

BRITAIN



//// Sterlite Power

**MEDIUM VOLTAGE
CABLES**



Connecting The World With Power Cables

As a leading manufacturer of power cables, we are enabling the energy transition across the globe with our range of high-performance power products and specialized EPC services. Our portfolio extends across medium voltage, high voltage to extra high voltage, spanning from 6.6kV to 220kV.

Engineered for resilience and performance, Sterlite Power's cables are crafted with precision to withstand the most demanding conditions, ensuring uninterrupted power transmission worldwide.

And that's not all, our upcoming product line includes innovative solutions such as Solar Cables and Medium Voltage Covered Conductor (MVCC), reflecting our steadfast commitment to driving sustainable energy solutions. Nestled in Haridwar, our state-of-the-art manufacturing facility operates on the principles of efficiency and reliability, catering to the global demand for superior power cable solutions.

OUR PRODUCT RANGE

MEDIUM VOLTAGE CABLES
Conductor : Copper or Aluminium
Voltage Grade : 3.8/6.6 kV to 19/33 kV
Available Sizes : 95 mm ² to 1000 mm ²
Armoured or Unarmoured
Outer Sheath : PVC, MDPE, Low Smoke & Low Corrosive Gases Variant
Anti Termite Protection : Nylon Sheath, Double Brass/Stainless Steel Tape, or suitable additives

CABLE CODES		
Sl. No.	Constitute	Code
i	Aluminium Conductor	A
ii	XLPE Insulation	2X
iii	Copper Tape Screen	CE
iv	Copper Wires Screen	C
v	Steel Round Wire Armour	W
vi	Aluminium Round Wire Armour	Wa
vii	PVC Outer Sheath	Y
viii	Polyethylene Outer Sheath	2Y

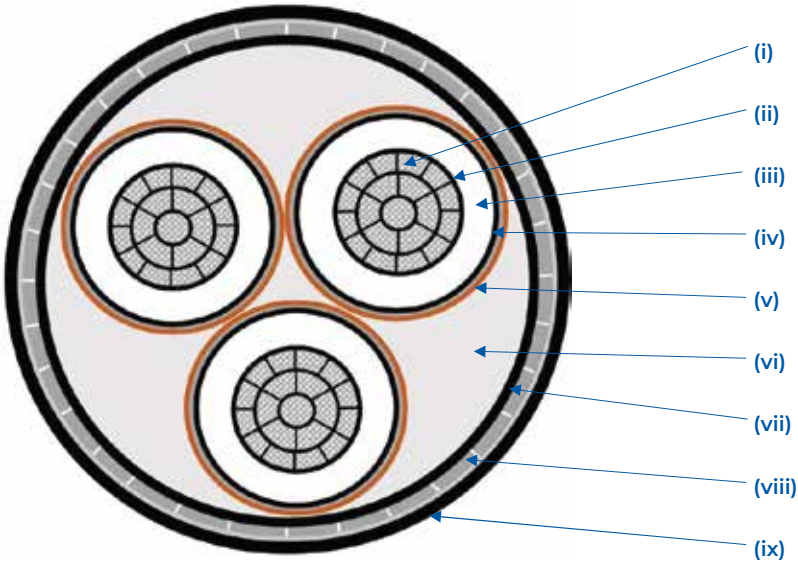
NOTE : No code letter for conductor is required when the conductor material is Copper.

SUMMARY OF THE CABLE ELEMENTS		
Item	Function	Composition
Conductor	<ul style="list-style-type: none"> To carry current under normal operating conditions under overload operating conditions under short-circuit operating conditions To withstand pulling stresses during cable laying 	Material - Copper or Aluminium Area < 800 mm ² - Compacted round stranded conductors Area = 800/1000 mm ² - Compacted round stranded or round segmental (Miliken) conductors
Internal Semi-Conductor	<ul style="list-style-type: none"> To prevent concentration of electric field at the interface between the insulation and the internal semiconductor. To ensure close contact with the insulation. 	XLPE semi-conducting shield
Insulation	<ul style="list-style-type: none"> To withstand the various voltage field stresses during the cable service like: - rated voltage - lightning overvoltage - switching overvoltage 	XLPE insulation The internal and external semi-conducting layers and the insulation are to be triple extruded simultaneously in the same operation.
External Semi-Conductor	<ul style="list-style-type: none"> To prevent concentration of electric field at the interface between the insulation and the external semiconductor. To ensure close contact with the insulation. 	XLPE semi-conducting shield (Bonded/Strippable)
Metallic Screen	<ul style="list-style-type: none"> An electrical shield (no electric field outside the cable). Radial waterproofing (to avoid contact between the insulation and water). An active conductor for the capacitive and zero sequence short-circuit current. 	<ul style="list-style-type: none"> Copper foil laminate Copper wire screen with helical equalising tape are suitably designed for high levels of fault current
Fillers	<ul style="list-style-type: none"> Provide a round shape to the cable cross-section. Only applicable for three core cables. 	<ul style="list-style-type: none"> Non hygroscopic fillers In case of three core cables
Separation Sheath	<ul style="list-style-type: none"> Separates the metallic screen from the armour in order to prevent short-circuit. 	<ul style="list-style-type: none"> PVC (Type 9) jacket in case of armoured cables
Armour	<ul style="list-style-type: none"> Primarily provide mechanical strength to the cable and resist damage to the vital interior components. May be designed to carry short-circuit current instead of metallic screen if required. 	<ul style="list-style-type: none"> Galvanised steel/Aluminium round wires
Outer Protective Sheath	<ul style="list-style-type: none"> To display the cable information and length marking through printing and embossing. To act as the external protective covering for internal cable components. To restrict flame propagation if required. 	<ul style="list-style-type: none"> Possibility of semi-conducting layer or graphite coating for sheath integrity tests. MDPE (Type TS 2) jacket PVC (Type 9) jacket Thermoplastic Material (Type LTS 1) jacket with low emission of smoke and corrosive gases

NEW PRODUCT DEVELOPMENT

DEVELOPMENT OF "HIGH AMPACITY POWER CABLES":

CABLE CONSTRUCTION:



(i) CONDUCTOR - Compacted Circular Aluminium Conductor (Trapezoidal Strands)

(ii) CONDUCTOR SCREENING - Extruded Semi-conductor Screening

(iii) INSULATION - Superior Quality Cross Linked Poly Ethylene (XLPE) Insulation

(iv) INSULATION SCREENING - Extruded Semi-conductor Screening

(v) METALLIC SCREENING - Open Helix Copper Tape

(vi) FILLERS - Non Hygroscopic Fillers

(vii) SEPARATION SHEATH - Extruded Poly-Vinyl Chloride (PVC Type 9) Separation Sheath

(viii) ARMOUR - Galvanised Steel Flat Strip Armour

(NOTE :- Round Wire Armour can also be provided on customer's request.)

(ix) OUTER SHEATH - Extruded Poly-Vinyl Chloride (PVC Type 9) Outer Jacketing

(NOTE :- MDPE Type TS 2 or Thermoplastic Material Type LTS 1 can also be provided as per customer's requirement.)

Current Comparison Chart (in Amperes) :

Nominal conductor area mm ²	36 kV 3 Core Al Standard Cable			36 kV 3 Core Al High Ampacity Cable		
	Buried direct in	In a Buried duct	In Air	Buried direct in	In a Buried duct	In Air
95	204	180	238	231	203	276
120	232	206	274	262	233	318
150	259	231	309	293	261	358
185	293	262	354	331	296	411
240	338	304	415	382	344	481
300	380	343	472	429	388	548
400	432	393	545	488	444	632

PATENT GRANTED ON: 9th January 2024

PRODUCT DESCRIPTION: The product incorporates the following improvements in cable construction:

- (i) Superior quality XLPE insulation material was developed for the product to avoid the degrading effects of higher temperatures. The normal operating temperature of the cable thus increased from 90°C to 105°C.
- (ii) The conductor core is made up of trapezoidal strands arranged around a central core of circular strands, which offers more compaction of the overall conductor and lesser conductor resistance.

BENEFITS:

- (i) The above two factors combine to generate a phenomenal jump in the current carrying capacity of the power cables by approximately 20%. So, we can offer smaller cable sizes as compared to our competitors for the same current rating requirement.
- (ii) This product meets the requirements of operating at elevated normal operation temperatures of 105°C as per ANSI/ICEA Standards (American Standards).

NOTE: Detailed technical datasheet can be provided for cable on customer's request.

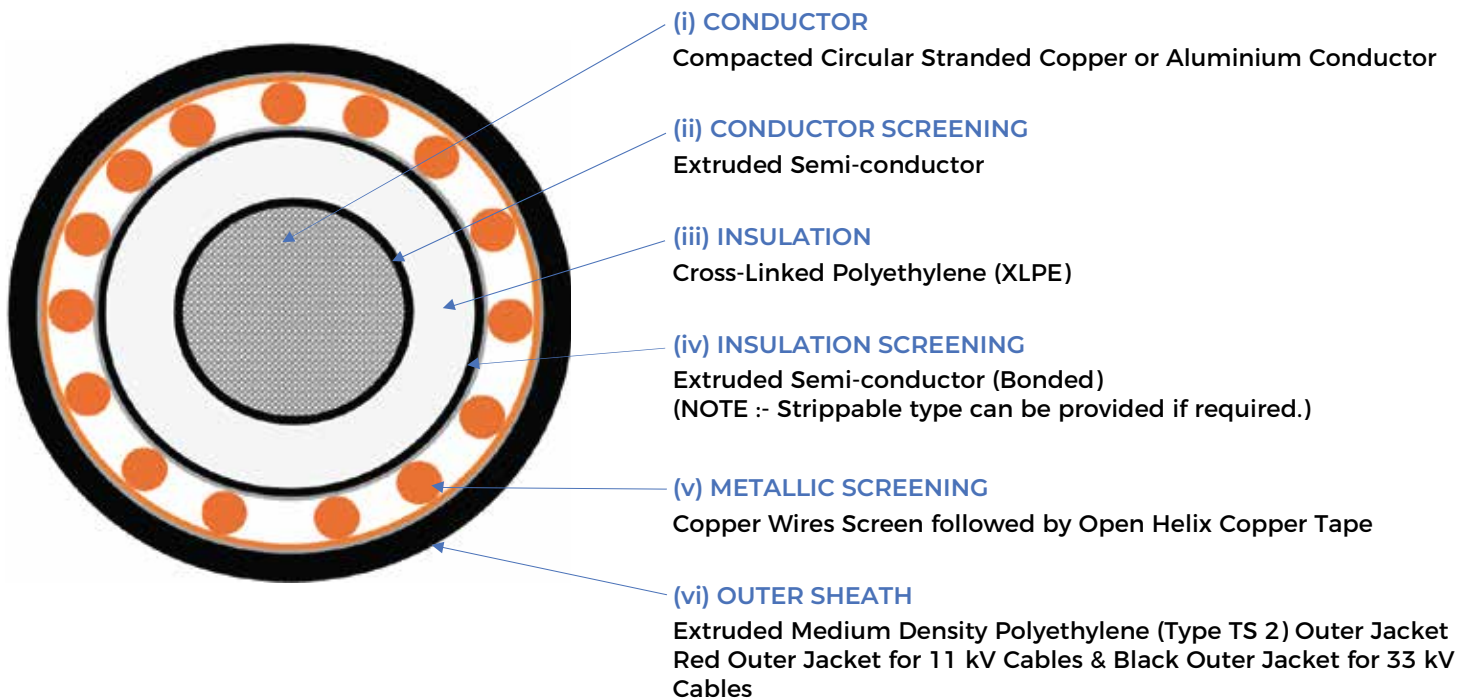


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SINGLE CORE UNARMoured CABLES

CABLE CONSTRUCTION:



(NOTE :- PVC Type 9 or Thermoplastic Low Smoke & Low Corrosive Gases Type LTS 1 outer sheath can also be provided as per customer's requirement.)

APPLICABLE STANDARDS:

BS 7870-4

APPLICATIONS:

Medium voltage power transmission and distribution networks.

Can be installed in air, ducts or directly buried.

Admissible temperature range during the installation: 0°C to +45°C.

Max admissible conductor temperature:

- Operating temperature: 90°C

- Core short circuit temperature: 250°C

6.35/11 KV SINGLE CORE COPPER CONDUCTOR WIRE SCREENED UNARMoured - 2XC2Y

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
										During pulling mm	Set in position mm	mm	mm
95	11.4	3.4	19.2	35.0	22.3	1.24	27.0	1.50	4.8	405	324	324	324
120	12.9	3.4	20.7	35.0	23.8	1.24	29.0	1.74	6.0	435	348	348	348
150	14.2	3.4	22.0	35.0	25.1	1.32	30.0	2.00	7.5	450	360	360	360
185	15.7	3.4	23.5	35.0	26.6	1.32	32.0	2.34	9.3	480	384	384	384
240	17.8	3.4	25.6	35.0	28.7	1.40	34.0	2.86	12.0	510	408	408	408
300	19.8	3.4	27.6	35.0	30.7	1.48	36.0	3.42	15.0	540	432	432	432
400	22.9	3.4	31.0	35.0	34.1	1.56	39.0	4.21	20.0	585	468	468	468
500	26.5	3.4	34.6	35.0	37.7	1.64	43.0	5.21	25.0	645	516	516	516
630	29.1	3.4	37.2	35.0	40.3	1.72	46.0	6.47	31.5	690	552	552	552
800	33.4	3.4	41.5	35.0	44.5	1.80	51.0	8.11	40.0	765	612	612	612

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90 °C			Capacitance μF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.114	0.128	0.172	0.318	0.60	14.4	13.59	4.50
120	0.1530	0.196	0.109	0.123	0.167	0.349	0.66	15.8	17.16	4.50
150	0.1240	0.159	0.106	0.121	0.164	0.376	0.71	17.0	21.45	4.50
185	0.0991	0.128	0.102	0.117	0.161	0.407	0.77	18.4	26.46	4.50
240	0.0754	0.098	0.099	0.113	0.157	0.450	0.85	20.4	34.32	4.50
300	0.0601	0.079	0.097	0.112	0.155	0.491	0.93	22.2	42.90	4.50
400	0.0470	0.063	0.093	0.108	0.151	0.560	1.06	25.3	57.20	4.50
500	0.0366	0.051	0.090	0.105	0.148	0.634	1.19	28.7	71.50	4.50
630	0.0283	0.042	0.088	0.103	0.146	0.687	1.29	31.1	90.09	4.50
800	0.0221	0.035	0.086	0.100	0.144	0.775	1.46	35.1	114.40	4.50

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
500	640	635	608	603	942	944	1003
630	712	703	676	668	1071	1070	1117
800	781	770	742	732	1210	1207	1240

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W



Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Armoured construction can be offered as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 KV SINGLE CORE ALUMINIUM CONDUCTOR WIRE SCREENED UNARMoured - A2XC2Y

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
										During pulling mm	Set in position mm	 mm	 mm
95	11.4	3.4	19.2	35.0	22.3	1.24	27.0	0.96	2.9	405	324	50	80
120	12.9	3.4	20.7	35.0	23.8	1.24	29.0	1.05	3.6	435	348	50	80
150	14.2	3.4	22.0	35.0	25.1	1.32	30.0	1.15	4.5	450	360	50	100
185	15.7	3.4	23.5	35.0	26.6	1.32	32.0	1.27	5.6	480	384	65	100
240	17.8	3.4	25.6	35.0	28.7	1.40	34.0	1.45	7.2	510	408	65	100
300	19.8	3.4	27.6	35.0	30.7	1.48	36.0	1.65	9.0	540	432	65	100
400	22.9	3.4	31.0	35.0	34.1	1.56	39.0	1.95	12.0	585	468	65	150
500	26.5	3.4	34.6	35.0	37.7	1.64	43.0	2.30	15.0	645	516	65	150
630	29.1	3.4	37.2	35.0	40.3	1.72	46.0	2.73	18.9	690	552	65	150
800	33.4	3.4	41.5	35.0	44.5	1.80	51.0	3.26	24.0	765	612	80	200

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90 °C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.114	0.128	0.172	0.318	0.60	14.4	8.93	4.50
120	0.2530	0.325	0.109	0.123	0.167	0.349	0.66	15.8	11.28	4.50
150	0.2060	0.265	0.106	0.121	0.164	0.376	0.71	17.0	14.10	4.50
185	0.1640	0.211	0.102	0.117	0.161	0.407	0.77	18.4	17.39	4.50
240	0.1250	0.161	0.099	0.113	0.157	0.450	0.85	20.4	22.56	4.50
300	0.1000	0.130	0.097	0.112	0.155	0.491	0.93	22.2	28.20	4.50
400	0.0778	0.102	0.093	0.108	0.151	0.560	1.06	25.3	37.60	4.50
500	0.0605	0.080	0.090	0.105	0.148	0.634	1.19	28.7	47.00	4.50
630	0.0469	0.064	0.088	0.103	0.146	0.687	1.29	31.1	59.22	4.50
800	0.0367	0.052	0.086	0.100	0.144	0.775	1.46	35.1	75.20	4.50

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Armoured construction can be offered as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 KV SINGLE CORE COPPER CONDUCTOR WIRE SCREENED UNARMOURED - 2XC2Y

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
										During pulling mm	Set in position mm	mm	mm
95	11.4	8.0	28.4	35.0	31.5	1.48	37.0	1.90	4.8	740	444	65	150
120	12.9	8.0	29.9	35.0	33.0	1.48	38.0	2.15	6.0	760	456	65	150
150	14.2	8.0	31.2	35.0	34.3	1.56	40.0	2.44	7.5	800	480	65	150
185	15.7	8.0	32.7	35.0	35.8	1.56	41.0	2.79	9.3	820	492	65	150
240	17.8	8.0	34.8	35.0	37.9	1.64	43.0	3.36	12.0	860	516	65	150
300	19.8	8.0	36.8	35.0	39.9	1.72	46.0	3.95	15.0	920	552	65	150
400	22.9	8.0	40.2	35.0	43.3	1.80	49.0	4.77	20.0	980	588	80	150
500	26.5	8.0	43.8	35.0	46.9	1.88	53.0	5.82	25.0	1060	636	80	200
630	29.1	8.0	46.4	35.0	49.5	1.96	56.0	7.13	31.5	1120	672	80	200
800	33.4	8.0	50.7	35.0	53.7	2.04	61.0	8.84	40.0	1220	732	100	200

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90 °C			Capacitance μF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.133	0.148	0.191	0.168	0.95	68.2	13.59	4.50
120	0.1530	0.196	0.127	0.142	0.185	0.181	1.03	73.8	17.16	4.50
150	0.1240	0.159	0.124	0.138	0.182	0.193	1.09	78.6	21.45	4.50
185	0.0991	0.127	0.119	0.134	0.177	0.207	1.17	84.2	26.46	4.50
240	0.0754	0.098	0.115	0.129	0.173	0.226	1.28	91.8	34.32	4.50
300	0.0601	0.079	0.113	0.127	0.171	0.243	1.38	99.1	42.90	4.50
400	0.0470	0.063	0.107	0.122	0.165	0.273	1.55	111.2	57.20	4.50
500	0.0366	0.050	0.103	0.117	0.161	0.305	1.73	124.2	71.50	4.50
630	0.0283	0.040	0.100	0.115	0.158	0.328	1.85	133.6	90.09	4.50
800	0.0221	0.034	0.097	0.112	0.155	0.366	2.07	149.0	114.40	4.50

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
500	640	635	608	603	942	944	1003
630	712	703	676	668	1071	1070	1117
800	781	770	742	732	1210	1207	1240

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W



Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Armoured construction can be offered as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE ALUMINIUM CONDUCTOR WIRE SCREENED UNARMoured - A2XC2Y

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
										During pulling mm	Set in position mm	 mm	 mm
95	11.4	8.0	28.4	35.0	31.5	1.48	37.0	1.35	2.9	740	444	65	150
120	12.9	8.0	29.9	35.0	33.0	1.48	38.0	1.46	3.6	760	456	65	150
150	14.2	8.0	31.2	35.0	34.3	1.56	40.0	1.58	4.5	800	480	65	150
185	15.7	8.0	32.7	35.0	35.8	1.56	41.0	1.73	5.6	820	492	65	150
240	17.8	8.0	34.8	35.0	37.9	1.64	43.0	1.95	7.2	860	516	65	150
300	19.8	8.0	36.8	35.0	39.9	1.72	46.0	2.18	9.0	920	552	65	150
400	22.9	8.0	40.2	35.0	43.3	1.80	49.0	2.51	12.0	980	588	80	150
500	26.5	8.0	43.8	35.0	46.9	1.88	53.0	2.91	15.0	1060	636	80	200
630	29.1	8.0	46.4	35.0	49.5	1.96	56.0	3.38	18.9	1120	672	80	200
800	33.4	8.0	50.7	35.0	53.7	2.04	61.0	3.99	24.0	1220	732	100	200

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90 °C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.133	0.148	0.191	0.168	0.95	68.2	8.93	4.50
120	0.2530	0.325	0.127	0.142	0.185	0.181	1.03	73.8	11.28	4.50
150	0.2060	0.265	0.124	0.138	0.182	0.193	1.09	78.6	14.10	4.50
185	0.1640	0.211	0.119	0.134	0.177	0.207	1.17	84.2	17.39	4.50
240	0.1250	0.161	0.115	0.129	0.173	0.226	1.28	91.8	22.56	4.50
300	0.1000	0.129	0.113	0.127	0.171	0.243	1.38	99.1	28.20	4.50
400	0.0778	0.101	0.107	0.122	0.165	0.273	1.55	111.2	37.60	4.50
500	0.0605	0.080	0.103	0.117	0.161	0.305	1.73	124.2	47.00	4.50
630	0.0469	0.063	0.100	0.115	0.158	0.328	1.85	133.6	59.22	4.50
800	0.0367	0.051	0.097	0.112	0.155	0.366	2.07	149.0	75.20	4.50

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

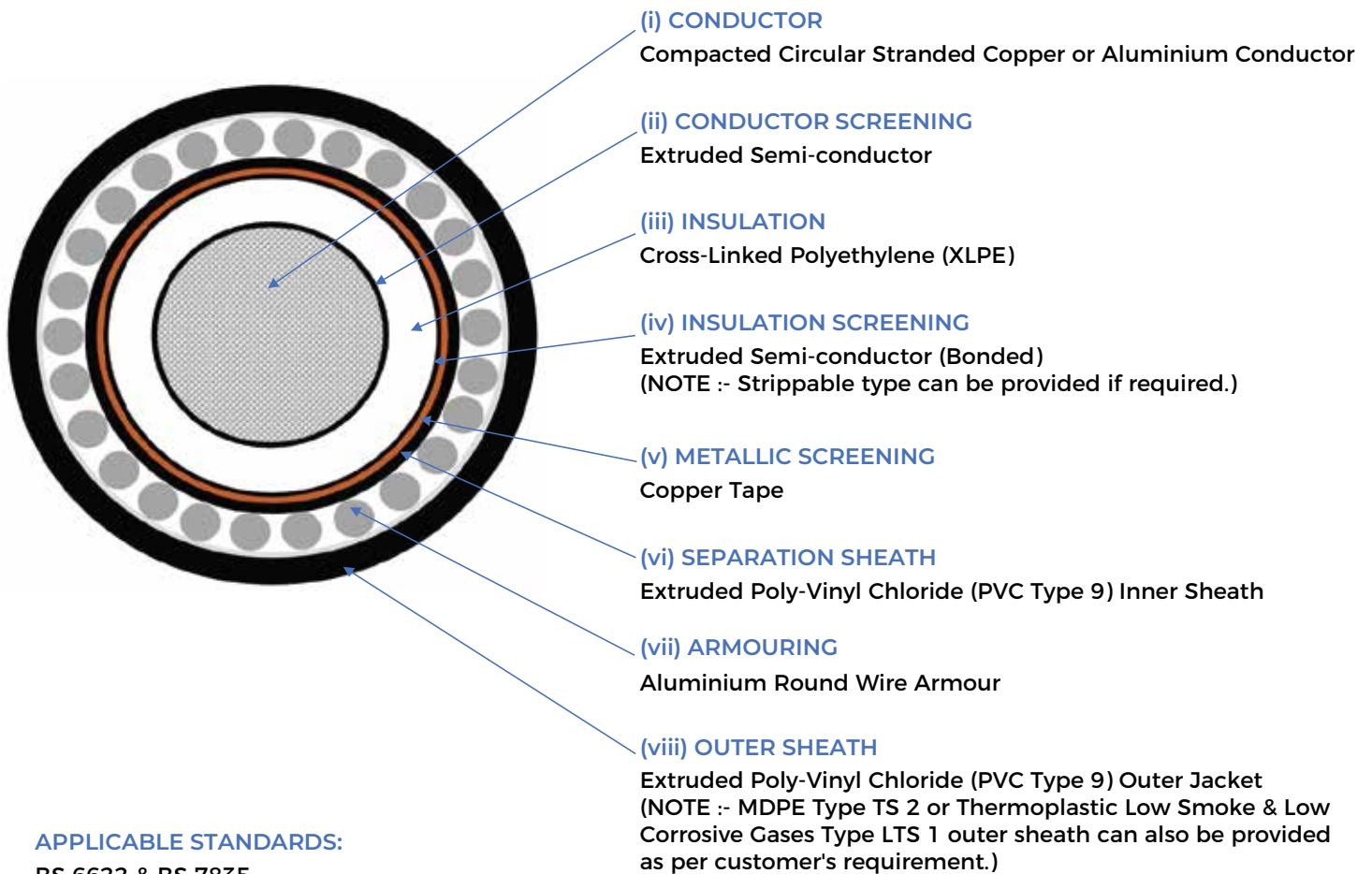
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Armoured construction can be offered as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

SINGLE CORE ROUND WIRE ARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

BS 6622 & BS 7835

APPLICATIONS:

Medium voltage power transmission and distribution networks.

Can be installed in air, ducts or directly buried.

Admissible temperature range during the installation: 0°C to +45°C.

Max admissible conductor temperature:

- Operating temperature: 90°C

- Core short circuit temperature: 250°C

3.8/6.6 (7.2) kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - 2XCEWaY

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	2.5	17.7	2.6	18.5	0.76	1.6	1.32	27.0	1.28	4.8	405	324	50	80
120	12.9	2.5	19.2	2.6	20.0	0.76	1.6	1.32	29.0	1.52	6.0	435	348	50	80
150	14.2	2.5	20.5	2.6	21.3	0.76	1.6	1.40	30.0	1.80	7.5	450	360	50	80
185	15.7	2.5	22.0	2.6	22.8	0.76	2.0	1.40	33.0	2.19	9.3	495	396	65	100
240	17.8	2.6	24.1	2.6	24.9	0.76	2.0	1.48	35.0	2.74	12.0	525	420	65	100
300	19.8	2.8	26.5	2.6	27.3	0.76	2.0	1.56	38.0	3.35	15.0	570	456	65	100
400	22.9	3.0	30.0	2.6	30.8	0.76	2.0	1.64	41.0	4.19	20.0	615	492	65	125
500	26.5	3.2	34.0	2.6	34.8	0.84	2.5	1.80	47.0	5.39	25.0	705	564	65	125
630	29.1	3.2	36.9	2.6	37.7	0.92	2.5	1.88	50.0	6.73	31.5	750	600	65	150
800	33.4	3.2	41.2	2.6	42.0	0.92	2.5	1.96	54.0	8.46	40.0	810	648	80	150
1000	37.4	3.2	45.2	2.6	46.0	1.00	2.5	2.12	59.0	10.38	50.0	885	708	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.115	0.129	0.173	0.407	0.46	6.6	13.59	0.33
120	0.1530	0.196	0.111	0.125	0.169	0.449	0.51	7.3	17.16	0.33
150	0.1240	0.159	0.108	0.122	0.166	0.486	0.55	7.9	21.45	0.33
185	0.0991	0.128	0.105	0.120	0.163	0.528	0.60	8.6	26.46	0.33
240	0.0754	0.098	0.102	0.116	0.160	0.566	0.64	9.2	34.32	0.33
300	0.0601	0.079	0.099	0.114	0.158	0.580	0.66	9.4	42.90	0.33
400	0.0470	0.063	0.096	0.110	0.154	0.618	0.70	10.1	57.20	0.33
500	0.0366	0.051	0.095	0.109	0.153	0.662	0.75	10.8	71.50	0.33
630	0.0283	0.041	0.093	0.107	0.151	0.724	0.82	11.8	90.09	0.33
800	0.0221	0.034	0.090	0.104	0.148	0.817	0.92	13.3	114.40	0.33
1000	0.0176	0.030	0.088	0.102	0.146	0.904	1.02	14.7	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In				In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced	
95	285	293	271	274	361	369	434	
120	323	332	308	311	417	426	500	
150	361	366	343	347	473	481	559	
185	406	410	387	391	543	550	637	
240	469	470	447	453	641	647	745	
300	526	524	504	510	735	739	846	
400	590	572	564	571	845	837	938	
500	640	635	608	603	942	944	1003	
630	712	703	676	668	1071	1070	1117	
800	781	770	742	732	1210	1207	1240	
1000	841	827	799	786	1332	1328	1344	

Standard Laying Conditions for Current Ratings



- Maximum Conductor Temperature: 90 °C
- Ambient Air Temperature: 30 °C
- Ground Temperature: 20 °C
- Depth of Laying : 0.8 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 (7.2) kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - A2XCEWαY

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm		
95	11.4	2.5	17.7	2.6	18.5	0.76	1.6	1.32	27.0	0.73	2.9	405	324	50	80
120	12.9	2.5	19.2	2.6	20.0	0.76	1.6	1.32	29.0	0.83	3.6	435	348	50	80
150	14.2	2.5	20.5	2.6	21.3	0.76	1.6	1.40	30.0	0.94	4.5	450	360	50	80
185	15.7	2.5	22.0	2.6	22.8	0.76	2.0	1.40	33.0	1.12	5.6	495	396	65	100
240	17.8	2.6	24.1	2.6	24.9	0.76	2.0	1.48	35.0	1.34	7.2	525	420	65	100
300	19.8	2.8	26.5	2.6	27.3	0.76	2.0	1.56	38.0	1.58	9.0	570	456	65	100
400	22.9	3.0	30.0	2.6	30.8	0.76	2.0	1.64	41.0	1.93	12.0	615	492	65	125
500	26.5	3.2	34.0	2.6	34.8	0.84	2.5	1.80	47.0	2.48	15.0	705	564	65	125
630	29.1	3.2	36.9	2.6	37.7	0.92	2.5	1.88	50.0	2.98	18.9	750	600	65	150
800	33.4	3.2	41.2	2.6	42.0	0.92	2.5	1.96	54.0	3.61	24.0	810	648	80	150
1000	37.4	3.2	45.2	2.6	46.0	1.00	2.5	2.12	59.0	4.37	30.0	885	708	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance μF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.115	0.129	0.173	0.407	0.46	6.6	8.93	0.33
120	0.2530	0.325	0.111	0.125	0.169	0.449	0.51	7.3	11.28	0.33
150	0.2060	0.265	0.108	0.122	0.166	0.486	0.55	7.9	14.10	0.33
185	0.1640	0.211	0.105	0.120	0.163	0.528	0.60	8.6	17.39	0.33
240	0.1250	0.161	0.102	0.116	0.160	0.566	0.64	9.2	22.56	0.33
300	0.1000	0.130	0.099	0.114	0.158	0.580	0.66	9.4	28.20	0.33
400	0.0778	0.102	0.096	0.110	0.154	0.618	0.70	10.1	37.60	0.33
500	0.0605	0.080	0.095	0.109	0.153	0.662	0.75	10.8	47.00	0.33
630	0.0469	0.063	0.093	0.107	0.151	0.724	0.82	11.8	59.22	0.33
800	0.0367	0.051	0.090	0.104	0.148	0.817	0.92	13.3	75.20	0.33
1000	0.0291	0.043	0.088	0.102	0.146	0.904	1.02	14.7	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070
1000	723	715	687	679	1138	1140	1193

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature: 90 °C
- Ambient Air Temperature: 30 °C
- Ground Temperature: 20 °C
- Depth of Laying : 0.8 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 (12) kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - 2XCEWaY

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	3.4	19.2	2.6	19.9	0.76	1.6	1.32	29.0	1.33	4.8	435	348	50	80
120	12.9	3.4	20.7	2.6	21.4	0.76	1.6	1.40	30.0	1.59	6.0	450	360	50	80
150	14.2	3.4	22.0	2.6	22.7	0.76	2.0	1.48	33.0	1.92	7.5	495	396	50	80
185	15.7	3.4	23.5	2.6	24.2	0.76	2.0	1.48	34.0	2.26	9.3	510	408	65	100
240	17.8	3.4	25.6	2.6	26.3	0.76	2.0	1.56	37.0	2.82	12.0	555	444	65	100
300	19.8	3.4	27.6	2.6	28.3	0.76	2.0	1.56	39.0	3.40	15.0	585	468	65	100
400	22.9	3.4	30.7	2.6	31.4	0.76	2.0	1.72	42.0	4.25	20.0	630	504	65	125
500	26.5	3.4	34.3	2.6	35.0	0.84	2.5	1.80	47.0	5.40	25.0	705	564	65	125
630	29.1	3.4	37.2	2.6	37.9	0.92	2.5	1.88	50.0	6.74	31.5	750	600	65	150
800	33.4	3.4	41.5	2.6	42.2	0.92	2.5	1.96	55.0	8.47	40.0	825	660	80	150
1000	37.4	3.4	45.5	2.6	46.2	1.00	2.5	2.12	59.0	10.40	50.0	885	708	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.118	0.133	0.176	0.314	0.59	14.2	13.59	0.33
120	0.1530	0.196	0.114	0.128	0.172	0.345	0.65	15.6	17.16	0.33
150	0.1240	0.159	0.113	0.127	0.171	0.371	0.70	16.8	21.45	0.33
185	0.0991	0.128	0.108	0.123	0.166	0.402	0.76	18.2	26.46	0.33
240	0.0754	0.098	0.104	0.119	0.163	0.446	0.84	20.2	34.32	0.33
300	0.0601	0.079	0.101	0.116	0.159	0.487	0.92	22.0	42.90	0.33
400	0.0470	0.063	0.097	0.112	0.155	0.551	1.04	24.9	57.20	0.33
500	0.0366	0.051	0.095	0.109	0.153	0.624	1.18	28.3	71.50	0.33
630	0.0283	0.041	0.093	0.108	0.151	0.683	1.29	30.9	90.09	0.33
800	0.0221	0.034	0.090	0.104	0.148	0.771	1.45	34.9	114.40	0.33
1000	0.0176	0.030	0.088	0.102	0.146	0.853	1.61	38.6	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts				In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced	
95	285	293	271	274	361	369	434	
120	323	332	308	311	417	426	500	
150	361	366	343	347	473	481	559	
185	406	410	387	391	543	550	637	
240	469	470	447	453	641	647	745	
300	526	524	504	510	735	739	846	
400	590	572	564	571	845	837	938	
500	640	635	608	603	942	944	1003	
630	712	703	676	668	1071	1070	1117	
800	781	770	742	732	1210	1207	1240	
1000	841	827	799	786	1332	1328	1344	

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

8.7/15 (17.5) kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - 2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	4.5	21.4	2.6	22.1	0.76	1.6	1.32	29.0	0.79	2.9	435	348	50	80
120	12.9	4.5	22.9	2.6	23.6	0.76	1.6	1.40	30.0	0.90	3.6	450	360	50	80
150	14.2	4.5	24.2	2.6	24.9	0.76	2.0	1.48	33.0	1.06	4.5	495	396	50	80
185	15.7	4.5	25.7	2.6	26.4	0.76	2.0	1.48	34.0	1.20	5.6	510	408	65	100
240	17.8	4.5	27.8	2.6	28.5	0.76	2.0	1.56	37.0	1.42	7.2	555	444	65	100
300	19.8	4.5	29.8	2.6	30.5	0.76	2.0	1.56	39.0	1.63	9.0	585	468	65	100
400	22.9	4.5	32.9	2.6	33.6	0.84	2.0	1.72	42.0	1.99	12.0	630	504	65	125
500	26.5	4.5	36.5	2.6	37.2	0.84	2.5	1.80	47.0	2.49	15.0	705	564	65	125
630	29.1	4.5	39.4	2.6	40.1	0.92	2.5	1.88	50.0	2.99	18.9	750	600	65	150
800	33.4	4.5	43.7	2.6	44.4	1.00	2.5	1.96	55.0	3.62	24.0	825	660	80	150
1000	37.4	4.5	47.7	2.6	48.4	1.08	2.5	2.12	59.0	4.39	30.0	885	708	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.118	0.133	0.176	0.314	0.59	14.2	8.93	0.33
120	0.2530	0.325	0.114	0.128	0.172	0.345	0.65	15.6	11.28	0.33
150	0.2060	0.265	0.113	0.127	0.171	0.371	0.70	16.8	14.10	0.33
185	0.1640	0.211	0.108	0.123	0.166	0.402	0.76	18.2	17.39	0.33
240	0.1250	0.161	0.104	0.119	0.163	0.446	0.84	20.2	22.56	0.33
300	0.1000	0.130	0.101	0.116	0.159	0.487	0.92	22.0	28.20	0.33
400	0.0778	0.102	0.097	0.112	0.155	0.551	1.04	24.9	37.60	0.33
500	0.0605	0.080	0.095	0.109	0.153	0.624	1.18	28.3	47.00	0.33
630	0.0469	0.063	0.093	0.108	0.151	0.683	1.29	30.9	59.22	0.33
800	0.0367	0.051	0.090	0.104	0.148	0.771	1.45	34.9	75.20	0.33
1000	0.0291	0.043	0.088	0.102	0.146	0.853	1.61	38.6	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070
1000	723	715	687	679	1138	1140	1193

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 (12) kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - A2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	3.4	19.2	2.6	19.9	0.76	2.0	1.40	32.0	1.48	4.8	640	384	50	80
120	12.9	3.4	20.7	2.6	21.4	0.76	2.0	1.48	34.0	1.75	6.0	680	408	50	80
150	14.2	3.4	22.0	2.6	22.7	0.76	2.0	1.48	35.0	2.03	7.5	700	420	50	80
185	15.7	3.4	23.5	2.6	24.2	0.76	2.0	1.56	37.0	2.40	9.3	740	444	65	100
240	17.8	3.4	25.6	2.6	26.3	0.76	2.0	1.64	39.0	2.96	12.0	780	468	65	100
300	19.8	3.4	27.6	2.6	28.3	0.76	2.0	1.64	41.0	3.55	15.0	820	492	65	100
400	22.9	3.4	30.7	2.6	31.4	0.76	2.5	1.80	46.0	4.51	20.0	920	552	65	125
500	26.5	3.4	34.3	2.6	35.0	0.84	2.5	1.88	49.0	5.59	25.0	980	588	65	125
630	29.1	3.4	37.2	2.6	37.9	0.92	2.5	1.96	52.0	6.93	31.5	1040	624	65	150
800	33.4	3.4	41.5	2.6	42.2	0.92	2.5	2.04	57.0	8.70	40.0	1140	684	80	150
1000	37.4	3.4	45.5	2.6	46.2	1.00	2.5	2.20	62.0	10.64	50.0	1240	744	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.125	0.139	0.183	0.251	0.69	23.9	13.59	0.33
120	0.1530	0.196	0.120	0.135	0.178	0.275	0.75	26.2	17.16	0.33
150	0.1240	0.159	0.117	0.131	0.175	0.296	0.81	28.1	21.45	0.33
185	0.0991	0.128	0.113	0.127	0.171	0.319	0.87	30.3	26.46	0.33
240	0.0754	0.098	0.108	0.123	0.167	0.352	0.96	33.5	34.32	0.33
300	0.0601	0.079	0.105	0.119	0.163	0.383	1.05	36.4	42.90	0.33
400	0.0470	0.063	0.102	0.117	0.160	0.431	1.18	41.0	57.20	0.33
500	0.0366	0.050	0.098	0.113	0.156	0.487	1.33	46.4	71.50	0.33
630	0.0283	0.041	0.096	0.111	0.154	0.532	1.45	50.6	90.09	0.33
800	0.0221	0.034	0.093	0.107	0.151	0.598	1.64	56.9	114.40	0.33
1000	0.0176	0.029	0.091	0.105	0.149	0.660	1.80	62.8	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In				In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced	
95	285	293	271	274	361	369	434	
120	323	332	308	311	417	426	500	
150	361	366	343	347	473	481	559	
185	406	410	387	391	543	550	637	
240	469	470	447	453	641	647	745	
300	526	524	504	510	735	739	846	
400	590	572	564	571	845	837	938	
500	640	635	608	603	942	944	1003	
630	712	703	676	668	1071	1070	1117	
800	781	770	742	732	1210	1207	1240	
1000	841	827	799	786	1332	1328	1344	

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

8.7/15 (17.5) kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - A2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	4.5	21.4	2.6	22.1	0.76	2.0	1.40	32.0	0.93	2.9	640	384	50	80
120	12.9	4.5	22.9	2.6	23.6	0.76	2.0	1.48	34.0	1.06	3.6	680	408	50	80
150	14.2	4.5	24.2	2.6	24.9	0.76	2.0	1.48	35.0	1.18	4.5	700	420	50	80
185	15.7	4.5	25.7	2.6	26.4	0.76	2.0	1.56	37.0	1.33	5.6	740	444	65	100
240	17.8	4.5	27.8	2.6	28.5	0.76	2.0	1.64	39.0	1.56	7.2	780	468	65	100
300	19.8	4.5	29.8	2.6	30.5	0.76	2.0	1.64	41.0	1.77	9.0	820	492	65	100
400	22.9	4.5	32.9	2.6	33.6	0.84	2.5	1.80	46.0	2.25	12.0	920	552	65	125
500	26.5	4.5	36.5	2.6	37.2	0.84	2.5	1.88	49.0	2.68	15.0	980	588	65	125
630	29.1	4.5	39.4	2.6	40.1	0.92	2.5	1.96	52.0	3.19	18.9	1040	624	65	150
800	33.4	4.5	43.7	2.6	44.4	1.00	2.5	2.04	57.0	3.85	24.0	1140	684	80	150
1000	37.4	4.5	47.7	2.6	48.4	1.08	2.5	2.20	62.0	4.63	30.0	1240	744	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.125	0.139	0.183	0.251	0.69	23.9	8.93	0.33
120	0.2530	0.325	0.120	0.135	0.178	0.275	0.75	26.2	11.28	0.33
150	0.2060	0.265	0.117	0.131	0.175	0.296	0.81	28.1	14.10	0.33
185	0.1640	0.211	0.113	0.127	0.171	0.319	0.87	30.3	17.39	0.33
240	0.1250	0.161	0.108	0.123	0.167	0.352	0.96	33.5	22.56	0.33
300	0.1000	0.130	0.105	0.119	0.163	0.383	1.05	36.4	28.20	0.33
400	0.0778	0.101	0.102	0.117	0.160	0.431	1.18	41.0	37.60	0.33
500	0.0605	0.080	0.098	0.113	0.156	0.487	1.33	46.4	47.00	0.33
630	0.0469	0.063	0.096	0.111	0.154	0.532	1.45	50.6	59.22	0.33
800	0.0367	0.051	0.093	0.107	0.151	0.598	1.64	56.9	75.20	0.33
1000	0.0291	0.042	0.091	0.105	0.149	0.660	1.80	62.8	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070
1000	723	715	687	679	1138	1140	1193

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 (24) kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - 2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	5.5	23.4	2.6	24.1	0.76	2.0	1.48	34.0	1.59	4.8	680	408	50	80
120	12.9	5.5	24.9	2.6	25.6	0.76	2.0	1.48	36.0	1.86	6.0	720	432	50	80
150	14.2	5.5	26.2	2.6	26.9	0.76	2.0	1.56	37.0	2.15	7.5	740	444	50	80
185	15.7	5.5	27.7	2.6	28.4	0.76	2.0	1.56	39.0	2.51	9.3	780	468	65	100
240	17.8	5.5	29.8	2.6	30.5	0.76	2.0	1.64	41.0	3.08	12.0	820	492	65	100
300	19.8	5.5	31.8	2.6	32.5	0.84	2.5	1.72	44.0	3.79	15.0	880	528	65	100
400	22.9	5.5	34.9	2.6	35.6	0.84	2.5	1.80	48.0	4.66	20.0	960	576	65	125
500	26.5	5.5	38.5	2.6	39.2	0.92	2.5	1.88	51.0	5.76	25.0	1020	612	65	125
630	29.1	5.5	41.4	2.6	42.1	0.92	2.5	2.04	55.0	7.11	31.5	1100	660	65	150
800	33.4	5.5	45.7	2.6	46.4	1.00	2.5	2.12	59.0	8.90	40.0	1180	708	80	150
1000	37.4	5.5	49.7	2.6	50.4	1.08	2.5	2.20	64.0	10.83	50.0	1280	768	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.129	0.144	0.187	0.216	0.81	39.1	13.59	0.33
120	0.1530	0.196	0.124	0.138	0.182	0.236	0.89	42.6	17.16	0.33
150	0.1240	0.159	0.120	0.135	0.179	0.253	0.95	45.7	21.45	0.33
185	0.0991	0.127	0.116	0.130	0.174	0.272	1.03	49.2	26.46	0.33
240	0.0754	0.098	0.112	0.126	0.170	0.299	1.13	54.1	34.32	0.33
300	0.0601	0.079	0.110	0.124	0.168	0.325	1.22	58.7	42.90	0.33
400	0.0470	0.063	0.105	0.119	0.163	0.364	1.37	65.9	57.20	0.33
500	0.0366	0.050	0.101	0.115	0.159	0.410	1.55	74.2	71.50	0.33
630	0.0283	0.041	0.099	0.113	0.157	0.447	1.68	80.8	90.09	0.33
800	0.0221	0.034	0.095	0.110	0.153	0.501	1.89	90.7	114.40	0.33
1000	0.0176	0.029	0.093	0.107	0.151	0.552	2.08	99.9	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
500	640	635	608	603	942	944	1003
630	712	703	676	668	1071	1070	1117
800	781	770	742	732	1210	1207	1240
1000	841	827	799	786	1332	1328	1344

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W



Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 (24) kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - A2XCEW_aY

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	 mm	 mm
95	11.4	5.5	23.4	2.6	24.1	0.76	2.0	1.48	34.0	1.05	2.9	680	408	50	80
120	12.9	5.5	24.9	2.6	25.6	0.76	2.0	1.48	36.0	1.17	3.6	720	432	50	80
150	14.2	5.5	26.2	2.6	26.9	0.76	2.0	1.56	37.0	1.30	4.5	740	444	50	80
185	15.7	5.5	27.7	2.6	28.4	0.76	2.0	1.56	39.0	1.44	5.6	780	468	65	100
240	17.8	5.5	29.8	2.6	30.5	0.76	2.0	1.64	41.0	1.68	7.2	820	492	65	100
300	19.8	5.5	31.8	2.6	32.5	0.84	2.5	1.72	44.0	2.02	9.0	880	528	65	100
400	22.9	5.5	34.9	2.6	35.6	0.84	2.5	1.80	48.0	2.40	12.0	960	576	65	125
500	26.5	5.5	38.5	2.6	39.2	0.92	2.5	1.88	51.0	2.85	15.0	1020	612	65	125
630	29.1	5.5	41.4	2.6	42.1	0.92	2.5	2.04	55.0	3.37	18.9	1100	660	65	150
800	33.4	5.5	45.7	2.6	46.4	1.00	2.5	2.12	59.0	4.05	24.0	1180	708	80	150
1000	37.4	5.5	49.7	2.6	50.4	1.08	2.5	2.20	64.0	4.82	30.0	1280	768	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.129	0.144	0.187	0.216	0.81	39.1	8.93	0.33
120	0.2530	0.325	0.124	0.138	0.182	0.236	0.89	42.6	11.28	0.33
150	0.2060	0.265	0.120	0.135	0.179	0.253	0.95	45.7	14.10	0.33
185	0.1640	0.211	0.116	0.130	0.174	0.272	1.03	49.2	17.39	0.33
240	0.1250	0.161	0.112	0.126	0.170	0.299	1.13	54.1	22.56	0.33
300	0.1000	0.129	0.110	0.124	0.168	0.325	1.22	58.7	28.20	0.33
400	0.0778	0.101	0.105	0.119	0.163	0.364	1.37	65.9	37.60	0.33
500	0.0605	0.080	0.101	0.115	0.159	0.410	1.55	74.2	47.00	0.33
630	0.0469	0.063	0.099	0.113	0.157	0.447	1.68	80.8	59.22	0.33
800	0.0367	0.051	0.095	0.110	0.153	0.501	1.89	90.7	75.20	0.33
1000	0.0291	0.042	0.093	0.107	0.151	0.552	2.08	99.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070
1000	723	715	687	679	1138	1140	1193

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W



Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 (36) kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - 2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm		
95	11.4	8.0	28.5	2.6	29.3	0.76	2.0	1.64	40.0	1.92	4.8	800	480	50	80
120	12.9	8.0	30.0	2.6	30.8	0.76	2.0	1.64	41.0	2.19	6.0	820	492	50	80
150	14.2	8.0	31.3	2.6	32.1	0.84	2.5	1.72	44.0	2.60	7.5	880	528	50	80
185	15.7	8.0	32.8	2.6	33.6	0.84	2.5	1.80	46.0	3.00	9.3	920	552	65	100
240	17.8	8.0	34.9	2.6	35.7	0.84	2.5	1.80	48.0	3.58	12.0	960	576	65	100
300	19.8	8.0	36.9	2.6	37.7	0.92	2.5	1.88	50.0	4.23	15.0	1000	600	65	100
400	22.9	8.0	40.0	2.6	40.8	0.92	2.5	1.96	53.0	5.11	20.0	1060	636	65	125
500	26.5	8.0	43.6	2.6	44.4	1.00	2.5	2.04	57.0	6.25	25.0	1140	684	65	125
630	29.1	8.0	46.5	2.6	47.3	1.00	2.5	2.12	60.0	7.61	31.5	1200	720	65	150
800	33.4	8.0	50.8	2.6	51.6	1.08	2.5	2.28	65.0	9.47	40.0	1300	780	80	150
1000	37.4	8.0	54.8	2.6	55.6	1.16	2.5	2.36	69.0	11.44	50.0	1380	828	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.139	0.153	0.197	0.167	0.94	67.9	13.59	0.33
120	0.1530	0.196	0.133	0.148	0.191	0.180	1.02	73.5	17.16	0.33
150	0.1240	0.159	0.131	0.146	0.189	0.192	1.09	78.3	21.45	0.33
185	0.0991	0.127	0.126	0.141	0.184	0.206	1.16	83.8	26.46	0.33
240	0.0754	0.098	0.121	0.136	0.179	0.225	1.27	91.5	34.32	0.33
300	0.0601	0.078	0.118	0.132	0.176	0.243	1.37	98.8	42.90	0.33
400	0.0470	0.062	0.112	0.127	0.170	0.270	1.53	110.0	57.20	0.33
500	0.0366	0.050	0.107	0.122	0.166	0.302	1.71	123.0	71.50	0.33
630	0.0283	0.040	0.105	0.119	0.163	0.327	1.85	133.2	90.09	0.33
800	0.0221	0.033	0.101	0.116	0.159	0.365	2.06	148.6	114.40	0.33
1000	0.0176	0.028	0.098	0.113	0.156	0.400	2.26	162.9	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In				In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced	
95	285	293	271	274	361	369	434	
120	323	332	308	311	417	426	500	
150	361	366	343	347	473	481	559	
185	406	410	387	391	543	550	637	
240	469	470	447	453	641	647	745	
300	526	524	504	510	735	739	846	
400	590	572	564	571	845	837	938	
500	640	635	608	603	942	944	1003	
630	712	703	676	668	1071	1070	1117	
800	781	770	742	732	1210	1207	1240	
1000	841	827	799	786	1332	1328	1344	

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W



Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 (36) kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMoured - A2XCEW_a

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm		
95	11.4	8.0	28.5	2.6	29.3	0.76	2.0	1.64	40.0	1.38	2.9	800	480	50	80
120	12.9	8.0	30.0	2.6	30.8	0.76	2.0	1.64	41.0	1.50	3.6	820	492	50	80
150	14.2	8.0	31.3	2.6	32.1	0.84	2.5	1.72	44.0	1.74	4.5	880	528	50	80
185	15.7	8.0	32.8	2.6	33.6	0.84	2.5	1.80	46.0	1.93	5.6	920	552	65	100
240	17.8	8.0	34.9	2.6	35.7	0.84	2.5	1.80	48.0	2.17	7.2	960	576	65	100
300	19.8	8.0	36.9	2.6	37.7	0.92	2.5	1.88	50.0	2.46	9.0	1000	600	65	100
400	22.9	8.0	40.0	2.6	40.8	0.92	2.5	1.96	53.0	2.85	12.0	1060	636	65	125
500	26.5	8.0	43.6	2.6	44.4	1.00	2.5	2.04	57.0	3.34	15.0	1140	684	65	125
630	29.1	8.0	46.5	2.6	47.3	1.00	2.5	2.12	60.0	3.86	18.9	1200	720	65	150
800	33.4	8.0	50.8	2.6	51.6	1.08	2.5	2.28	65.0	4.62	24.0	1300	780	80	150
1000	37.4	8.0	54.8	2.6	55.6	1.16	2.5	2.36	69.0	5.43	30.0	1380	828	80	190

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.139	0.153	0.197	0.167	0.94	67.9	8.93	0.33
120	0.2530	0.325	0.133	0.148	0.191	0.180	1.02	73.5	11.28	0.33
150	0.2060	0.265	0.131	0.146	0.189	0.192	1.09	78.3	14.10	0.33
185	0.1640	0.211	0.126	0.141	0.184	0.206	1.16	83.8	17.39	0.33
240	0.1250	0.161	0.121	0.136	0.179	0.225	1.27	91.5	22.56	0.33
300	0.1000	0.129	0.118	0.132	0.176	0.243	1.37	98.8	28.20	0.33
400	0.0778	0.101	0.112	0.127	0.170	0.270	1.53	110.0	37.60	0.33
500	0.0605	0.080	0.107	0.122	0.166	0.302	1.71	123.0	47.00	0.33
630	0.0469	0.063	0.105	0.119	0.163	0.327	1.85	133.2	59.22	0.33
800	0.0367	0.051	0.101	0.116	0.159	0.365	2.06	148.6	75.20	0.33
1000	0.0291	0.042	0.098	0.113	0.156	0.400	2.26	162.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	519	520	493	494	757	764	837
630	586	584	557	555	876	882	950
800	655	651	622	618	1005	1009	1070
1000	723	715	687	679	1138	1140	1193

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature: 90 °C

Ambient Air Temperature: 30 °C

Ground Temperature: 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

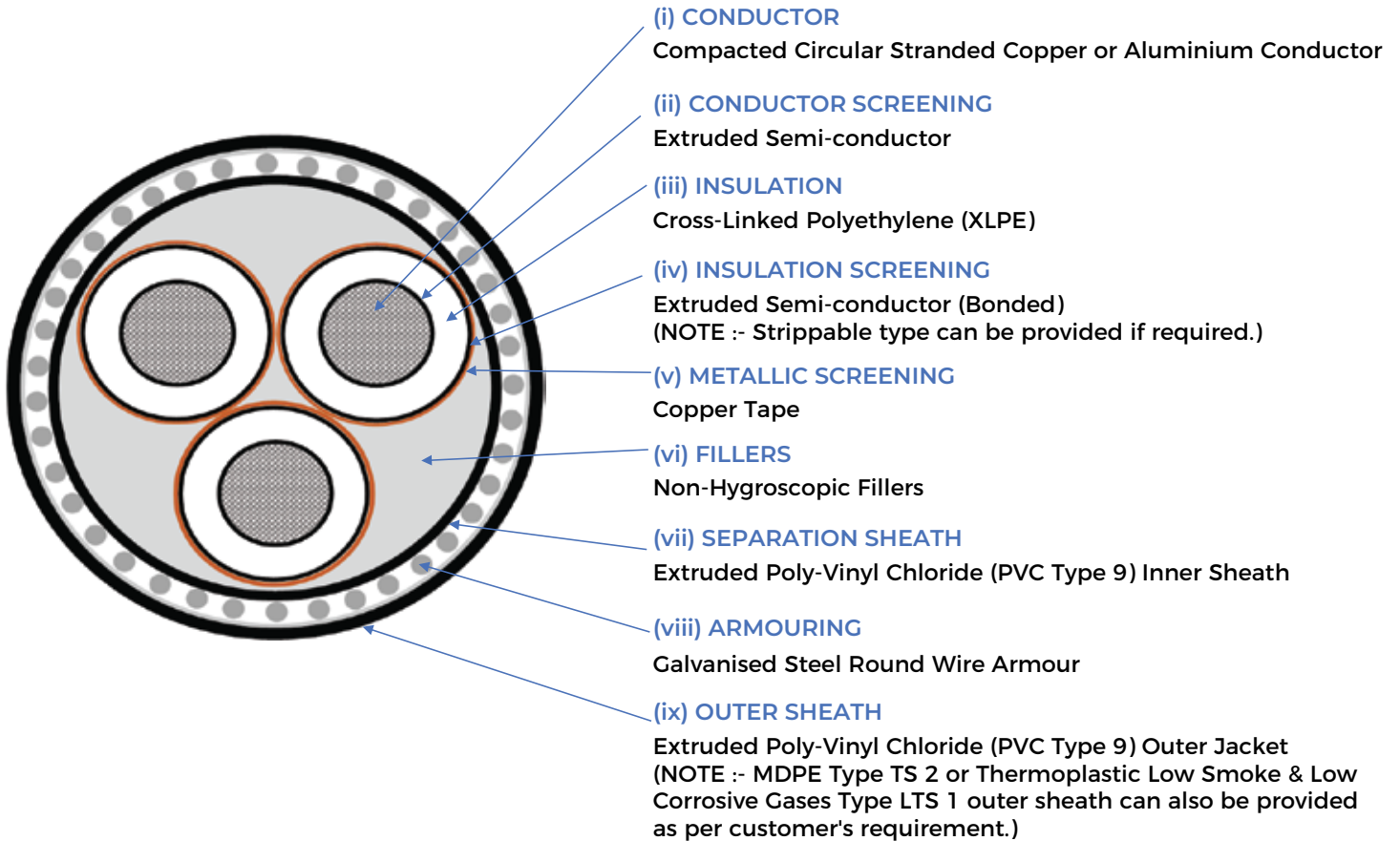
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

THREE CORE ROUND WIRE ARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

BS 6622 & BS 7835

APPLICATIONS:

Medium voltage power transmission and distribution networks.

Can be installed in air, ducts or directly buried.

Admissible temperature range during the installation: 0°C to +45°C.


Max admissible conductor temperature:

- Operating temperature: 90°C

- Core short circuit temperature: 250°C

3.8/6.6 (7.2) kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - 2XCEWY

Dimensional Characteristics

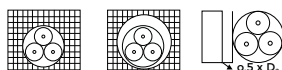
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	
95	11.4	2.5	17.7	2.6	18.5	0.92	2.50	1.96	52.0	5.76	4.8	780	624	80
120	12.9	2.5	19.2	2.6	20.0	1.00	2.50	2.04	56.0	6.71	6.0	840	672	100
150	14.2	2.5	20.5	2.6	21.3	1.00	2.50	2.12	59.0	7.73	7.5	885	708	100
185	15.7	2.5	22.0	2.6	22.8	1.08	2.50	2.20	63.0	8.99	9.3	945	756	100
240	17.8	2.6	24.1	2.6	24.9	1.16	2.50	2.36	68.0	11.00	12.0	1020	816	100
300	19.8	2.8	26.5	2.6	27.3	1.24	3.15	2.60	75.0	13.91	15.0	1125	900	125
400	22.9	3.0	30.0	2.6	30.8	1.40	3.15	2.84	83.0	17.18	20.0	1245	996	125

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.093	0.407	0.46	6.6	13.59	0.33
120	0.1530	0.196	0.090	0.449	0.51	7.3	17.16	0.33
150	0.1240	0.160	0.088	0.486	0.55	7.9	21.45	0.33
185	0.0991	0.128	0.085	0.528	0.60	8.6	26.46	0.33
240	0.0754	0.099	0.083	0.566	0.64	9.2	34.32	0.33
300	0.0601	0.080	0.082	0.580	0.66	9.4	42.90	0.33
400	0.0470	0.064	0.080	0.618	0.70	10.1	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	263	232	307
120	298	264	352
150	332	296	397
185	374	335	453
240	431	387	529
300	482	435	599
400	541	492	683



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 (7.2) KV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - A2XCEWY

Dimensional Characteristics

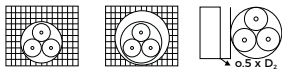
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	2.5	17.7	2.6	18.5	0.92	2.50	1.96	52.0	4.11	2.9	780	624	80
120	12.9	2.5	19.2	2.6	20.0	1.00	2.50	2.04	56.0	4.63	3.6	840	672	100
150	14.2	2.5	20.5	2.6	21.3	1.00	2.50	2.12	59.0	5.15	4.5	885	708	100
185	15.7	2.5	22.0	2.6	22.8	1.08	2.50	2.20	63.0	5.77	5.6	945	756	100
240	17.8	2.6	24.1	2.6	24.9	1.16	2.50	2.36	68.0	6.76	7.2	1020	816	100
300	19.8	2.8	26.5	2.6	27.3	1.24	3.15	2.60	75.0	8.56	9.0	1125	900	125
400	22.9	3.0	30.0	2.6	30.8	1.40	3.15	2.84	83.0	10.36	12.0	1245	996	125

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.093	0.407	0.46	6.6	8.93	0.33
120	0.2530	0.325	0.090	0.449	0.51	7.3	11.28	0.33
150	0.2060	0.265	0.088	0.486	0.55	7.9	14.10	0.33
185	0.1640	0.212	0.085	0.528	0.60	8.6	17.39	0.33
240	0.1250	0.162	0.083	0.566	0.64	9.2	22.56	0.33
300	0.1000	0.130	0.082	0.580	0.66	9.4	28.20	0.33
400	0.0778	0.103	0.080	0.618	0.70	10.1	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	204	180	238
120	232	206	274
150	259	231	309
185	293	262	354
240	338	304	415
300	380	343	472
400	432	393	545



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 (12) kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - 2XCEWY

Dimensional Characteristics

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	3.4	19.2	2.6	19.9	1.00	2.50	2.12	56.0	6.17	4.8	840	672	100
120	12.9	3.4	20.7	2.6	21.4	1.08	2.50	2.20	59.0	7.16	6.0	885	708	100
150	14.2	3.4	22.0	2.6	22.7	1.08	2.50	2.28	62.0	8.13	7.5	930	744	100
185	15.7	3.4	23.5	2.6	24.2	1.16	2.50	2.36	66.0	9.45	9.3	990	792	100
240	17.8	3.4	25.6	2.6	26.3	1.24	3.15	2.52	72.0	12.13	12.0	1080	864	125
300	19.8	3.4	27.6	2.6	28.3	1.32	3.15	2.68	77.0	14.34	15.0	1155	924	125
400	22.9	3.4	30.7	2.6	31.4	1.40	3.15	2.84	84.0	17.41	20.0	1260	1008	125

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.098	0.314	0.59	14.2	13.59	0.33
120	0.1530	0.196	0.095	0.345	0.65	15.6	17.16	0.33
150	0.1240	0.160	0.092	0.371	0.70	16.8	21.45	0.33
185	0.0991	0.128	0.089	0.402	0.76	18.2	26.46	0.33
240	0.0754	0.099	0.086	0.446	0.84	20.2	34.32	0.33
300	0.0601	0.080	0.084	0.487	0.92	22.0	42.90	0.33
400	0.0470	0.064	0.081	0.551	1.04	24.9	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	263	232	307
120	298	264	352
150	332	296	397
185	374	335	453
240	431	387	529
300	482	435	599
400	541	492	683

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 (12) KV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - A2XCEWY

Dimensional Characteristics

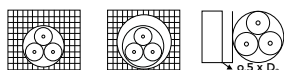
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	3.4	19.2	2.6	19.9	1.00	2.50	2.12	56.0	4.52	2.9	840	672	100
120	12.9	3.4	20.7	2.6	21.4	1.08	2.50	2.20	59.0	5.07	3.6	885	708	100
150	14.2	3.4	22.0	2.6	22.7	1.08	2.50	2.28	62.0	5.55	4.5	930	744	100
185	15.7	3.4	23.5	2.6	24.2	1.16	2.50	2.36	66.0	6.24	5.6	990	792	100
240	17.8	3.4	25.6	2.6	26.3	1.24	3.15	2.52	72.0	7.89	7.2	1080	864	125
300	19.8	3.4	27.6	2.6	28.3	1.32	3.15	2.68	77.0	9.00	9.0	1155	924	125
400	22.9	3.4	30.7	2.6	31.4	1.40	3.15	2.84	84.0	10.59	12.0	1260	1008	125

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.098	0.314	0.59	14.2	8.93	0.33
120	0.2530	0.325	0.095	0.345	0.65	15.6	11.28	0.33
150	0.2060	0.265	0.092	0.371	0.70	16.8	14.10	0.33
185	0.1640	0.211	0.089	0.402	0.76	18.2	17.39	0.33
240	0.1250	0.162	0.086	0.446	0.84	20.2	22.56	0.33
300	0.1000	0.130	0.084	0.487	0.92	22.0	28.20	0.33
400	0.0778	0.102	0.081	0.551	1.04	24.9	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	204	180	238
120	232	206	274
150	259	231	309
185	293	262	354
240	338	304	415
300	380	343	472
400	432	393	545



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

8.7/15 (17.5) kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - 2XCEWY

Dimensional Characteristics

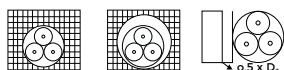
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	4.5	21.4	2.6	22.1	1.08	2.50	2.20	61.0	6.80	4.8	915	732	100
120	12.9	4.5	22.9	2.6	23.6	1.16	2.50	2.28	65.0	7.82	6.0	975	780	100
150	14.2	4.5	24.2	2.6	24.9	1.16	2.50	2.36	68.0	8.86	7.5	1020	816	100
185	15.7	4.5	25.7	2.6	26.4	1.24	3.15	2.52	73.0	10.91	9.3	1095	876	125
240	17.8	4.5	27.8	2.6	28.5	1.32	3.15	2.68	78.0	12.98	12.0	1170	936	125
300	19.8	4.5	29.8	2.6	30.5	1.40	3.15	2.76	82.0	15.14	15.0	1230	984	125
400	22.9	4.5	32.9	2.6	33.6	1.48	3.15	3.00	90.0	18.30	20.0	1350	1080	150

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.105	0.251	0.69	23.9	13.59	0.33
120	0.1530	0.196	0.101	0.275	0.75	26.2	17.16	0.33
150	0.1240	0.159	0.098	0.296	0.81	28.1	21.45	0.33
185	0.0991	0.128	0.095	0.319	0.87	30.3	26.46	0.33
240	0.0754	0.098	0.092	0.352	0.96	33.5	34.32	0.33
300	0.0601	0.080	0.089	0.383	1.05	36.4	42.90	0.33
400	0.0470	0.064	0.085	0.431	1.18	41.0	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	263	232	307
120	298	264	352
150	332	296	397
185	374	335	453
240	431	387	529
300	482	435	599
400	541	492	683



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

8.7/15 (17.5) KV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - A2XCEWY

Dimensional Characteristics

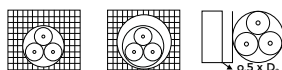
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	4.5	21.4	2.6	22.1	1.08	2.50	2.20	61.0	5.16	2.9	915	732	100
120	12.9	4.5	22.9	2.6	23.6	1.16	2.50	2.28	65.0	5.73	3.6	975	780	100
150	14.2	4.5	24.2	2.6	24.9	1.16	2.50	2.36	68.0	6.28	4.5	1020	816	100
185	15.7	4.5	25.7	2.6	26.4	1.24	3.15	2.52	73.0	7.69	5.6	1095	876	125
240	17.8	4.5	27.8	2.6	28.5	1.32	3.15	2.68	78.0	8.74	7.2	1170	936	125
300	19.8	4.5	29.8	2.6	30.5	1.40	3.15	2.76	82.0	9.79	9.0	1230	984	125
400	22.9	4.5	32.9	2.6	33.6	1.48	3.15	3.00	90.0	11.47	12.0	1350	1080	150

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.105	0.251	0.69	23.9	8.93	0.33
120	0.2530	0.325	0.101	0.275	0.75	26.2	11.28	0.33
150	0.2060	0.265	0.098	0.296	0.81	28.1	14.10	0.33
185	0.1640	0.211	0.095	0.319	0.87	30.3	17.39	0.33
240	0.1250	0.162	0.092	0.352	0.96	33.5	22.56	0.33
300	0.1000	0.130	0.089	0.383	1.05	36.4	28.20	0.33
400	0.0778	0.102	0.085	0.431	1.18	41.0	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	204	180	238
120	232	206	274
150	259	231	309
185	293	262	354
240	338	304	415
300	380	343	472
400	432	393	545



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 (24) KV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - 2XCEWY

Dimensional Characteristics

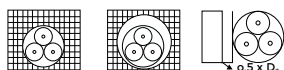
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.4	2.6	24.1	1.16	2.50	2.36	66.0	7.43	4.8	990	792	100
120	12.9	5.5	24.9	2.6	25.6	1.16	3.15	2.44	71.0	9.12	6.0	1065	852	125
150	14.2	5.5	26.2	2.6	26.9	1.24	3.15	2.52	74.0	10.22	7.5	1110	888	125
185	15.7	5.5	27.7	2.6	28.4	1.32	3.15	2.68	77.0	11.66	9.3	1155	924	125
240	17.8	5.5	29.8	2.6	30.5	1.40	3.15	2.76	82.0	13.75	12.0	1230	984	125
300	19.8	5.5	31.8	2.6	32.5	1.40	3.15	2.92	87.0	15.94	15.0	1305	1044	125
400	22.9	5.5	34.9	2.6	35.6	1.56	3.15	3.08	94.0	19.20	20.0	1410	1128	150

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.110	0.216	0.81	39.1	13.59	0.33
120	0.1530	0.196	0.106	0.236	0.89	42.6	17.16	0.33
150	0.1240	0.159	0.103	0.253	0.95	45.7	21.45	0.33
185	0.0991	0.128	0.099	0.272	1.03	49.2	26.46	0.33
240	0.0754	0.098	0.096	0.299	1.13	54.1	34.32	0.33
300	0.0601	0.079	0.093	0.325	1.22	58.7	42.90	0.33
400	0.0470	0.064	0.089	0.364	1.37	65.9	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	263	232	307
120	298	264	352
150	332	296	397
185	374	335	453
240	431	387	529
300	482	435	599
400	541	492	683



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 (24) KV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - A2XCEWY

Dimensional Characteristics

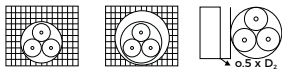
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	
95	11.4	5.5	23.4	2.6	24.1	1.16	2.50	2.36	66.0	5.79	2.9	990	792	100
120	12.9	5.5	24.9	2.6	25.6	1.16	3.15	2.44	71.0	7.04	3.6	1065	852	125
150	14.2	5.5	26.2	2.6	26.9	1.24	3.15	2.52	74.0	7.64	4.5	1110	888	125
185	15.7	5.5	27.7	2.6	28.4	1.32	3.15	2.68	77.0	8.44	5.6	1155	924	125
240	17.8	5.5	29.8	2.6	30.5	1.40	3.15	2.76	82.0	9.50	7.2	1230	984	125
300	19.8	5.5	31.8	2.6	32.5	1.40	3.15	2.92	87.0	10.59	9.0	1305	1044	125
400	22.9	5.5	34.9	2.6	35.6	1.56	3.15	3.08	94.0	12.38	12.0	1410	1128	150

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.110	0.216	0.81	39.1	8.93	0.33
120	0.2530	0.325	0.106	0.236	0.89	42.6	11.28	0.33
150	0.2060	0.265	0.103	0.253	0.95	45.7	14.10	0.33
185	0.1640	0.211	0.099	0.272	1.03	49.2	17.39	0.33
240	0.1250	0.162	0.096	0.299	1.13	54.1	22.56	0.33
300	0.1000	0.130	0.093	0.325	1.22	58.7	28.20	0.33
400	0.0778	0.102	0.089	0.364	1.37	65.9	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	204	180	238
120	232	206	274
150	259	231	309
185	293	262	354
240	338	304	415
300	380	343	472
400	432	393	545



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 (36) KV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - 2XCEWY

Dimensional Characteristics

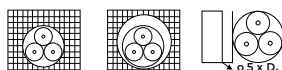
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	8.0	28.5	2.6	29.3	1.32	3.15	2.68	79.0	10.01	4.8	1185	948	125
120	12.9	8.0	30.0	2.6	30.8	1.40	3.15	2.76	83.0	11.11	6.0	1245	996	125
150	14.2	8.0	31.3	2.6	32.1	1.40	3.15	2.84	86.0	12.20	7.5	1290	1032	125
185	15.7	8.0	32.8	2.6	33.6	1.48	3.15	3.00	90.0	13.72	9.3	1350	1080	150
240	17.8	8.0	34.9	2.6	35.7	1.56	3.15	3.08	95.0	15.95	12.0	1425	1140	150
300	19.8	8.0	36.9	2.6	37.7	1.64	3.15	3.24	99.0	18.26	15.0	1485	1188	150
400	22.9	8.0	40.0	2.6	40.8	1.72	3.15	3.40	107.0	21.52	20.0	1605	1284	200

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.123	0.167	0.94	67.9	13.59	0.33
120	0.1530	0.196	0.118	0.180	1.02	73.5	17.16	0.33
150	0.1240	0.159	0.114	0.192	1.09	78.3	21.45	0.33
185	0.0991	0.128	0.110	0.206	1.16	83.8	26.46	0.33
240	0.0754	0.098	0.106	0.225	1.27	91.5	34.32	0.33
300	0.0601	0.079	0.103	0.243	1.37	98.8	42.90	0.33
400	0.0470	0.063	0.098	0.270	1.53	110.0	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	263	232	307
120	298	264	352
150	332	296	397
185	374	335	453
240	431	387	529
300	482	435	599
400	541	492	683



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W


Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 (36) kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMoured - A2XCEWY

Dimensional Characteristics

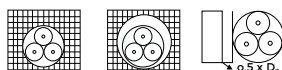
Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm ²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter mm
												During pulling mm	Set in position mm	 mm
95	11.4	8.0	28.5	2.6	29.3	1.32	3.15	2.68	79.0	8.36	2.9	1185	948	125
120	12.9	8.0	30.0	2.6	30.8	1.40	3.15	2.76	83.0	9.02	3.6	1245	996	125
150	14.2	8.0	31.3	2.6	32.1	1.40	3.15	2.84	86.0	9.63	4.5	1290	1032	125
185	15.7	8.0	32.8	2.6	33.6	1.48	3.15	3.00	90.0	10.50	5.6	1350	1080	150
240	17.8	8.0	34.9	2.6	35.7	1.56	3.15	3.08	95.0	11.71	7.2	1425	1140	150
300	19.8	8.0	36.9	2.6	37.7	1.64	3.15	3.24	99.0	12.91	9.0	1485	1188	150
400	22.9	8.0	40.0	2.6	40.8	1.72	3.15	3.40	107.0	14.70	12.0	1605	1284	200

Electrical Characteristics

Nominal conductor area mm ²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.123	0.167	0.94	67.9	8.93	0.33
120	0.2530	0.325	0.118	0.180	1.02	73.5	11.28	0.33
150	0.2060	0.265	0.114	0.192	1.09	78.3	14.10	0.33
185	0.1640	0.211	0.110	0.206	1.16	83.8	17.39	0.33
240	0.1250	0.161	0.106	0.225	1.27	91.5	22.56	0.33
300	0.1000	0.130	0.103	0.243	1.37	98.8	28.20	0.33
400	0.0778	0.102	0.098	0.270	1.53	110.0	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	204	180	238
120	232	206	274
150	259	231	309
185	293	262	354
240	338	304	415
300	380	343	472
400	432	393	545



Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying : 0.8 Metres

Thermal Resistivity of Soil : 1.5 K.m/W

Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Smaller sizes can be offered as per the customer's request.
- (ii) Water-tight construction can be offered as per the customer's request.
- (iii) Cables can also be designed for higher fault current levels as per the customer's request.
- (iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

Technical Information - Charts for Rating Factors

⇒ EMERGENCY RATING:

The XLPE insulated cable shall operate under emergency conditions with maximum conductor temperature of 105°C for an average over several years, of not more than one period per year. No period should exceed 36 hours & there should not be more than 3 periods in any 12 consecutive

⇒ SCREEN FAULT CURRENT RATING:

The screen short circuit current rating given in the tables are calculated in accordance with IEC 60986 and are the currents which will cause the screen temperature to rise from the normal operating value of 80°C to the maximum short circuit temperature.

The non-adiabatic method as per IEC 60949 can be used when requested by the purchaser.

Table A.1 - Correction factors for ambient air temperatures other than 30 °C								
Maximum conductor temp. °C	Ambient air temperature °C							
	20	25	35	40	45	50	55	60
90	1.08	1.04	0.96	0.91	0.87	0.82	0.76	0.71

Table A.2 - Correction factors for ambient ground temperatures other than 20 °C								
Maximum conductor temp. °C	Ambient ground temperature °C							
	10	15	25	30	35	40	45	50
90	1.07	1.04	0.96	0.93	0.89	0.85	0.80	0.76

Table C.1 - Correction factors for soil thermal resistivities other than 1.5 K.m/W for direct buried single-core cables							
Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W						
	0.7	0.8	0.9	1.0	2.0	2.5	3.0
95	1.34	1.28	1.22	1.18	0.89	0.80	0.74
120	1.34	1.28	1.22	1.18	0.88	0.80	0.74
150	1.35	1.28	1.23	1.18	0.88	0.80	0.74
185	1.35	1.29	1.23	1.18	0.88	0.80	0.74
240	1.36	1.29	1.23	1.18	0.88	0.80	0.73
300	1.36	1.30	1.24	1.19	0.88	0.80	0.73
400	1.37	1.30	1.24	1.19	0.88	0.79	0.73

Table C.2 - Correction factors for soil thermal resistivities other than 1.5 K.m/W single-core cables in buried ducts							
Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W						
	0.7	0.8	0.9	1.0	2.0	2.5	3.0
95	1.23	1.19	1.16	1.13	0.91	0.84	0.78
120	1.23	1.20	1.16	1.13	0.91	0.84	0.78
150	1.24	1.20	1.16	1.13	0.91	0.83	0.78
185	1.24	1.20	1.17	1.13	0.91	0.83	0.78
240	1.25	1.21	1.17	1.14	0.90	0.83	0.77
300	1.25	1.21	1.17	1.14	0.90	0.83	0.77
400	1.25	1.21	1.17	1.14	0.90	0.83	0.77

Table B.1 - Correction factors for depths of laying other than 0.8 m for direct burial			
Depth of laying m	Single-core cables		Three-core cables
	Nominal conductor size in mm ²		
	< 185	< 185	
0.50	1.04	1.06	1.04
0.60	1.02	1.04	1.03
1.00	0.98	0.97	0.98
1.25	0.96	0.95	0.96
1.50	0.95	0.93	0.95
1.75	0.94	0.91	0.94
2.00	0.93	0.90	0.93
2.50	0.91	0.88	0.91
3.00	0.90	0.86	0.90

Table B.2 - Correction factors for depths of laying other than 0.8 m for cables in ducts			
Depth of laying m	Single-core cables		Three-core cables
	Nominal conductor size in mm ²		
	< 185	< 185	
0.50	1.04	1.05	1.03
0.60	1.02	1.03	1.02
1.00	0.98	0.97	0.99
1.25	0.96	0.95	0.97
1.50	0.95	0.93	0.96
1.75	0.94	0.92	0.95
2.00	0.93	0.91	0.94
2.50	0.91	0.89	0.93
3.00	0.90	0.88	0.92

Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W						
	0.7	0.8	0.9	1.0	2.0	2.5	3.0
95	1.26	1.22	1.18	1.14	0.90	0.83	0.77
120	1.26	1.22	1.18	1.14	0.90	0.83	0.77
150	1.27	1.22	1.18	1.15	0.90	0.83	0.77
185	1.27	1.23	1.18	1.15	0.90	0.83	0.77
240	1.28	1.23	1.19	1.15	0.90	0.83	0.77
300	1.28	1.23	1.19	1.15	0.90	0.82	0.77
400	1.28	1.23	1.19	1.15	0.90	0.82	0.76

Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W						
	0.7	0.8	0.9	1.0	2.0	2.5	3.0
95	1.15	1.13	1.11	1.09	0.94	0.88	0.83
120	1.15	1.13	1.11	1.09	0.93	0.88	0.83
150	1.16	1.13	1.11	1.09	0.93	0.88	0.83
185	1.16	1.14	1.11	1.09	0.93	0.87	0.83
240	1.16	1.14	1.12	1.10	0.93	0.87	0.82
300	1.17	1.14	1.12	1.10	0.93	0.87	0.82
400	1.17	1.14	1.12	1.10	0.92	0.86	0.81

Number of cables in group	Spacing between cable centres mm				
	Touching	200	400	600	800
2	0.80	0.86	0.90	0.92	0.94
3	0.69	0.77	0.82	0.86	0.89
4	0.62	0.72	0.79	0.83	0.87
5	0.57	0.68	0.76	0.81	0.85
6	0.54	0.65	0.74	0.80	0.84
7	0.51	0.63	0.72	0.78	0.83
8	0.49	0.61	0.71	0.78	-
9	0.47	0.60	0.70	0.77	-
10	0.46	0.59	0.69	-	-
11	0.45	0.57	0.69	-	-
12	0.43	0.56	0.68	-	-


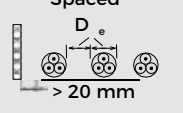
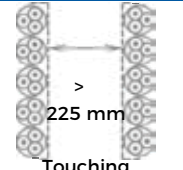
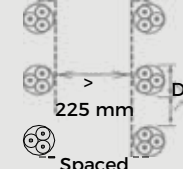
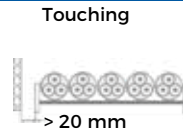
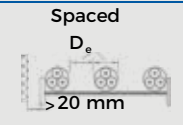
Number of cables in group	Spacing between group centres mm				
	Touching	200	400	600	800
2	0.73	0.83	0.88	0.90	0.92
3	0.60	0.73	0.79	0.83	0.86
4	0.54	0.68	0.75	0.80	0.84
5	0.49	0.63	0.72	0.78	0.82
6	0.46	0.61	0.70	0.76	0.81
7	0.43	0.58	0.68	0.75	0.80
8	0.41	0.57	0.67	0.74	-
9	0.39	0.55	0.66	0.73	-
10	0.37	0.54	0.65	-	-
11	0.36	0.53	0.64	-	-
12	0.35	0.52	0.64	-	-

Number of cables in group	Spacing between duct centres mm				
	Touching	200	400	600	800
2	0.85	0.88	0.92	0.94	0.95
3	0.75	0.80	0.85	0.88	0.91
4	0.69	0.75	0.82	0.86	0.89
5	0.65	0.72	0.79	0.84	0.87
6	0.62	0.69	0.77	0.83	0.87
7	0.59	0.67	0.76	0.82	0.86
8	0.57	0.65	0.75	0.81	-
9	0.55	0.64	0.74	0.80	-
10	0.54	0.63	0.73	-	-
11	0.52	0.62	0.73	-	-
12	0.51	0.61	0.72	-	-

Number of cables in group	Spacing between duct group centres mm				
	Touching	200	400	600	800
2	0.78	0.85	0.89	0.91	0.93
3	0.66	0.75	0.81	0.85	0.88
4	0.59	0.70	0.77	0.82	0.86
5	0.55	0.66	0.74	0.80	0.84
6	0.51	0.64	0.72	0.78	0.83
7	0.48	0.61	0.71	0.77	0.82
8	0.46	0.60	0.70	0.76	-
9	0.44	0.58	0.69	0.76	-
10	0.43	0.57	0.68	-	-
11	0.42	0.56	0.67	-	-
12	0.40	0.55	0.67	-	-

Technical Information - Charts for Rating Factors

**Table E.1 - Reduction factors for groups of more than one multi-core cable in air –
To be applied to the current-carrying capacity for one multi-core cable in free air**

Method of installation		Number of trays	Number of cables					
			1	2	3	4	6	9
Cables on perforated trays	 <p style="text-align: center;">Touching 20 mm</p>	1	1.00	0.88	0.82	0.79	0.76	0.73
		2	1.00	0.87	0.80	0.77	0.73	0.68
		3	1.00	0.86	0.79	0.76	0.71	0.66
Cables on perforated trays	 <p style="text-align: center;">Spaced D_e > 20 mm</p>	1	1.00	1.00	0.98	0.95	0.91	-
		2	1.00	0.99	0.96	0.92	0.87	-
		3	1.00	0.98	0.95	0.91	0.85	-
Cabled on vertical perforated trays	 <p style="text-align: center;">> 225 mm</p>	1	1.00	0.88	0.82	0.78	0.73	0.72
		2	1.00	0.88	0.81	0.76	0.71	0.70
Cabled on vertical perforated trays	 <p style="text-align: center;">Touching > 225 mm D_e</p>	1	1.00	0.91	0.89	0.88	0.87	-
		2	1.00	0.91	0.88	0.87	0.85	-
Cables on ladder supports, cleats, etc.	 <p style="text-align: center;">Touching > 20 mm</p>	1	1.00	0.87	0.82	0.80	0.79	0.78
		2	1.00	0.86	0.80	0.78	0.76	0.73
		3	1.00	0.85	0.79	0.76	0.73	0.70
Cables on ladder supports, cleats, etc.	 <p style="text-align: center;">Spaced D_e > 20 mm</p>	1	1.00	1.00	1.00	1.00	1.00	-
		2	1.00	0.99	0.98	0.97	0.96	-
		3	1.00	0.98	0.97	0.96	0.93	-

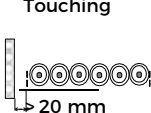

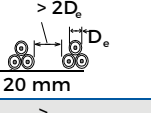
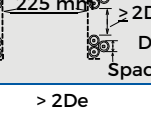
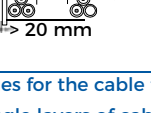
NOTE 1 Values given are averages for the cable types and range of conductor sizes considered. The spread of values is generally less than 5 %.

NOTE 2 Factors apply to single layer groups of cables as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.

NOTE 3 Values are given for vertical spacings between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

NOTE 4 Values are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing, the factors should be reduced.

Technical Information - Charts for Rating Factors

Table E.2 - Reduction factors for groups of more than one circuit of single-core cables (Note 2) – To be applied to the current-carrying capacity for one circuit of single-core cables in free air						
Method of installation		Number of trays	Number of three-phase circuits (Note 5)			Use as a multiplier to rating for
			1	2	3	
Perforated trays (Note 3)	 <p style="text-align: center;">Touching > 20 mm</p>	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	
Ladder supports, cleats etc. (Note 3)	 <p style="text-align: center;">Touching > 20 mm</p>	1	1.00	0.97	0.96	Three cables in horizontal formation
		2	0.98	0.93	0.89	
		3	0.97	0.90	0.86	
Perforated trays (Note 3)	 <p style="text-align: center;">> 2De > 20 mm</p>	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	
Vertical perforated trays (Note 4)	 <p style="text-align: center;">> 225 mm > 2De Spaced</p>	1	1.00	0.91	0.89	Three cables in trefoil formation
		2	1.00	0.90	0.86	
Ladder supports, cleats, etc. (Note 3)	 <p style="text-align: center;">> 2De > 20 mm</p>	1	1.00	1.00	1.00	Three cables in trefoil formation
		2	0.97	0.95	0.93	
		3	0.96	0.94	0.90	

NOTE 1 Values given are averages for the cable types and range of conductor sizes considered. The spread of values is generally less than 5 %.

NOTE 2 Factors are given for single layers of cables (or trefoil groups) as shown in the table and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and should be determined by an appropriate method.

NOTE 3 Values are given for vertical spacings between trays of 300 mm. For closer spacing, the factors should be reduced.

NOTE 4 Values are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing, the factors should be reduced.

NOTE 5 For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.

CABLE PACKING INFORMATION

- ⇒ Cables to be primarily packed in drums with cable length capacity up to 500 metres.
- ⇒ Higher drum lengths can be provided in order to reduce the number of joints for a cable route.
- ⇒ The metal (Steel) drums shall be applicable for cable packing and transportation purposes.
- ⇒ The cables on the steel drums shall be covered with superior quality Poly-Propylene (PP) sheath to avoid external exposure.
- ⇒ Such type of cable packing practises ensure enhanced cable protection standards against external damages.
- ⇒ Heat Shrinkable end caps shall be provided on both ends of cable to prevent ingress of water into the cable.



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