5	0.3	1.60	1.56	33.5	2250	1.56	32	1900	2.00	31.0	1450
37Cx2.5	0.4	2.00	1.56	37.0	2900	1.56	35	2300	2.00	34.0	1790

1. Insulation Thickness is 0.90 mm (Nom) for all cables.
2. Strip Dimension is of 4x0.80 mm.

1 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMOURED POWER CABLES

No. of Cores & cross of sectional area	ARMOURED										
	Thickness of Insulation (Nom.)	Nominal Dimensions of Armour Wire	AYWY/YWY (WIRE ARMOURED)					AYFT/YFY (STRIP ARMOURED)			
			Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
1Cx6	1.30	1.40	1.24	12	170	215	-	-	-	-	-
1Cx10	1.30	1.40	1.24	13	200	255	-	-	-	-	-
1Cx16	1.30	1.40	1.24	14	230	330	-	-	-	-	-
1Cx25	1.50	1.40	1.24	15	300	440	-	-	-	-	-
1Cx35	1.50	1.40	1.24	16	340	550	-	-	-	-	-
1Cx50	1.70	1.40	1.24	18	420	720	-	-	-	-	-
1Cx70	1.70	1.40	1.40	20	530	970	-	-	-	-	-
1Cx95	1.90	1.60	1.40	22	690	1280	4x0.8	1.4	21	640	1220
1Cx120	1.90	1.60	1.40	24	790	1540	4x0.8	1.4	23	750	1490
1Cx150	2.10	1.60	1.40	26.5	930	1860	4x0.8	1.4	24	870	1810
1Cx185	2.30	1.60	1.40	28.5	1100	2230	4x0.8	1.4	27	1040	2180
1Cx240	2.50	1.60	1.56	31.5	1370	2850	4x0.8	1.4	30	1280	2780
1Cx300	2.70	1.60	1.56	34	1620	3480	4x0.8	1.56	32	1560	3420
1Cx400	3.00	2.00	1.56	39	2080	4560	4x0.8	1.56	37	1920	4380
1Cx500	3.40	2.00	1.72	41	2600	5700	4x0.8	1.56	40	2370	5480
1Cx630	3.90	2.00	1.88	48	3270	7150	4x0.8	1.72	45	3020	6950
1Cx800	3.90	2.00	1.88	52	3910	8930	4x0.8	1.88	49	3680	8620
1Cx1000	3.90	2.50	2.04	58	4830	10050	4x0.8	2.04	55	4430	10600

1 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED				
	Thickness of Insulation (Nom.)	AYY/YY			
		Nom Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	kg/km	kg/km
1Cx6	1.00	1.80	9	110	130
1Cx10	1.00	1.80	10	130	190
1Cx16	1.00	1.80	11	160	160
1Cx25	1.20	1.80	12	220	360
1Cx35	1.20	1.80	13	260	470
1Cx50	1.40	1.80	15	330	620
1Cx70	1.40	1.80	17	410	840
1Cx95	1.60	1.80	19	530	1060
1Cx120	1.60	2.00	21	640	1300
1Cx150	1.80	2.00	23	770	1680
1Cx185	2.00	2.00	25	920	2050
1Cx240	2.20	2.00	28	1160	2600
1Cx300	2.40	2.20	30	1390	3250
1Cx400	2.60	2.20	35	1760	4150
1Cx500	3.00	2.20	38	2200	5230
1Cx630	3.40	2.40	43	2820	6660
1Cx800	3.40	2.40	48	3430	8300
1Cx1000	3.40	2.60	53	4180	10300

2 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMOURED POWER CABLES

No. of Cores & cross of sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC Inner Sheath	ARMOURED									
			AYWY/YWY (WIRE ARMOURED)					AYFT/YFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
		mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
2Cx4	1.00	0.3	1.40	1.24	15.0	455	505	-	-	-	-	-
2Cx6	1.00	0.3	1.40	1.24	17.5	630	710	-	-	-	-	-
2Cx10	1.00	0.3	1.40	1.24	19	740	860	-	-	-	-	-
2Cx16	1.00	0.3	1.60	1.40	22.5	800	910	4x0.8	1.40	20.5	560	750
2Cx25	1.20	0.3	1.60	1.40	23	890	1190	4x0.8	1.40	21	690	990
2Cx35	1.20	0.3	1.60	1.40	24	1030	1450	4x0.8	1.40	22.5	800	1220
2Cx50	1.40	0.3	1.60	1.56	27	1260	1830	4x0.8	1.40	25	980	1550
2Cx70	1.40	0.3	1.60	1.56	29.5	1490	2310	4x0.8	1.56	28	1200	2030
2Cx95	1.60	0.4	2.00	1.56	34	2030	3180	4x0.8	1.56	31.5	1500	2640
2Cx120	1.60	0.4	2.00	1.72	36.5	2320	3760	4x0.8	1.56	33.5	1730	3170
2Cx150	1.80	0.4	2.00	1.72	39.5	2650	4440	4x0.8	1.72	37	2040	3830
2Cx185	2.00	0.5	2.00	1.88	43	3120	5350	4x0.8	1.88	41	2450	4680
2Cx240	2.00	0.5	2.50	2.04	49	4150	7090	4x0.8	2.04	45.5	3020	5950
2Cx300	2.40	0.6	2.50	2.20	53.5	4860	8550	4x0.8	2.20	50	3640	7320
2Cx400	2.60	0.6	3.15	2.52	60.5	6450	111160	4x0.8	2.36	55.5	4470	9180

2 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED					
	Thickness of Insulation (Nom.)	AYY/YY				
		Nom Thickness of PVC inner sheath	Nom Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km
2Cx4	1.00	0.3	1.80	13.5	190	242
2Cx6	1.00	0.3	1.80	14.5	320	400
2Cx10	1.00	0.3	1.80	16.0	390	520
2Cx16	1.00	0.3	1.80	17.8	330	520
2Cx25	1.20	0.3	2.00	18.7	460	770
2Cx35	1.20	0.3	2.00	20.2	550	970
2Cx50	1.40	0.3	2.00	22.7	690	1260
2Cx70	1.40	0.3	2.00	25.3	850	1680
2Cx95	1.60	0.4	2.20	29.0	1130	2280
2Cx120	1.60	0.4	2.20	31.0	1310	2750
2Cx150	1.80	0.4	2.40	34.5	1580	3370
2Cx185	2.00	0.5	2.40	37.5	1910	4140
2Cx240	2.20	0.5	2.60	42.5	2420	5350
2Cx300	2.40	0.6	2.80	46.5	2960	6650
2Cx400	2.60	0.6	3.20	52.5	3760	8470

3 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMOURED POWER CABLES

No. of Cores & cross of sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC Inner Sheath	ARMOURED									
			AYWY/YWY (WIRE ARMOURED)					AYFT/YFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
		mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
3Cx4	1.00	0.3	1.40	1.24	15.8	505	580	-	-	-	-	-
3Cx6	1.00	0.3	1.40	1.24	17.5	680	790	-	-	-	-	-
3Cx10	1.00	0.3	1.40	1.40	19.5	830	1020	-	-	-	-	-
3Cx16	1.00	0.3	1.60	1.40	21	880	1160	4x0.8	1.40	19.5	680	960
3Cx25	1.20	0.3	1.60	1.40	24	1110	1560	4x0.8	1.40	22.5	870	1320
3Cx35	1.20	0.3	1.60	1.40	25.5	1290	1920	4x0.8	1.40	24	1010	1640
3Cx50	1.40	0.3	1.60	1.56	29	1580	2440	4x0.8	1.56	27.5	1290	2150
3Cx70	1.40	0.4	2.00	1.56	33	2121	3360	4x0.8	1.56	30.5	1590	2830
3Cx95	1.60	0.4	2.00	1.72	37.5	2620	4330	4x0.8	1.56	34.5	1970	3680
3Cx120	1.60	0.4	2.00	1.72	40.5	3000	5170	4x0.8	1.72	38	2340	4500
3Cx150	1.80	0.5	2.00	1.88	44	3500	6180	4x0.8	1.88	41.5	2780	5460
3Cx185	2.00	0.5	2.50	2.04	49	4510	7860	4x0.8	1.88	45.5	3310	6650
3Cx240	2.00	0.6	2.50	2.20	55.5	5530	9930	4x0.8	2.20	52	4170	8580
3Cx300	2.40	0.6	2.50	2.36	60	6540	12080	4x0.8	2.36	56.5	5040	10580
3Cx400	2.60	0.7	3.15	2.68	69.5	8580	15640	4x0.8	2.52	64.5	6160	13220

3 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED					
	Thickness of Insulation (Nom.)	AYY/YY				
		Nom Thickness of PVC inner sheath	Nom Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km
3Cx4	1.00	0.3	1.80	14.0	215	315
3Cx6	1.00	0.3	1.80	14.4	350	470
3Cx10	1.00	0.3	1.80	15.6	440	630
3Cx16	1.00	0.3	1.80	16.8	440	720
3Cx25	1.20	0.3	2.00	20.2	610	1060
3Cx35	1.20	0.3	2.00	21.7	730	1360
3Cx50	1.40	0.3	2.00	24.8	920	1780
3Cx70	1.40	0.4	2.20	28.5	1210	2450
3Cx95	1.60	0.4	2.20	31.6	1560	3270
3Cx120	1.60	0.4	2.20	34.7	1820	3990
3Cx150	1.80	0.5	2.40	38.9	2230	4910
3Cx185	2.00	0.5	2.60	44.5	2730	6080
3Cx240	2.20	0.6	2.80	49.0	3480	7880
3Cx300	2.40	0.6	3.00	53.5	4260	9800
3Cx400	2.60	0.7	3.40	62.0	5400	12460

3.5 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMOURED POWER CABLES

No. of Cores & cross of sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC Inner Sheath	ARMOURED									
			AYWY/YWY (WIRE ARMOURED)					AYFT/YFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
		mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
3.5Cx25/16	1.2/1.0	0.3	1.60	1.40	26.5	1250	1790	4x0.8	1.40	25	980	1530
3.5Cx35/16	1.2/1.0	0.3	1.60	1.40	27.5	1430	2160	4x0.8	1.40	26	1150	1880
3.5Cx50/25	1.4/1.2	0.3	1.60	1.56	31	1780	2790	4x0.8	1.56	29.5	1450	2460
3.5Cx70/35	1.4/1.2	0.4	2.00	1.56	36	1360	3810	4x0.8	1.56	33.5	1780	3230
3.5Cx95/50	1.6/1.4	0.4	2.00	1.72	40	2970	4970	4x0.8	1.56	37.5	2270	4270
3.5Cx120/70	1.6/1.4	0.5	2.00	1.88	43	3480	6060	4x0.8	1.72	41	2700	5280
3.5Cx150/70	1.8/1.4	0.5	2.00	1.88	48	3960	7060	4x0.8	1.88	45.5	3160	6260
3.5Cx185/95	2.0/1.6	0.5	2.50	2.04	53.5	5130	9050	4x0.8	2.04	50	3830	7750
3.5Cx240/120	2.2/1.6	0.6	2.50	2.36	60	6290	11420	4x0.8	2.20	57	4750	9880
3.5Cx300/150	2.4/1.8	0.6	3.15	2.52	66	8080	14500	4x0.8	2.36	61.5	5730	12160
3.5Cx400/185	2.6/2.0	0.7	3.15	2.68	75	9740	17920	4x0.8	2.68	70	7120	15300

3.5 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED					
	Thickness of Insulation (Nom.)	AYY/YY				
		Nom Thickness of PVC inner sheath	Nom Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km
3.5Cx25/16	1.2/1.0	0.3	2.00	22.7	700	1250
3.5Cx35/16	1.2/1.0	0.3	2.00	24.0	830	1560
3.5Cx50/25	1.4/1.2	0.3	2.00	27.0	1060	2070
3.5Cx70/35	1.4/1.2	0.4	2.20	31.0	1380	2830
3.5Cx95/50	1.6/1.4	0.4	2.20	35.0	1790	3790
3.5Cx120/70	1.6/1.4	0.5	2.40.	40.0	2190	4770
3.5Cx150/70	1.8/1.4	0.5	2.40	42.3	2550	5640
3.5Cx185/95	2.0/1.6	0.5	2.60	46.8	3150	7070
3.5Cx240/120	2.2/1.6	0.6	3.00	54.5	4050	9170
3.5Cx300/150	2.4/1.8	0.6	3.20	59.0	4940	11370
3.5Cx400/185	2.6/2.0	0.7	3.40	67.0	6200	14380

4 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMOURED POWER CABLES

No. of Cores & cross of sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC Inner Sheath	ARMOURED									
			AYWY/YWY (WIRE ARMOURED)					AYFT/YFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
		mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
4Cx4	1.00	0.3	1.40	1.24	18.3	553	628	-	-	-	-	-
4Cx6	1.00	0.3	1.40	1.24	19	790	950	-	-	-	-	-
4Cx10	1.00	0.3	1.60	1.40	23	1020	1270	4x0.8	1.40	21.5	790	1040
4Cx16	1.00	0.3	1.60	1.40	25	1040	1420	4x0.8	1.40	23	820	1200
4Cx25	1.20	0.3	1.60	1.40	27	1330	1940	4x0.8	1.40	25	1060	1670
4Cx35	1.20	0.3	1.60	1.56	30	1590	2440	4x0.8	1.40	27.5	1260	2110
4Cx50	1.40	0.4	2.00	1.56	34.5	2150	3290	4x0.8	1.56	32	1590	2730
4Cx70	1.40	0.4	2.00	1.56	38	2620	4270	4x0.8	1.56	36.5	1970	3620
4Cx95	1.60	0.4	2.00	1.72	42.5	3230	5530	4x0.8	1.72	40	2510	4810
4Cx120	1.60	0.5	2.00	1.88	47	3770	6660	4x0.8	1.88	44.5	2990	5880
4Cx150	1.80	0.5	2.50	2.04	51.5	4800	8370	4x0.8	1.88	48	3520	7090
4Cx185	2.00	0.6	2.50	2.20	57	5720	10180	4x0.8	2.04	53	4260	8720
4Cx240	2.00	0.6	2.50	2.36	64	6930	12810	4x0.8	1.36	60	5370	11240
4Cx300	2.40	0.7	3.15	2.68	71	9110	16490	4x0.8	2.52	65.5	6510	13890
4Cx400	2.60	0.7	3.15	2.84	78	10840	20250	4x0.8	2.84	73	8040	17450

4 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED					
	Thickness of Insulation (Nom.)	AYY/YY				
		Nom Thickness of PVC inner sheath	Nom Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km
4Cx4	1.00	0.3	1.80	15.8	225	300
4Cx6	1.00	0.3	1.40	16.0	420	580
4Cx10	1.00	0.3	1.80	19.0	520	770
4Cx16	1..00	0.3	2.00	21.5	550	930
4Cx25	1.20	0.3	2.00	23.0	760	1360
4Cx35	1.20	0.3	2.00	25.0	920	1760
4Cx50	1.40	0.4	2.20	29.5	1210	2350
4Cx70	1.40	0.4	2.20	34.0	1540	3190
4Cx95	1.60	0.4	2.40	37.5	2010	4310
4Cx120	1.60	0.5	2.40	41.5	2400	5290
4Cx150	1.80	0.5	2.60	45.5	2910	6470
4Cx185	2.00	0.6	2.80	50.0	3590	8060
4Cx240	2.20	0.6	3.00	57.0	4540	10420
4Cx300	2.40	0.7	3.40	63.2	5690	13070
4Cx400	2.60	0.7	3.60	70.0	7060	16480

CURRENT RATINGS FOR 1.1 KV COPPER CONDUCTOR PVC INSULATED CONTROL CABLES (IN AMP)

No. of Cores	General Purpose PVC Insulation				Heat Resistance PVC Insulation			
	1.5 Sqmm		2.5 Sqmm		1.5 Sqmm		2.5 Sqmm	
	In Ground	In Air	In Ground	In Air	In Ground	In Air	In Ground	In Air
2	23	20	32	27	26	24	38	32
3	21	17	27	24	24	21	30	28
4	21	17	27	24	24	21	30	28
5	21	17	27	24	24	21	30	28
6	15	13	21	18	17	16	24	21
7	14	13	20	17	16	15	22	20
10	13	11	18	15	15	13	20	16
12	12	10	17	14	14	12	19	16
14	11	10	16	13	13	12	18	15
16	11	9	15	13	13	11	17	15
19	10	9	14	12	11	11	16	14
24	9	8	13	11	10	10	14	13
27	9	8	12	10	10	10	13	12
30	9	7	12	10	10	8	13	12
37	8	7	11	9	9	8	12	10
44	7	7	10	9	8	7	11	10
52	6	6	9	8	7	7	10	10
61	6	6	8	8	7	7	9	9

CURRENT RATING FOR ALUMINIUM CONDUCTOR ARMOURED/UNARMOURED PVC POWER CABLES (IN AMPS) FOR MAX. CONDUCTOR TEMP. 70ºC

Nominal area of conductor sqmm	Laid in the Ground						In Single Way Duct						In Air					
	Single Core			Two Core		3.31/2 or 4core Single amp	Single Core			Two Core		3.31/2 or 4core Single amp	Single Core			Two Core		3.31/2 or 4core Single amp
	3 nos a.c. amp	2 nos a.c. amp	2 nos d.c. amp	Single a.c. amp	Single d.c. amp		3 nos a.c. amp	2 nos a.c. amp	2 nos a.c. amp	Single d.c. amp	Single d.c. amp		3 nos a.c. amp	2 nos a.c. amp	2 nos a.c. amp	Single a.c. amp	Single d.c. amp	
1.5	17	21	21	18	18	16	17	19	19	16	16	14	15	18	18	16	16	13
2.5	24	28	28	25	25	21	24	25	25	21	21	18	21	25	25	21	21	18
4	31	36	36	32	32	28	30	33	33	27	27	23	27	32	32	27	27	23
6	39	44	44	40	40	35	37	42	42	34	34	30	35	41	41	35	35	30
10	51	59	59	55	55	49	51	56	56	45	45	39	47	56	56	47	47	40
16	66	75	75	70	70	60	65	71	71	58	58	50	64	72	72	59	59	51
25	86	97	97	90	90	76	84	93	93	76	76	63	86	99	99	78	78	70
35	100	120	120	110	110	92	100	110	110	92	92	77	105	120	120	99	99	86
50	120	145	145	135	135	110	115	130	130	115	115	95	130	150	150	125	125	105
70	140	170	175	160	160	135	135	155	165	140	140	115	155	185	190	150	150	130
95	175	205	210	190	195	165	155	180	195	170	170	140	190	215	225	185	180	155
120	195	230	240	210	220	185	170	200	225	190	190	155	220	240	260	210	210	180
150	220	265	270	240	250	210	190	220	255	210	215	175	250	270	300	240	240	205
185	240	300	305	275	285	235	210	240	285	240	245	200	290	305	345	275	280	240
240	270	335	355	320	330	275	225	270	330	275	280	235	335	350	405	325	335	280
300	295	370	400	355	370	305	245	295	375	305	320	260	380	395	470	365	380	315
400	325	410	460	385	425	335	275	335	435	345	385	290	435	455	560	420	450	375
500	345	435	510	426	470	370	295	355	490	382	426	320	480	490	630	481	515	425
630	390	485	600	502	554	405	320	395	570	450	502	350	550	560	750	575	615	480
800	442	550	680	-	-	-	363	448	646	-	-	-	673	685	918	-	-	-
1000	485	604	747	-	-	-	399	492	709	-	-	-	711	723	969	-	-	-

CURRENT RATING FOR COPPER CONDUCTOR ARMOURED/UNARMOURED PVC POWER CABLES (IN AMPS) FOR MAX. CONDUCTOR TEMP. 70ºC

Nominal area of conductor sqmm	Laid in the Ground						In Single Way Duct						In Air					
	Single Core			Two Core		3.31/2 or 4core Single amp	Single Core			Two Core		3.31/2 or 4core Single amp	Single Core			Two Core		3.31/2 or 4core Single amp
	3 nos a.c. amp	2 nos a.c. amp	2 nos d.c. amp	Single a.c. amp	Single d.c. amp		3 nos a.c. amp	2 nos a.c. amp	2 nos a.c. amp	Single d.c. amp	Single d.c. amp		3 nos a.c. amp	2 nos a.c. amp	2 nos a.c. amp	Single a.c. amp	Single d.c. amp	
1.5	22	25	25	23	23	21	21	23	23	20	20	17	20	24	24	20	20	17
2.5	30	35	35	32	32	27	29	31	31	27	27	24	27	32	32	27	27	24
4	39	46	46	41	41	36	38	42	45	35	35	30	35	43	43	35	35	30
6	49	57	57	50	50	45	48	45	54	44	44	38	44	54	54	45	45	39
10	65	75	75	70	70	60	64	72	72	58	58	50	60	72	72	60	60	57
16	85	94	94	90	90	77	83	92	92	75	75	64	82	92	92	78	78	65
25	110	125	125	115	115	99	110	120	120	97	97	81	110	125	125	105	105	66
35	130	150	150	140	140	120	125	140	140	120	120	99	130	155	155	125	125	110
50	155	180	180	165	165	145	150	165	165	145	145	125	165	190	190	155	160	135
70	190	220	225	205	205	175	175	200	215	180	180	150	205	235	240	195	195	155
95	220	265	270	240	245	210	200	230	250	215	215	175	245	275	285	230	230	200
120	250	300	310	275	285	240	220	255	285	235	240	195	280	310	335	265	265	230
150	280	340	350	310	320	270	245	280	325	270	275	225	320	345	390	305	310	255
185	305	380	390	350	360	300	260	305	370	300	310	255	370	390	445	350	360	305
240	345	420	455	405	425	345	285	340	425	345	360	195	425	445	520	410	425	355
300	375	465	510	450	480	385	310	370	475	385	410	335	475	500	590	465	490	400
400	400	500	590	490	550	425	335	405	560	425	495	360	550	570	710	530	580	455
500	425	500	590	490	550	425	335	405	560	425	495	360	550	570	710	530	580	455
630	470	590	780	638	716	554	375	485	730	554	644	469	660	680	960	725	794	674
800	533	664	851	-	-	-	425	527	827	-	-	-	808	832	1175	-	-	-
1000	585	733	945	-	-	-	467	579	908	-	-	-	853	879	141	-	-	-

CURRENT RATINGS FOR ALUMINIUM CONDUCTOR ARMOURED / ARMOURED HR-PVC POWER CABLES (IN AMPS) FOR MAX. CONDUCTOR TEMP. 85ºC

Normal area of conductor sq. mm	Laid in the Ground			In Single Way Duct			In Air		
	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp
1.5	20	21	19	20	18	16	18	20	16
2.5	28	29	25	28	24	21	26	26	22
4	36	37	33	35	32	27	33	33	28
6	46	47	41	45	40	35	43	43	37
10	60	64	54	60	53	46	57	57	49
16	77	82	70	76	68	59	78	72	62
25	101	105	89	97	89	74	102	95	85
35	117	129	108	117	108	90	128	121	105
50	140	158	129	135	135	111	159	153	125
70	164	187	158	158	164	135	189	183	159
95	205	222	193	181	199	164	232	226	189
120	228	246	216	199	222	183	268	256	220
150	257	281	246	222	246	205	305	293	250
185	280	332	275	246	281	234	354	336	293
225	304	357	304	258	304	258	390	372	323
240	316	374	322	264	322	275	409	397	342
300	345	415	357	286	357	304	464	445	384
400	380	450	392	322	404	340	531	512	458
500	404	496	433	345	447	368	586	587	519
630	456	587	474	374	527	398	671	701	586
800	517	-	-	424	-	-	821	-	-
1000	568	-	-	466	-	-	867	-	-

CURRENT RATINGS FOR COPPER CONDUCTOR ARMOURED / UNARMOURED HR-PVC POWER CABLES (IN AMPS) FOR MAX. CONDUCTOR TEMP. 85ºC

Normal area of conductor sq. mm	Laid in the Ground			In Single Way Duct			In Air		
	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp	Single core (3 Nos.) amp	Two core (Single) amp	3.3 ½ 4 core (Single) amp
1.5	26	27	25	25	23	20	24	24	21
2.5	35	37	32	34	32	28	33	33	29
4	46	48	42	44	41	35	43	43	37
6	57	59	53	56	51	44	54	55	48
10	76	82	70	75	68	59	73	73	63
16	99	105	90	97	88	75	100	95	81
25	129	135	116	122	113	95	134	128	110
35	152	164	140	146	140	116	159	153	134
50	181	193	170	176	170	146	201	189	165
70	222	240	205	205	211	176	250	238	201
95	257	281	246	234	252	205	299	281	244
120	293	322	281	257	275	228	342	323	281
150	328	363	316	287	316	363	390	372	323
185	357	410	351	304	351	398	451	427	372
240	404	474	404	333	404	345	519	500	433
300	439	527	450	363	450	392	580	567	488
400	468	573	497	392	497	421	671	647	555
500	497	634	550	415	550	466	720	741	635
630	550	747	648	439	648	549	805	885	759
800	623	-	-	497	-	-	985	-	-
1000	684	-	-	546	-	-	1040	-	-

CAPACITANCE OF 1.1 KV GRADE PVC INSULATED CABLES

Nominal Cross Sectional Area of Conductor	Single Core Cable		Twin & Multicore Cable
	Unarmoured	Armoured	
sqmm	mfd/km	mfd/km	mfd/km
1.5	-	-	0.14
2.5	-	-	0.15
4	0.58	0.47	0.16
6	0.68	0.56	0.19
10	0.83	0.67	0.22
16	1.01	0.81	0.29
25	1.05	0.87	0.32
35	1.22	1.00	0.37
50	1.22	1.03	0.37
70	1.43	1.21	0.44
95	1.47	1.27	0.44
120	1.62	1.42	0.49
150	1.62	1.42	0.49
185	1.62	1.44	0.49
240	1.72	1.53	0.50
300	1.74	1.56	0.52
400	1.81	1.56	0.53
500	1.76	1.57	-
630	1.77	1.57	-
800	1.98	1.75	-
1000	2.20	1.94	-

REACTANCE OF 1.1 KV GRADE PVC INSULATED CABLES AT 50 HZ

Nominal Cross Sectional Area of Conductor	Single Core Cable		Twin & Multicore Cable
	Unarmoured	Armoured	
Sqmm	Ohm/Km	Ohm/Km	Ohm/Km
1.5	-	-	0.126
2.5	-	-	0.119
4	0.137	0.158	0.116
6	0.127	0.148	0.110
10	0.118	0.138	0.100
16	0.110	0.128	0.097
25	0.105	0.120	0.097
35	0.100	0.114	0.097
50	0.098	0.110	0.094
70	0.091	0.103	0.090
95	0.088	0.101	0.090
120	0.086	0.096	0.087
150	0.085	0.094	0.087
185	0.054	0.092	0.087
240	0.082	0.090	0.087
300	0.080	0.088	0.086
400	0.080	0.088	0.086
500	0.079	0.087	-
630	0.077	0.086	-
800	0.077	0.083	-
1000	0.076	0.082	-

SHORT CIRCUIT RATING OF 1.1 KV GRADE PVC INSULATED CABLES (FOR DURATION OF ONE SECOND)

Nominal Cross Sectional Area of Conductor	Aluminium Conductor		Copper Conductor	
	With General Purpose Insulation	With Heat Resisting Insulation	With General Purpose Insulation	With Heat Resisting Insulation
Sqmm	K Amps	K Amps	K Amps	K Amps
1.5	0.114	0.103	0.173	0.156
2.5	0.190	0.172	0.288	0.260
4	0.304	0.274	0.460	0.416
6	0.456	0.412	0.690	0.624
10	0.760	0.686	1.150	1.040
16	1.216	1.098	1.840	1.664
25	1.900	1.715	2.875	2.600
35	2.660	2.401	4.025	3.640
50	3.800	3.430	5.750	5.200
70	5.320	8.802	8.50	7.280
95	7.220	6.517	10.925	9.880
120	9.120	8.232	13.800	12.480
150	11.400	10.290	17.250	15.600
185	14.060	12.691	21.275	19.240
240	18.240	16.464	27.600	24.960
300	22.800	20.580	34.500	31.200
400	30.400	27.440	46.000	41.600
500	38.000	34.300	57.500	52.000
630	47.880	43.218	72.450	65.520
800	60.800	54.880	92.000	83.200
1000	76.000	68.600	115.000	104.000

MAXIMUM A.C/D.C RESISTANCE OF CONDUCTOR FOR PVC CABLES IN OHM/KM

Nominal Cross Sectional Area of Conductor	Max. D.C Resistance (Copper)		Max. A.C Resistance (Aluminium)	
	At 20°C	At 70°C	At 20°C	At 70°C
Sqmm	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5	12.1	14.53	18.1	21.72
2.5	7.41	8.89	12.1	14.52
4	4.61	5.53	7.41	8.89
6	3.08	3.70	4.61	5.53
10	1.83	2.20	3.80	3.70
16	1.15	1.38	1.91	2.29
25	0.727	0.872	1.20	1.440
35	0.524	0.629	0.868	1.042
50	0.387	0.464	0.641	0.769
70	0.268	0.322	0.443	0.532
95	0.193	0.232	0.320	0.384
120	0.153	0.184	0.253	0.304
150	0.124	0.149	0.206	0.247
185	0.0991	0.1189	0.1640	0.1968
240	0.0754	0.0905	0.1250	0.1500
300	0.0601	0.0721	0.1000	0.1200
400	0.0470	0.0564	0.0778	0.0934
500	0.0366	0.0439	0.0605	0.0726
630	0.0283	0.0340	0.0469	0.0563
800	0.0221	0.0265	0.0367	0.0440
1000	0.0176	0.0211	0.0291	0.0349

RATING FACTORS FOR VARIATION IN AMBIENT AIR TEMPERATURE

Air Temperature - °C		20	25	30	35	40	45	50	55	60	65	70
Rating Factors	Max. Conductor Temp. 70°C	1.33	1.25	1.16	1.09	1.00	0.90	0.80	0.69	-	-	-
	Max. Conductor Temp. 85°C	-	-	1.10	1.05	1.00	0.94	0.88	0.82	0.74	0.67	0.58

RATING FACTORS FOR VARIATION IN GROUND TEMPERATURE FOR CABLES LAID DIRECT IN THE GROUND AND IN DUCTS

Ground Temperature - °C		15	20	25	30	35	40	45	50	55
Rating Factors	Max. Conductor Temp. 70°C	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.70	0.60
	Max. Conductor Temp. 85°C	1.13	1.09	1.04	1.00	0.95	0.90	0.85	0.80	-

RATING FACTORS FOR DEPTH OF LAYING FOR CABLES

Depth of laying (cm)	75	90	105	120	150	180 or more
Upto 25 Sqmm	1.00	0.99	0.98	0.97	0.96	0.95
Above 25 Sqmm upto 300 Sqmm	1.00	0.98	0.97	0.96	0.94	0.93
Above 300 Sqmm	1.00	0.97	0.96	0.95	0.92	0.91

RATING FACTORS FOR DEPTH OF LAYING
(TWIN MULTICORE CABLES IN SINGLE WAY DUCTS)

75	1
90	0.99
105	0.98
120	0.97
150	0.96
180	0.95
270	0.92
360	0.91
450	0.90
540 or more	0.89

RATING FACTORS FOR THE SINGLE CORE CABLES (AC) IN FLAT FORMATION IN AIR
(TO BE APPLIED TO THE CORRESPONDING RATINGS FOR TREFOIL GROUPS IN AIR)

Nominal area of conductor (Sqmm)	Rating Factor
Upto & including 185	1.07
240	1.10
300	1.08
400	1.04
500	1.00
630	1.00

GROUP RATING FACTORS FOR TWIN AND MULTI-CORE CABLES IN TIER FORMATION LAD DIRECT IN THE GROUND

No. of Cables	No. of Tiers	Spacing of Cables (Centre to Centre)				
		Touching	15 cm	30 cm	45 cm	60 cm
2	1	0.80	0.84	0.87	0.90	0.91
3	1	0.68	0.74	0.79	0.83	0.86
4	2	0.60	0.66	0.73	0.77	0.79
5	2	0.55	0.61	0.68	0.71	0.73
6	2	0.51	0.57	0.63	0.67	0.69
7	3	0.48	0.54	0.59	0.63	0.64
8	3	0.46	0.51	0.56	0.60	0.61
9	3	0.44	0.48	0.53	0.57	0.58
10	4	0.42	0.47	0.52	0.55	0.56
11	4	0.41	0.46	0.50	0.54	0.55
12	4	0.40	0.45	0.49	0.53	0.54

1 CORE 1.1 KV ALUMINIUM/COPPER XLPE ARMOURED POWER CABLES

No. of Cores & cross of sectional area	Thickness of Insulation (Nom.)	Nominal Dimensions of Armour Wire	ARMOURED								
			A2XWY/2XWY (WIRE ARMOURED)					A2XFY/2XFY (STRIP ARMOURED)			
			Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
1Cx25	1.2	1.4	1.24	14	250	390	-	-	-	-	-
1Cx35	1.2	1.4	1.24	15	290	490	-	-	-	-	-
1Cx50	1.3	1.4	1.24	17	350	620	-	-	-	-	-
1Cx70	1.4	1.4	1.24	19	440	830	-	-	-	-	-
1Cx95	1.4	1.6	1.40	22	580	1120	4×0.8	1.4	21	540	1080
1Cx120	1.5	1.6	1.40	24	680	1360	4×0.8	1.4	23	640	1320
1Cx150	1.7	1.6	1.40	25	790	1630	4×0.8	1.4	24	740	1580
1Cx185	1.9	1.6	1.40	28	950	2000	4×0.8	1.4	26	890	1940
1Cx240	2.0	1.6	1.40	30	1150	2530	4×0.8	1.4	30	1090	2470
1Cx300	2.1	1.6	1.56	33	1380	3120	4×0.8	1.56	32	1320	3060
1Cx400	2.4	2.0	1.56	38	1800	4020	4×0.8	1.56	36	1650	3870
1Cx500	2.6	2.0	1.56	41	2160	5010	4×0.8	1.56	39	2000	4850
1Cx630	2.8	2.0	1.72	46	2690	6380	4×0.8	1.72	44	2510	6200
1Cx800	3.1	2.0	1.88	51	3350	8080	4×0.8	1.72	48	3110	7830
1Cx1000	3.3	2.5	2.04	56	4250	10170	4×0.8	1.88	54	3820	9740

1 CORE 1.1 KV ALUMINIUM/COPPER XLPE UNARMOURED POWER CABLES

No. of Cores & cross of sectional area	UNARMOURED				
	A2XY/2XY				
	Thickness of Insulation (Nom.)	Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx Net Wt. of Cable with Copper Conduction
	mm	mm	mm	Kg/Km	Kg/Km
1Cx25	0.9	1.8	12	180	330
1Cx35	0.9	1.8	13	210	420
1Cx50	1.0	1.8	15	270	550
1Cx70	1.1	1.8	16	360	760
1Cx95	1.1	1.8	18	440	1010
1Cx120	1.2	1.8	20	530	1250
1Cx150	1.4	2.0	22	650	1540
1Cx185	1.6	2.0	24	790	1900
1Cx240	1.7	2.0	27	980	2440
1Cx300	1.8	2.0	30	1180	3020
1Cx400	2.0	2.2	33	1510	3850
1Cx500	2.2	2.2	36	1870	4870
1Cx630	2.4	2.2	40	2340	6230
1Cx800	2.6	2.4	47	2950	7940
1Cx1000	2.8	2.6	51	3660	9910

2 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED										
			A2XWY/2XWY (WIRE ARMOURED)					A2XFY/2XFY (STRIP ARMOURED)					
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	mm	Kg/Km	Kg/Km
2Cx4	0.7	0.3	1.4	1.24	15.6	425	523	-	-	-	-	-
2Cx6	0.7	0.3	1.4	1.24	16.7	490	610	-	-	-	-	-
2Cx10	0.7	0.3	1.4	1.24	18.2	563	745	-	-	-	-	-
2Cx16	0.7	0.3	1.4	1.4	17.3	575	770	-	-	-	-	-
2Cx25	0.90	0.30	1.6	1.40	21.3	760	1040	4x0.8	1.4	19.7	570	860
2Cx35	0.90	0.30	1.6	1.40	22.1	880	1280	4x0.8	1.4	20.5	670	1070
2Cx50	1.00	0.30	1.6	1.40	24.2	1040	1580	4x0.8	1.4	22.8	810	1350
2Cx70	1.10	0.30	1.6	1.56	27.5	1280	2070	4x0.8	1.56	25.5	1020	1800
2Cx95	1.10	0.40	2.0	1.56	30.9	1710	2790	4x0.8	1.56	28.4	1250	2340
2Cx120	1.20	0.40	2.0	1.56	33	1990	3360	4x0.8	1.56	30.2	1490	2860
2Cx150	1.40	0.40	2.0	1.72	36.5	2290	3990	4x0.8	1.72	33.9	1740	3430
2Cx185	1.60	0.50	2.0	1.88	40	2730	4840	4x0.8	1.72	37.00	2090	4200
2Cx240	1.70	0.50	2.5	2.04	44.0	3580	6360	4x0.8	1.88	40.2	2560	5340
2Cx300	1.80	0.60	2.5	2.20	50.1	4190	7680	4x0.8	2.04	45.9	3050	6540
2Cx400	2.00	0.60	2.5	2.36	54.2	5040	9500	4x0.8	2.36	50.2	3810	8270

2 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED			
			A2XY/2XY			
			Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	Kg/Km	Kg/Km
2Cx4	0.7	0.3	1.8	13	152	173
2Cx6	0.7	0.3	1.8	14	185	227
2Cx10	0.7	0.3	1.8	16.3	228	300
2Cx16	0.7	0.3	1.8	14.2	230	420
2Cx25	0.90	0.30	2.0	19.3	400	700
2Cx35	0.90	0.30	2.0	20.1	480	900
2Cx50	1.00	0.30	2.0	22.4	590	1160
2Cx70	1.10	0.30	2.0	24.7	750	1580
2Cx95	1.10	0.40	2.2	28.2	980	2120
2Cx120	1.20	0.40	2.2	30.1	1170	2620
2Cx150	1.40	0.40	2.2	33.3	1390	3170
2Cx185	1.60	0.50	2.4	37	1720	3950
2Cx240	1.70	0.50	2.6	40.5	2160	5090
2Cx300	1.80	0.60	2.8	45.8	2630	6320
2Cx400	2.00	0.60	3.0	49.1	3300	8010

3 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED									
			A2XWY/2XWY (WIRE ARMOURED)					A2XFY/2XFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	mm	Kg/Km	Kg/Km
3Cx4	0.7	0.3	1.4	1.24	16.2	512	583	-	-	-	-	-
3Cx6	0.7	0.3	1.4	1.24	17.2	585	678	-	-	-	-	-
3Cx10	0.7	0.3	1.4	1.24	19.1	678	867	-	-	-	-	-
3Cx16	0.7	0.3	-	-	-	535	828	4x0.8	1.24	18.7	-	-
3Cx25	0.90	0.30	1.6	1.40	21.8	920	1350	4x0.8	1.40	20.2	720	1150
3Cx35	0.90	0.30	1.6	1.40	23.7	1090	1690	4x0.8	1.40	22.8	840	1440
3Cx50	1.00	0.30	1.6	1.56	26.5	1320	2140	4x0.8	1.40	24.7	1030	1840
3Cx70	1.10	0.40	2.0	1.56	31.2	1830	3000	4x0.8	1.56	28.8	1350	2530
3Cx95	1.10	0.40	2.0	1.56	33.6	2180	3800	4x0.8	1.56	31.1	1650	3270
3Cx120	1.20	0.40	2.0	1.72	38.5	2590	4640	4x0.8	1.56	35.8	1950	4010
3Cx150	1.40	0.50	2.0	1.88	42.1	3050	5590	4x0.8	1.72	39.1	2360	4900
3Cx185	1.60	0.50	2.5	2.04	47	3950	7120	4x0.8	1.86	43.2	2850	6020
3Cx240	1.70	0.60	2.5	2.20	50.1	4770	8950	4x0.8	2.04	46.4	3520	7690
3Cx300	1.80	0.60	2.5	2.36	55.2	5640	10880	4x0.8	2.20	51.8	4240	9480
2Cx400	2.00	0.70	3.15	2.68	63.4	7480	14170	4x0.8	2.52	58.5	5070	11960

3 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED			
			A2XY/2XY			
			Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	Kg/Km	Kg/Km
3Cx4	0.7	0.3	1.8	13	162	233
3Cx6	0.7	0.3	1.8	14	188	304
3Cx10	0.7	0.3	1.8	16.3	230	413
3Cx16	0.7	0.3	1.8	14.2	312	428
3Cx25	0.90	0.30	2.0	20.2	520	970
3Cx35	0.90	0.30	2.0	22.5	630	1270
3Cx50	1.00	0.30	2.0	25.1	790	1640
3Cx70	1.10	0.40	2.2	29.3	1070	2310
3Cx95	1.10	0.40	2.2	31.6	1340	3050
3Cx120	1.20	0.40	2.2	36.1	1620	3790
3Cx150	1.40	0.50	2.4	39.7	1990	4670
3Cx185	1.60	0.50	2.6	43.8	2450	5800
3Cx240	1.70	0.60	2.8	47.1	3100	7510
3Cx300	1.80	0.60	3.0	52.4	3790	9320
3Cx400	2.00	0.70	3.2	59.1	4770	11830

3.5 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED									
			A2XWY/2XWY (WIRE ARMOURED)					A2XFY/2XFY (STRIP ARMOURED)				
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	mm	Kg/Km	Kg/Km
3.5CX25/16	0.9/0.7	0.30	1.6	1.40	23.9	1039	1560	4x0.8	1.40	22.3	814	1330
3.5CX35/16	0.9/0.7	0.30	1.6	1.40	25.6	1203	1890	4x0.8	1.40	24	962	1650
3.5CX50/25	1.0/0.9	0.30	1.6	1.56	29	1474	2430	4x0.8	1.40	27	1153	2110
3.5CX70/35	1.1/0.9	0.40	2.0	1.56	34.1	2028	3410	4x0.8	1.56	31.8	1501	2880
3.5CX95/50	1.1/1.0	0.40	2.0	1.56	38.8	2447	4350	4x0.8	1.56	35.2	1869	3770
3.5CX120/70	1.2/1.1	0.40	2.0	1.72	40.1	2954	5400	4x0.8	1.72	37.9	2297	4740
3.5CX150/70	1.4/1.1	0.50	2.0	1.88	45.2	3427	6360	4x0.8	1.72	42.5	2656	5590
3.5CX185/95	1.6/1.1	0.50	2.5	2.04	49.9	4470	8180	4x0.8	1.88	45.9	3254	6970
3.5CX240/120	1.7/1.2	0.60	2.5	2.20	55.5	5386	10240	4x0.8	2.04	51.8	4006	860
3.5CX300/150	1.8/1.4	0.60	2.5	2.36	59.2	6344	12430	4x0.8	2.20	55.7	4821	10910
3.5CX400/185	2.0/1.6	0.70	3.15	2.68	69.1	8446	16190	4x0.8	2.52	64.0	6042	13790

3.5 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED			
			A2XY/2XY			
			Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	Kg/Km	Kg/Km
3.5CX25/16	0.9/0.7	0.30	2.0	22.5	595	1150
3.5CX35/16	0.9/0.7	0.30	2.0	24	710	1440
3.5CX50/25	1.0/0.9	0.30	2.0	27.4	900	1910
3.5CX70/35	1.1/0.9	0.40	2.2	31.8	1207	2660
3.5CX95/50	1.1/1.0	0.40	2.2	35.5	1534	3540
3.5CX120/70	1.2/1.1	0.40	2.2	37.9	1890	4470
3.5CX150/70	1.4/1.1	0.50	2.4	42.9	2270	5360
3.5CX185/95	1.6/1.1	0.50	2.6	46.4	2820	6740
3.5CX240/120	1.7/1.2	0.60	2.8	52.6	3560	8690
3.5CX300/150	1.8/1.4	0.60	3.0	56.5	4340	10770
3.5CX400/185	2.0/1.6	0.70	3.4	65.2	5560	13740

4 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED										
			A2XWY/2XWY (WIRE ARMOURED)					A2XFY/2XFY (STRIP ARMOURED)					
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	mm	Kg/Km	Kg/Km
4CX4	0.7	0.3	1.4	1.24	17.6	562	662	-	-	-	-	-
4CX6	0.7	0.3	1.4	1.24	19.2	627	776	-	-	-	-	-
4CX10	0.7	0.3	1.4	1.24	20.7	767	1012	-	-	-	-	-
4CX16	0.7	0.3	-	-	-	716	1055	4x0.8	1.4	20.1	-	-
4CX25	0.90	0.30	1.6	1.40	23.9	1110	1680	4x0.8	1.4	23.1	880	1450
4CX35	0.90	0.30	1.6	1.40	26	1320	2120	4x0.8	1.4	24.5	1050	1850
4CX50	1.00	0.30	1.6	1.56	29.6	1610	2690	4x0.8	1.56	28	1310	2390
4CX70	1.10	0.40	2.0	1.56	34	2260	3820	4x0.8	1.56	31.6	1680	3240
4CX95	1.10	0.40	2.0	1.72	38	2710	4880	4x0.8	1.56	35.1	2050	4220
4CX120	1.20	0.50	2.0	1.88	42	3250	5990	4x0.8	1.72	39	2510	5250
4CX150	1.40	0.50	2.5	2.04	46.2	4190	7570	4x0.8	1.88	42.6	3000	6380
4CX185	1.60	0.50	2.5	2.20	51.5	4980	9210	4x0.8	2.04	47.8	3650	7880
4CX240	1.70	0.60	2.5	2.36	57.6	6000	11560	4x0.8	2.2	53.9	4530	10090
4CX300	1.80	0.70	3.15	2.52	64.5	7810	14790	4x0.8	2.36	59.4	5510	12500
4CX400	2.00	0.70	3.15	2.84	72.0	9400	18320	4x0.8	2.68	67.0	6820	15740

4 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED			
			A2XY/2XY			
			Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
	mm	mm	mm	mm	Kg/Km	Kg/Km
4CX4	0.7	0.3	1.8	16.0	182	282
4CX6	0.7	0.3	1.8	17.7	217	366
4CX10	0.7	0.3	1.8	18.5	260	512
4CX16	0.7	0.3	1.8	17.6	355	755
4CX25	0.90	0.30	2.0	22.5	650	1250
4CX35	0.90	0.30	2.0	24.6	790	1640
4CX50	1.00	0.30	2.0	27.9	990	2130
4CX70	1.10	0.40	2.2	32.1	1350	3010
4CX95	1.10	0.40	2.2	35.5	1700	4000
4CX120	1.20	0.50	2.4	39.6	2140	5030
4CX150	1.40	0.50	2.6	42.9	2600	6160
4CX185	1.60	0.50	2.8	48.2	3200	7670
4CX240	1.70	0.60	3.0	54.7	4050	9920
4CX300	1.80	0.70	3.2	60.6	4990	12370
4CX400	2.00	0.70	3.6	68.2	6320	15740

COPPER CONDUCTOR ARMOURED XLPE INSULATED CONTROL CABLES OF 1.5 SQ.MM

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED							
			2XWY (WIRE ARMOURED)				2XFY (STRIP ARMOURED)			
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
	mm	mm	mm	mm	mm	Kg/Km	mm	mm	mm	Kg/Km
2CX1.5	0.70	0.3	1.40	1.24	14	425	-	-	-	-
3CX1.5	0.70	0.3	1.40	1.24	14.5	460	-	-	-	-
4CX1.5	0.70	0.3	1.40	1.24	15	520	-	-	-	-
5CX1.5	0.70	0.3	1.40	1.24	16	530	-	-	-	-
6CX1.5	0.70	0.3	1.40	1.24	17	590	-	-	-	-
7CX1.5	0.70	0.3	1.40	1.24	17	610	-	-	-	-
10CX1.5	0.70	0.3	1.40	1.40	21	820	-	-	-	-
12CX1.5	0.70	0.3	1.60	1.40	2.5	930	4X0.8	1.24	19.5	740
14CX1.5	0.70	0.3	1.60	1.40	22.5	1020	4X0.8	1.40	21	820
16CX1.5	0.70	0.3	1.60	1.40	23.5	1100	4X0.8	1.40	22	890
19CX1.5	0.70	0.3	1.60	1.40	25	1230	4X0.8	1.40	23	1020
24CX1.5	0.70	0.3	1.60	1.40	28	1480	4X0.8	1.40	26.5	1220
27CX1.5	0.70	0.3	1.60	1.40	28.5	1570	4X0.8	1.40	27	1320
30CX1.5	0.70	0.3	1.60	1.40	29.5	1660	4X0.8	1.40	28	1400
37CX1.5	0.70	0.3	1.60	1.40	31.5	1910	4X0.8	1.40	30	1630

COPPER CONDUCTOR UNARMOURED XLPE INSULATED CONTROL CABLES OF 1.5 SQ.MM

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED		
			2XY		
			Nom. thickness of PVC Outer Wire	Overall Diameter (Approx.)	Approx. Net wt. of Cable
mm	mm	mm	mm	mm	mm
2CX1.5	0.70	0.3	1.80	12.5	185
3CX1.5	0.70	0.3	1.80	13.0	190
4CX1.5	0.70	0.3	1.80	13.5	225
5CX1.5	0.70	0.3	1.80	14.0	260
6CX1.5	0.70	0.3	1.80	15.0	295
7CX1.5	0.70	0.3	1.80	15.0	315
10CX1.5	0.70	0.3	1.80	18.5	425
12CX1.5	0.70	0.3	1.80	19.0	480
14CX1.5	0.70	0.3	1.80	20.0	535
16CX1.5	0.70	0.3	1.80	21.0	595
19CX1.5	0.70	0.3	2.0	22.5	720
24CX1.5	0.70	0.3	2.0	26.0	880
27CX1.5	0.70	0.3	2.0	26.5	960
30CX1.5	0.70	0.3	2.0	27.5	1040
37CX1.5	0.70	0.3	2.0	29.0	1230

COPPER CONDUCTOR ARMOURED XLPE INSULATED CONTROL CABLES OF 2.5 SQ.MM

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED							
			2XWY (WIRE ARMOURED)				2XFY (STRIP ARMOURED)			
			Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
	mm	mm	mm	mm	mm	Kg/Km	mm	mm	mm	Kg/Km
2CX2.5	0.70	0.3	1.40	1.24	15.5	495	-	-	-	-
3CX2.5	0.70	0.3	1.40	1.24	16	550	-	-	-	-
4CX2.5	0.70	0.3	1.40	1.24	17	620	-	-	-	-
5CX2.5	0.70	0.3	1.40	1.24	17.5	640	-	-	-	-
6CX2.5	0.70	0.3	1.40	1.24	19	720	-	-	-	-
7CX2.5	0.70	0.3	1.40	1.24	19	760	-	-	-	-
10CX2.5	0.70	0.3	1.60	1.40	23.5	1110	4X0.8	1.40	21	900
12CX2.5	0.70	0.3	1.60	1.40	24.5	1240	4X0.8	1.40	22	1000
14CX2.5	0.70	0.3	1.60	1.40	25.5	1340	4X0.8	1.40	24	1100
16CX2.5	0.70	0.3	1.60	1.40	26.5	1455	4X0.8	1.40	25	1200
19CX2.5	0.70	0.3	1.60	1.40	27.5	1605	4X0.8	1.40	26	1320
24CX2.5	0.70	0.3	1.60	1.56	31	1970	4X0.8	1.40	30	1600
27CX2.5	0.70	0.3	1.60	1.56	32	2100	4X0.8	1.40	31	1720
30CX2.5	0.70	0.3	1.60	1.56	33.5	2250	4X0.8	1.56	32	1900
37CX2.5	0.70	0.4	2.00	1.56	37	2900	4X0.8	1.56	35	2300

COPPER CONDUCTOR UNARMOURED XLPE INSULATED CONTROL CABLES OF 2.5 SQ.MM

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED		
			2XY		
			Nom. thickness of PVC Outer Wire	Overall Diameter (Approx.)	Approx. Net wt. of Cable
mm	mm	mm	mm	mm	mm
2CX2.5	0.70	0.3	1.80	13.5	230
3CX2.5	0.70	0.3	1.80	14.0	240
4CX2.5	0.70	0.3	1.80	15.0	290
5CX2.5	0.70	0.3	1.80	16.0	335
6CX2.5	0.70	0.3	1.80	17.0	385
7CX2.5	0.70	0.3	1.80	17.0	420
10CX2.5	0.70	0.3	1.80	21.0	570
12CX2.5	0.70	0.3	2.0	22.5	690
14CX2.5	0.70	0.3	2.0	23.5	775
16CX2.5	0.70	0.3	2.0	24.5	860
19CX2.5	0.70	0.3	2.0	25.5	985
24CX2.5	0.70	0.3	2.0	29.5	1215
27CX2.5	0.70	0.3	2.0	30.0	1330
30CX2.5	0.70	0.3	2.0	31.0	1450
37CX2.5	0.70	0.4	2.20	34.0	1790

CURRENT RATINGS OF 1.1 KV XLPE INSULATED ALUMINIUM CONDUCTOR CABLES (In Amp)

Nominal Area of Conductor	Single Core		Twin Core		Multi Core	
Sqmm	In Ground	In Air	In Ground	In Air	In Ground	In Air
6	44	39	50	44	43	50
10	59	53	69	59	57	67
16	76	73	88	74	73	70
25	96	98	112	98	94	96
35	114	121	138	124	113	117
50	135	150	169	156	133	142
70	166	187	200	188	164	179
95	198	230	238	231	196	221
120	225	268	262	262	223	257
150	253	309	300	300	249	292
185	286	360	344	344	282	337
240	332	433	400	406	326	399
300	376	501	444	456	367	455
400	431	596	481	525	418	530
500	490	693	523	678	470	612
630	557	814	592	786	529	707
800	600	890	-	-	-	-
1000	650	1050	-	-	-	-

CAPACITANCE (MICRO FARADS/KM) OF 1.1 KV GRADE XLPE INSULATED CABLES

Nominal Area of Conductor	Single Core Cable		Twin Core Cable	Multicore Cable
	Unarmoured	Armoured		
Sqmm	mF/km	mF/km	mF/km	mF/km
1.5	0.190	-	0.051	0.15
2.5	0.240	-	0.058	0.18
4	0.290	-	0.065	0.22
6	0.340	-	0.071	0.25
10	0.430	0.320	0.081	0.31
16	0.510	0.380	0.088	0.36
25	0.490	0.380	0.089	0.41
35	0.570	0.440	0.096	0.47
50	0.580	0.460	0.098	0.50
70	0.630	0.510	0.100	0.53
95	0.730	0.590	0.110	0.61
120	0.740	0.610	0.110	0.63
150	0.730	0.610	0.110	0.60
185	0.690	0.590	0.110	0.60
240	0.740	0.640	0.110	0.63
300	0.800	0.690	0.120	0.67
400	0.830	0.700	0.120	0.67
500	0.830	0.710	0.120	0.69
630	0.870	0.750	0.110	0.73
800	0.920	0.780	-	-
1000	0.940	0.810	-	-

REACTANCE OF 1.1 KV GRADE XLPE INSULATED CABLES AT 50 HZ

Nominal Cross Sectional Area of Conductor	Single Core Cable		Twin & Multicore Cable
	Unarmoured	Armoured	
Sqmm	(Ohm/Km)	(Ohm/Km)	(Ohm/Km)
1.5	0.1550	-	0.1070
2.5	0.1420	-	0.0985
4	0.1320	-	0.0927
6	0.1270	-	0.0884
10	0.1140	0.1340	0.0837
16	0.1080	0.1250	0.0808
25	0.1030	0.1200	0.0805
35	0.0986	0.1140	0.0783
50	0.0937	0.1080	0.0750
70	0.0900	0.1020	0.0740
95	0.0865	0.1000	0.0724
120	0.0841	0.0968	0.0712
150	0.0839	0.0941	0.0716
185	0.0836	0.0932	0.0718
240	0.0813	0.0900	0.0710
300	0.0795	0.0881	0.0705
400	0.0787	0.0873	0.0704
500	0.0779	0.0859	0.0702
630	0.0785	0.0843	0.0698
800	0.0755	0.0826	-
1000	0.0752	0.0825	-

SHORT CIRCUIT RATING FOR XLPE INSULATED CABLES (FOR DURATION OF ONE SECOND)

Nominal Cross Sectional Area of Conductor	Aluminium Conductor	Copper Conductor
Sqmm	KAmps	KAmps
1.5	0.141	0.215
2.5	0.235	0.358
4	0.376	0.572
6	0.564	0.858
10	0.940	1.430
16	1.504	2.288
25	2.350	3.575
35	3.29	5.01
50	4.70	7.15
70	6.58	10.01
95	8.93	13.59

Nominal Cross Sectional Area of Conductor	Aluminium Conductor	Copper Conductor
Sqmm	KAmps	KAmps
120	11.28	17.16
150	14.10	21.45
185	17.39	26.46
240	22.56	34.32
300	28.20	42.90
400	37.60	57.20
500	47.00	71.50
630	59.22	90.09
800	75.20	114.40
1000	94.00	143.00

Rated Temperature : 90°C During short circuit; 250°C. For durations other than one second, the short circuit current may be calculated from the following formula

$I_{sc} = \frac{I}{\sqrt{t}}$ Where

I_{sc} = Short Curcuit CUrrent during time 't' - amperes
I = short Circuit Current during the time 'one second' as given in the Table-amperes
t = Short Circuit Current duration - seconds.
Note: For Large Currents, the electromagnetic force between the Conductors must be considered, especially for Single Core Cables laid in horizontal formation

MAXIMUM AC/DC RESISTANCE OF CONDUCTOR FOR XLPE CABLES IN OHM/KM

Nominal Cross Sectional Area of Conductor	Minimum No. of Wires				Max. D.C. Resistance		Max. A.C. Resistance	
	Circular Conductor (Non Compacted)		Compacted Circular/ Shaped Conductor		Copper		Aluminium	
					At 20 Deg. C	At 90 Deg. C	At 20 Deg. C	At 90 Deg. C
Sqmm	Copper	Aluminium	Copper	Aluminium	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5	3	3	-	-	12.1	15.49	18.1	23.17
2.5	3	3	-	-	7.41	9.48	12.1	15.49
4	7	3	-	-	4.61	5.90	7.41	9.48
6	7	3	-	-	3.08	3.94	4.61	5.90
10	7	7	-	-	1.83	2.34	3.08	3.94
16	7	7	-	-	1.15	1.47	1.91	2.44
25	7	7	6	6	0.727	0.931	1.20	1.54
35	7	7	6	6	0.524	0.671	0.868	1.111
50	19	19	6	6	0.387	0.495	0.641	0.820
70	19	19	12	12	0.268	0.343	0.443	0.567
95	19	19	15	15	0.193	0.247	0.320	0.410
120	37	37	18	15	0.153	0.196	0.253	0.324
150	37	37	18	15	0.124	0.159	0.206	0.264
185	37	37	30	30	0.0991	0.1268	0.1640	0.2099
240	61	37	34	30	0.0754	0.0965	0.1250	0.1600
300	61	61	34	30	0.0601	0.0769	0.1000	0.1280
400	61	61	53	53	0.0470	0.0602	0.0778	0.0996
500	61	61	53	53	0.0366	0.0468	0.0605	0.0774
630	91	91	53	53	0.0283	0.0362	0.0469	0.0600
800	91	91	53	53	0.0221	0.0283	0.0367	0.0470
1000	91	91	53	53	0.0176	0.0225	0.0291	0.0372

The Current Rating mentioned in the previous pages are under Operating Conditions :

Maximum continuous operating conductor-temperature = 90°C
Standard ground temperature = 30°C
Ambient air temperature = 40°C
Thermal Resistivity of soil = 150°C cm/watt
Depth of laying (for cables laid direct in ground) = 75 cms

METHOD OF INSTALLATION:

Multi core cables installed independently.
Single Core Cables : Three cables laid in a trefoil touching each other
Three cables laid flat touching

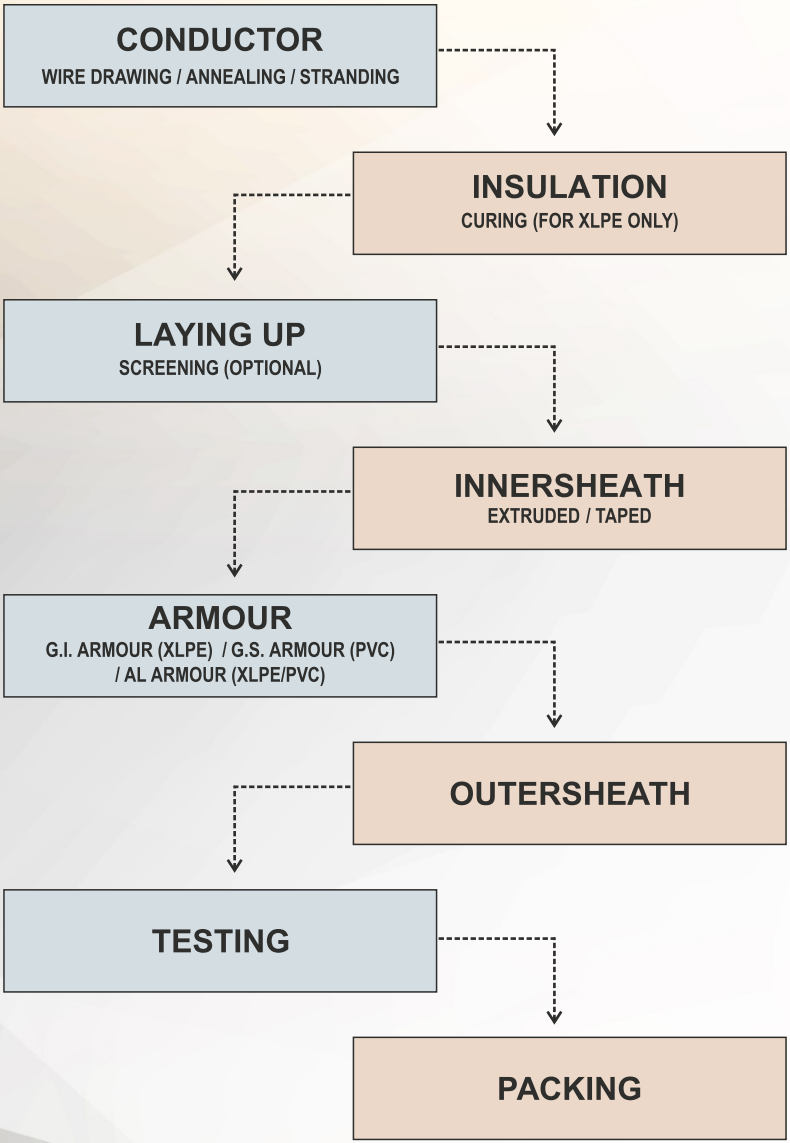
Rating factors for variation in ambient air temperature:

Temperature - °C		20	25	30	35	40	45	50	55	60
Rating Factors	Conductor Temp. 90°C	1.18	1.14	1.10	1.05	1.00	0.95	0.89	0.84	0.78

Rating factors for variation in ground temperature for Cables laid direct in the ground:

Temperature - °C		15	20	25	30	35	40	45	50
Rating Factors	Conductor Temp. 90°C	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

MANUFACTURING PROCESS FOR LV XLPE / PVC CABLES



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