

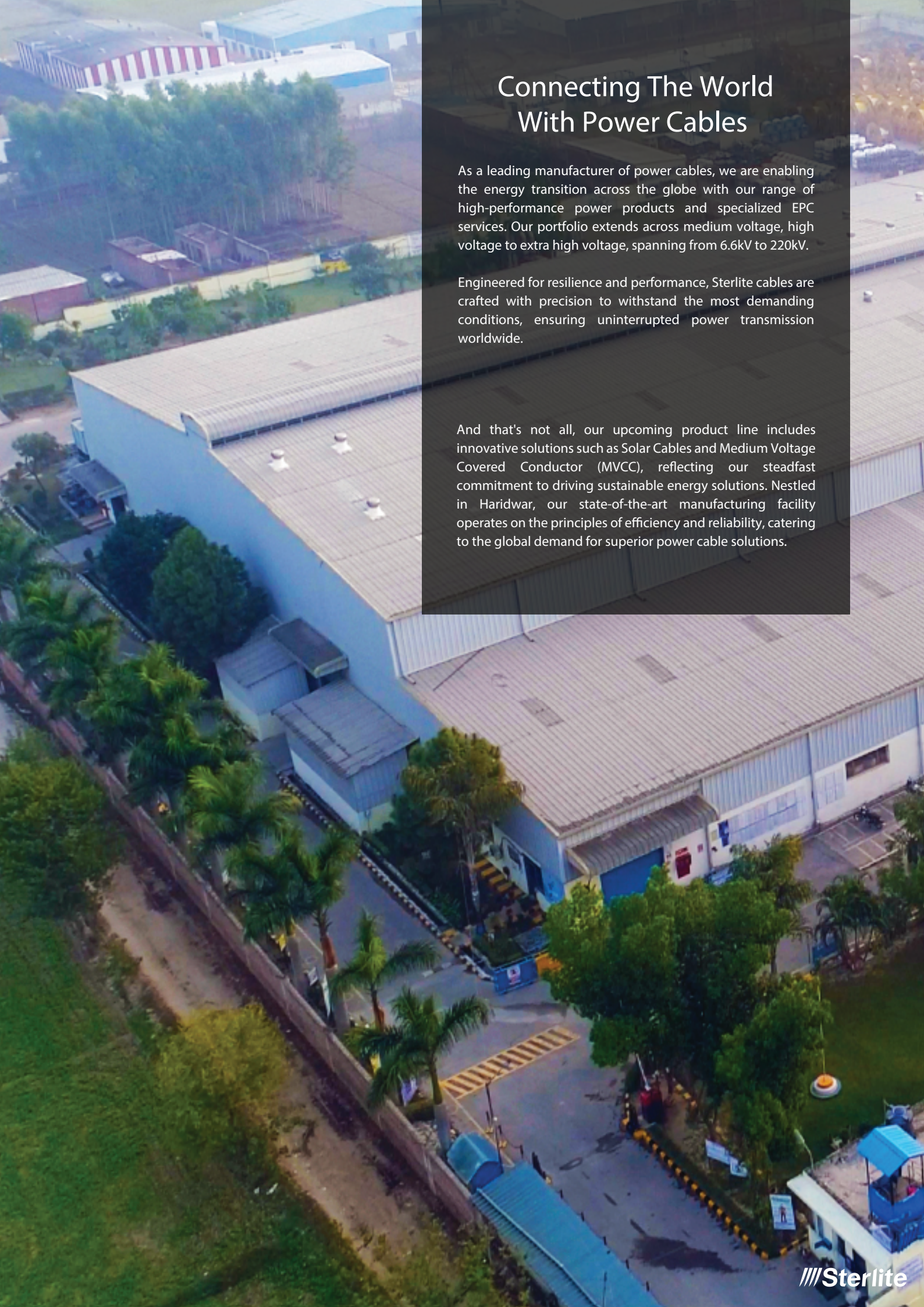


AUSTRALIA

////Sterlite



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 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, HDPE or MDPE
Anti Termite Protection : Nylon Sheath, Double Brass/Stainless Steel Tape, or suitable additives

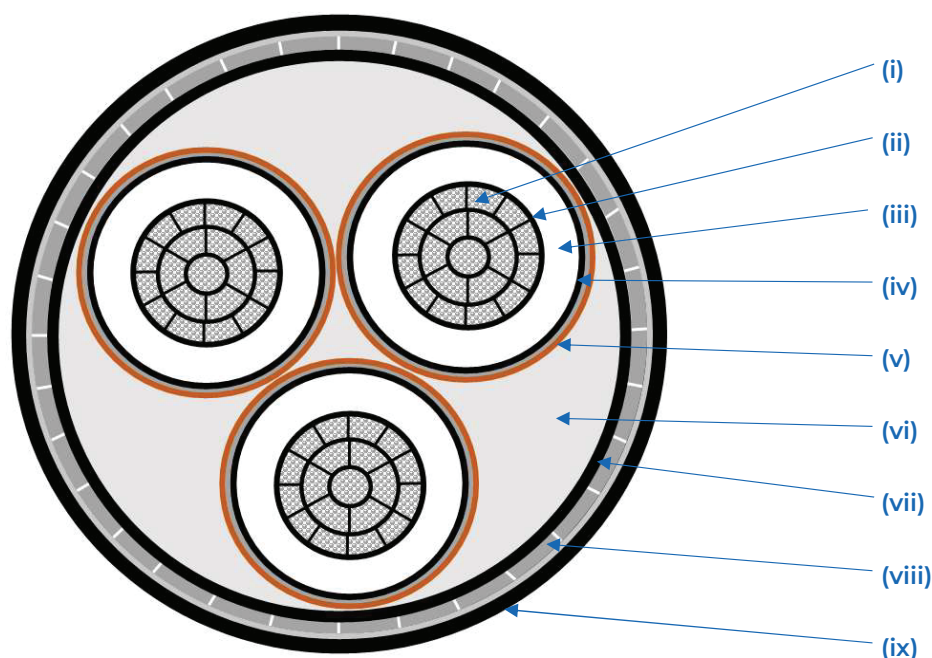


SUMMARY OF THE CABLE ELEMENTS		
Item	Function	Composition
Conductor	- To carry current - under normal operating conditions - under overload operating conditions - under short-circuit operating conditions - To withstand pulling stresses during cable laying	Material - Copper or Aluminium Area < 800 mm ² - Compacted round stranded conductors Area = 800/1000 mm ² - Compacted round stranded or round segmental (Miliken) conductors
Internal Semi-Conductor	- To prevent concentration of electric field at the interface between the insulation and the internal semi-conductor. - To ensure close contact with the insulation.	XLPE semi-conducting shield
Insulation	- To withstand the various voltage field stresses during the cable service like: - rated voltage - lightning overvoltage - switching overvoltage	XLPE/TR-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	- To prevent concentration of electric field at the interface between the insulation and the external semi-conductor. - To ensure close contact with the insulation.	XLPE semi-conducting shield (Hand Strippable type)
Metallic Screen	- 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-	Copper wire screen with helical equalising tape
Fillers	- Provide a round shape to the cable cross-section. - Only applicable for three core cables.	Non hygroscopic fillers
Separation Sheath	Separates the metallic screen from the armour in order to prevent short-circuit.	- PVC (V-90 or 5V-90) jacket - Composite sheath of PVC and Poly-Olefin materials
Armour	- 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.	- Galvanised steel round wire armour - Aluminium round wire armour
Outer Protective Sheath	- 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.	- Possibility of semi-conducting layer or graphite coating for sheath integrity tests. - Poly-Olefin (MDPE or HDPE) jacket - PVC (V-90 or 5V-90) jacket - Composite sheath of PVC and Poly-Olefin materials

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 5V-90) 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 5V-90) Outer Jacketing

(NOTE :- HDPE outer sheath or composite sheath of combination of inner layer of PVC 5V-90 and outer layer of HDPE 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						
120	204	180	238	231	203	276
150	232	206	274	262	233	318
185	259	231	309	293	261	358
240	293	262	354	331	296	411
300	338	304	415	382	344	481
360	380	343	472	429	388	548
400	432	393	545	488	444	632

PATENT GRANTED ON: 9th January 2024

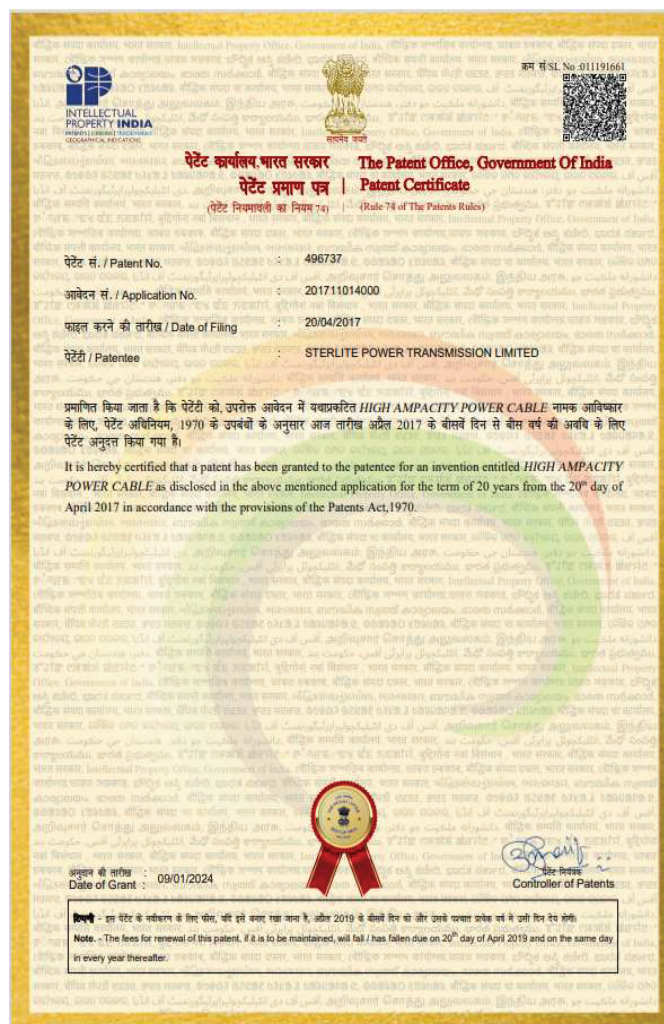
PRODUCT DESCRIPTION: The product incorporates the following improvements in cable construction:

- (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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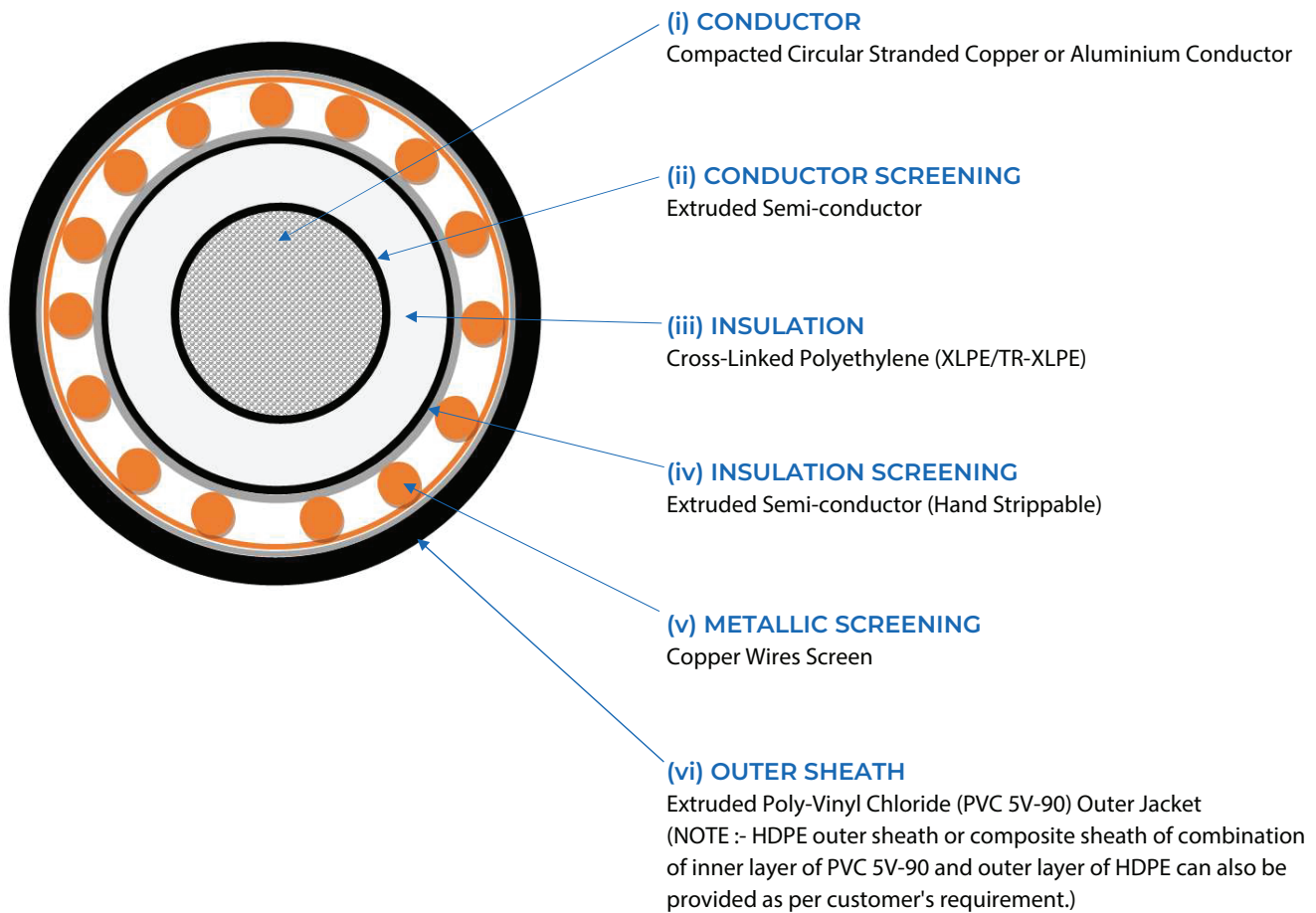
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SINGLE CORE UNARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

AS/NZS 1429.1

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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	2.5	17.7	67.4	22.8	1.24	27.0	1.86	6.7	486	324	50	80
120	12.9	2.5	19.2	67.4	24.3	1.32	28.5	2.11	8.4	513	342	50	80
150	14.2	2.5	20.5	67.4	25.0	1.32	30.0	2.36	10.5	540	360	50	80
185	15.7	2.5	22.0	67.4	26.5	1.40	31.0	2.72	13.0	558	372	65	100
240	17.8	2.6	24.1	67.4	28.6	1.48	34.0	3.27	16.8	612	408	65	100
300	19.8	2.8	26.5	67.4	31.0	1.56	36.0	3.87	21.0	648	432	65	100
400	22.9	3.0	30.0	67.4	33.8	1.64	39.0	4.69	28.0	702	468	65	150
500	26.5	3.2	34.0	67.4	37.8	1.72	43.0	5.75	35.0	774	516	65	150
630	29.1	3.2	36.9	67.4	40.6	1.80	47.0	7.05	44.1	846	564	65	150
800	33.4	3.2	41.2	67.4	44.9	1.88	51.0	8.75	56.0	918	612	80	150
1000	37.4	3.2	45.2	67.4	48.9	1.96	55.0	10.61	70.0	990	660	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	0.1930	0.247	0.114	0.129	0.173	0.407	0.49	7.4	13.59	10.00
120	0.1530	0.196	0.111	0.125	0.169	0.449	0.54	8.2	17.16	10.00
150	0.1240	0.159	0.106	0.121	0.164	0.486	0.58	8.8	21.45	10.00
185	0.0991	0.128	0.103	0.117	0.161	0.528	0.63	9.6	26.46	10.00
240	0.0754	0.098	0.099	0.114	0.157	0.566	0.68	10.3	34.32	10.00
300	0.0601	0.079	0.097	0.112	0.155	0.580	0.69	10.5	42.90	10.00
400	0.0470	0.063	0.093	0.107	0.151	0.618	0.74	11.2	57.20	10.00
500	0.0366	0.051	0.090	0.105	0.148	0.662	0.79	12.0	71.50	10.00
630	0.0283	0.041	0.088	0.103	0.147	0.724	0.86	13.1	90.09	10.00
800	0.0221	0.035	0.086	0.100	0.144	0.817	0.98	14.8	114.40	10.00
1000	0.0176	0.030	0.084	0.098	0.142	0.904	1.08	16.4	143.00	10.00

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:

- Smaller sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	2.5	17.7	60.2	22.8	1.24	27.0	1.24	4.8	486	324	50	80
120	12.9	2.5	19.2	67.4	24.3	1.24	29.0	1.39	6.0	522	348	50	80
150	14.2	2.5	20.5	67.4	25.0	1.24	29.0	1.48	7.5	522	348	50	80
185	15.7	2.5	22.0	67.4	26.5	1.32	31.0	1.62	9.3	558	372	65	100
240	17.8	2.6	24.1	67.4	28.6	1.40	33.0	1.82	12.0	594	396	65	100
300	19.8	2.8	26.5	67.4	31.0	1.48	36.0	2.04	15.0	648	432	65	100
400	22.9	3.0	30.0	67.4	34.5	1.56	40.0	2.38	20.0	720	480	65	150
500	26.5	3.2	34.0	67.4	38.5	1.64	44.0	2.77	25.0	792	528	65	150
630	29.1	3.2	36.9	67.4	41.3	1.72	47.0	3.22	31.5	846	564	65	150
800	33.4	3.2	41.2	67.4	45.6	1.80	52.0	3.80	40.0	936	624	80	150
1000	37.4	3.2	45.2	67.4	49.6	1.88	56.0	4.47	50.0	1008	672	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	0.129	0.173	0.407	0.49	7.4	8.93	8.93
120	0.2530	0.325	0.110	0.125	0.168	0.449	0.54	8.2	11.28	10.00
150	0.2060	0.265	0.106	0.120	0.164	0.486	0.58	8.8	14.10	10.00
185	0.1640	0.211	0.102	0.117	0.160	0.528	0.63	9.6	17.39	10.00
240	0.1250	0.161	0.099	0.113	0.157	0.566	0.68	10.3	22.56	10.00
300	0.1000	0.130	0.097	0.111	0.155	0.580	0.69	10.5	28.20	10.00
400	0.0778	0.102	0.094	0.108	0.152	0.618	0.74	11.2	37.60	10.00
500	0.0605	0.080	0.091	0.105	0.149	0.662	0.79	12.0	47.00	10.00
630	0.0469	0.064	0.089	0.104	0.147	0.724	0.86	13.1	59.22	10.00
800	0.0367	0.052	0.086	0.101	0.144	0.817	0.98	14.8	75.20	10.00
1000	0.0291	0.043	0.084	0.099	0.142	0.904	1.08	16.4	94.00	10.00

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	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	493.05	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 3 kA and 13.1 kA fault current level as per the customer's request.
- (iv) Armoured construction can be offered as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	67.4	24.3	1.32	29.0	1.93	6.7	522	348	50	80
120	12.9	3.4	20.7	67.4	25.2	1.32	30.0	2.16	8.4	540	360	50	100
150	14.2	3.4	22.0	67.4	26.5	1.40	31.0	2.44	10.5	558	372	65	100
185	15.7	3.4	23.5	67.4	28.0	1.40	33.0	2.78	13.0	594	396	65	100
240	17.8	3.4	25.6	67.4	30.1	1.48	35.0	3.34	16.8	630	420	65	100
300	19.8	3.4	27.6	67.4	32.1	1.56	37.0	3.92	21.0	666	444	65	150
400	22.9	3.4	30.7	67.4	35.2	1.64	41.0	4.73	28.0	738	492	65	150
500	26.5	3.4	34.3	67.4	38.8	1.72	44.0	5.77	35.0	792	528	65	150
630	29.1	3.4	37.2	67.4	41.6	1.80	48.0	7.07	44.1	864	576	80	150
800	33.4	3.4	41.5	67.4	45.9	1.88	52.0	8.78	56.0	936	624	80	200
1000	37.4	3.4	45.5	67.4	49.9	2.04	56.0	10.58	70.0	1008	672	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	0.118	0.133	0.176	0.314	0.63	15.9	13.59	10.00
120	0.1530	0.196	0.113	0.127	0.171	0.345	0.69	17.5	17.16	10.00
150	0.1240	0.159	0.110	0.124	0.168	0.371	0.74	18.8	21.45	10.00
185	0.0991	0.128	0.106	0.120	0.164	0.402	0.80	20.4	26.46	10.00
240	0.0754	0.098	0.102	0.116	0.160	0.446	0.89	22.6	34.32	10.00
300	0.0601	0.079	0.099	0.114	0.157	0.487	0.97	24.7	42.90	10.00
400	0.0470	0.063	0.095	0.109	0.153	0.551	1.10	27.9	57.20	10.00
500	0.0366	0.051	0.091	0.106	0.150	0.624	1.25	31.6	71.50	10.00
630	0.0283	0.041	0.090	0.104	0.148	0.683	1.36	34.6	90.09	10.00
800	0.0221	0.035	0.087	0.101	0.145	0.771	1.54	39.1	114.40	10.00
1000	0.0176	0.030	0.085	0.099	0.143	0.853	1.70	43.2	143.00	10.00

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 3 kA and 13.1 kA fault current level as per the customer's request.
- (iv) Armoured construction can be offered as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	60.2	23.7	1.24	28.0	1.29	4.8	504	336	50	80
120	12.9	3.4	20.7	67.4	25.2	1.24	30.0	1.45	6.0	540	360	50	100
150	14.2	3.4	22.0	67.4	26.5	1.32	31.0	1.56	7.5	558	372	65	100
185	15.7	3.4	23.5	67.4	28.0	1.32	33.0	1.68	9.3	594	396	65	100
240	17.8	3.4	25.6	67.4	30.1	1.40	35.0	1.89	12.0	630	420	65	100
300	19.8	3.4	27.6	67.4	31.4	1.48	36.0	2.09	15.0	648	432	65	150
400	22.9	3.4	30.7	67.4	34.5	1.56	40.0	2.41	20.0	720	480	65	150
500	26.5	3.4	34.3	67.4	38.1	1.64	44.0	2.78	25.0	792	528	65	150
630	29.1	3.4	37.2	67.4	40.9	1.72	47.0	3.23	31.5	846	564	80	150
800	33.4	3.4	41.5	67.4	45.2	1.80	51.0	3.81	40.0	918	612	80	200
1000	37.4	3.4	45.5	67.4	49.2	1.96	56.0	4.52	50.0	1008	672	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	0.117	0.131	0.175	0.314	0.63	15.9	8.93	8.93
120	0.2530	0.325	0.112	0.127	0.170	0.345	0.69	17.5	11.28	10.00
150	0.2060	0.265	0.109	0.124	0.167	0.371	0.74	18.8	14.10	10.00
185	0.1640	0.211	0.105	0.120	0.163	0.402	0.80	20.4	17.39	10.00
240	0.1250	0.161	0.102	0.116	0.160	0.446	0.89	22.6	22.56	10.00
300	0.1000	0.130	0.098	0.112	0.156	0.487	0.97	24.7	28.20	10.00
400	0.0778	0.102	0.094	0.108	0.152	0.551	1.10	27.9	37.60	10.00
500	0.0605	0.080	0.090	0.105	0.148	0.624	1.25	31.6	47.00	10.00
630	0.0469	0.064	0.089	0.103	0.147	0.683	1.36	34.6	59.22	10.00
800	0.0367	0.052	0.086	0.100	0.144	0.771	1.54	39.1	75.20	10.00
1000	0.0291	0.043	0.084	0.098	0.142	0.853	1.70	43.2	94.00	10.00

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	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	493.05	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:

- Smaller sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	5.5	23.4	67.4	27.9	1.40	33.0	2.11	6.7	594	396	65	100
120	12.9	5.5	24.9	67.4	29.4	1.48	34.0	2.38	8.4	612	408	65	100
150	14.2	5.5	26.2	67.4	30.7	1.48	36.0	2.65	10.5	648	432	65	100
185	15.7	5.5	27.7	67.4	31.5	1.56	37.0	3.01	13.0	666	444	65	100
240	17.8	5.5	29.8	67.4	33.6	1.64	39.0	3.58	16.8	702	468	65	150
300	19.8	5.5	31.8	67.4	35.6	1.64	41.0	4.16	21.0	738	492	65	150
400	22.9	5.5	34.9	67.4	38.7	1.80	45.0	5.02	28.0	810	540	65	150
500	26.5	5.5	38.5	67.4	42.3	1.80	48.0	6.06	35.0	864	576	80	150
630	29.1	5.5	41.4	67.4	45.1	1.96	51.0	7.41	44.1	918	612	80	200
800	33.4	5.5	45.7	67.4	49.4	2.04	56.0	9.14	56.0	1008	672	100	200
1000	37.4	5.5	49.7	67.4	53.4	2.12	60.0	10.94	70.0	1080	720	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	0.126	0.141	0.184	0.216	0.86	43.8	13.59	10.00
120	0.1530	0.196	0.122	0.136	0.180	0.236	0.94	47.8	17.16	10.00
150	0.1240	0.159	0.118	0.133	0.176	0.253	1.01	51.2	21.45	10.00
185	0.0991	0.128	0.113	0.127	0.171	0.272	1.08	55.1	26.46	10.00
240	0.0754	0.098	0.109	0.123	0.167	0.299	1.19	60.6	34.32	10.00
300	0.0601	0.079	0.105	0.120	0.163	0.325	1.30	65.8	42.90	10.00
400	0.0470	0.063	0.101	0.115	0.159	0.364	1.45	73.8	57.20	10.00
500	0.0366	0.051	0.097	0.111	0.155	0.410	1.64	83.1	71.50	10.00
630	0.0283	0.041	0.095	0.109	0.153	0.447	1.78	90.5	90.09	10.00
800	0.0221	0.035	0.092	0.106	0.150	0.501	2.00	101.6	114.40	10.00
1000	0.0176	0.030	0.089	0.104	0.147	0.552	2.20	111.9	143.00	10.00

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:

- Smaller sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	5.5	23.4	60.2	27.9	1.32	33.0	1.48	4.8	594	396	65	100
120	12.9	5.5	24.9	67.4	29.4	1.40	34.0	1.66	6.0	612	408	65	100
150	14.2	5.5	26.2	67.4	30.7	1.40	36.0	1.76	7.5	648	432	65	100
185	15.7	5.5	27.7	67.4	31.5	1.48	37.0	1.91	9.3	666	444	65	100
240	17.8	5.5	29.8	67.4	33.6	1.56	39.0	2.13	12.0	702	468	65	150
300	19.8	5.5	31.8	67.4	35.6	1.56	41.0	2.34	15.0	738	492	65	150
400	22.9	5.5	34.9	67.4	38.7	1.72	44.0	2.70	20.0	792	528	65	150
500	26.5	5.5	38.5	67.4	42.3	1.72	48.0	3.08	25.0	864	576	80	150
630	29.1	5.5	41.4	67.4	45.1	1.88	51.0	3.57	31.5	918	612	80	200
800	33.4	5.5	45.7	67.4	49.4	1.96	56.0	4.18	40.0	1008	672	100	200
1000	37.4	5.5	49.7	67.4	53.4	2.04	60.0	4.89	50.0	1080	720	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	0.126	0.140	0.184	0.216	0.86	43.8	8.93	8.93
120	0.2530	0.325	0.121	0.136	0.179	0.236	0.94	47.8	11.28	10.00
150	0.2060	0.265	0.118	0.132	0.176	0.253	1.01	51.2	14.10	10.00
185	0.1640	0.211	0.112	0.127	0.170	0.272	1.08	55.1	17.39	10.00
240	0.1250	0.161	0.108	0.123	0.166	0.299	1.19	60.6	22.56	10.00
300	0.1000	0.130	0.105	0.119	0.163	0.325	1.30	65.8	28.20	10.00
400	0.0778	0.102	0.101	0.115	0.159	0.364	1.45	73.8	37.60	10.00
500	0.0605	0.080	0.096	0.111	0.154	0.410	1.64	83.1	47.00	10.00
630	0.0469	0.064	0.095	0.109	0.153	0.447	1.78	90.5	59.22	10.00
800	0.0367	0.052	0.091	0.106	0.149	0.501	2.00	101.6	75.20	10.00
1000	0.0291	0.043	0.089	0.103	0.147	0.552	2.20	111.9	94.00	10.00

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	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	493.05	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:

- Smaller sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	28.5	67.4	32.3	1.56	38.0	2.38	6.7	684	456	65	150
120	12.9	8.0	30.0	67.4	33.8	1.64	39.0	2.67	8.4	702	468	65	150
150	14.2	8.0	31.3	67.4	35.1	1.64	41.0	2.95	10.5	738	492	65	150
185	15.7	8.0	32.8	67.4	36.6	1.72	42.0	3.34	13.0	756	504	65	150
240	17.8	8.0	34.9	67.4	38.7	1.72	44.0	3.90	16.8	792	528	65	150
300	19.8	8.0	36.9	67.4	40.7	1.80	47.0	4.52	21.0	846	564	80	150
400	22.9	8.0	40.0	67.4	43.8	1.88	50.0	5.38	28.0	900	600	80	150
500	26.5	8.0	43.6	67.4	47.4	1.96	54.0	6.48	35.0	972	648	80	200
630	29.1	8.0	46.5	67.4	50.2	2.04	57.0	7.82	44.1	1026	684	100	200
800	33.4	8.0	50.8	67.4	54.5	2.20	61.0	9.63	56.0	1098	732	100	200
1000	37.4	8.0	54.8	67.4	58.5	2.28	66.0	11.46	70.0	1188	792	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	0.135	0.150	0.193	0.167	0.99	75.6	13.59	10.00
120	0.1530	0.196	0.130	0.145	0.188	0.180	1.08	81.8	17.16	10.00
150	0.1240	0.159	0.126	0.141	0.184	0.192	1.15	87.2	21.45	10.00
185	0.0991	0.128	0.122	0.136	0.180	0.206	1.23	93.4	26.46	10.00
240	0.0754	0.098	0.117	0.131	0.175	0.225	1.34	101.9	34.32	10.00
300	0.0601	0.079	0.113	0.128	0.171	0.243	1.45	110.0	42.90	10.00
400	0.0470	0.063	0.108	0.122	0.166	0.270	1.61	122.5	57.20	10.00
500	0.0366	0.051	0.103	0.118	0.162	0.302	1.80	137.0	71.50	10.00
630	0.0283	0.041	0.101	0.116	0.159	0.327	1.95	148.4	90.09	10.00
800	0.0221	0.035	0.097	0.112	0.156	0.365	2.18	165.6	114.40	10.00
1000	0.0176	0.030	0.095	0.109	0.153	0.400	2.39	181.5	143.00	10.00

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:

- Smaller sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

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	28.5	60.2	32.3	1.48	37.0	1.75	4.8	666	444	65	150
120	12.9	8.0	30.0	67.4	33.8	1.56	39.0	1.95	6.0	702	468	65	150
150	14.2	8.0	31.3	67.4	35.1	1.56	40.0	2.06	7.5	720	480	65	150
185	15.7	8.0	32.8	67.4	36.6	1.64	42.0	2.23	9.3	756	504	65	150
240	17.8	8.0	34.9	67.4	38.7	1.64	44.0	2.45	12.0	792	528	65	150
300	19.8	8.0	36.9	67.4	40.7	1.72	46.0	2.69	15.0	828	552	80	150
400	22.9	8.0	40.0	67.4	43.8	1.80	50.0	3.06	20.0	900	600	80	150
500	26.5	8.0	43.6	67.4	47.4	1.88	53.0	3.49	25.0	954	636	80	200
630	29.1	8.0	46.5	67.4	50.2	1.96	57.0	3.99	31.5	1026	684	100	200
800	33.4	8.0	50.8	67.4	54.5	2.12	61.0	4.66	40.0	1098	732	100	200
1000	37.4	8.0	54.8	67.4	58.5	2.20	65.0	5.40	50.0	1170	780	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	0.135	0.149	0.193	0.167	0.99	75.6	8.93	8.93
120	0.2530	0.325	0.130	0.144	0.188	0.180	1.08	81.8	11.28	10.00
150	0.2060	0.265	0.126	0.140	0.184	0.192	1.15	87.2	14.10	10.00
185	0.1640	0.211	0.121	0.136	0.179	0.206	1.23	93.4	17.39	10.00
240	0.1250	0.161	0.116	0.131	0.175	0.225	1.34	101.9	22.56	10.00
300	0.1000	0.130	0.113	0.127	0.171	0.243	1.45	110.0	28.20	10.00
400	0.0778	0.102	0.108	0.122	0.166	0.270	1.61	122.5	37.60	10.00
500	0.0605	0.080	0.103	0.118	0.161	0.302	1.80	137.0	47.00	10.00
630	0.0469	0.064	0.101	0.115	0.159	0.327	1.95	148.4	59.22	10.00
800	0.0367	0.052	0.097	0.112	0.155	0.365	2.18	165.6	75.20	10.00
1000	0.0291	0.043	0.094	0.109	0.152	0.400	2.39	181.5	94.00	10.00

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	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	493.05	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

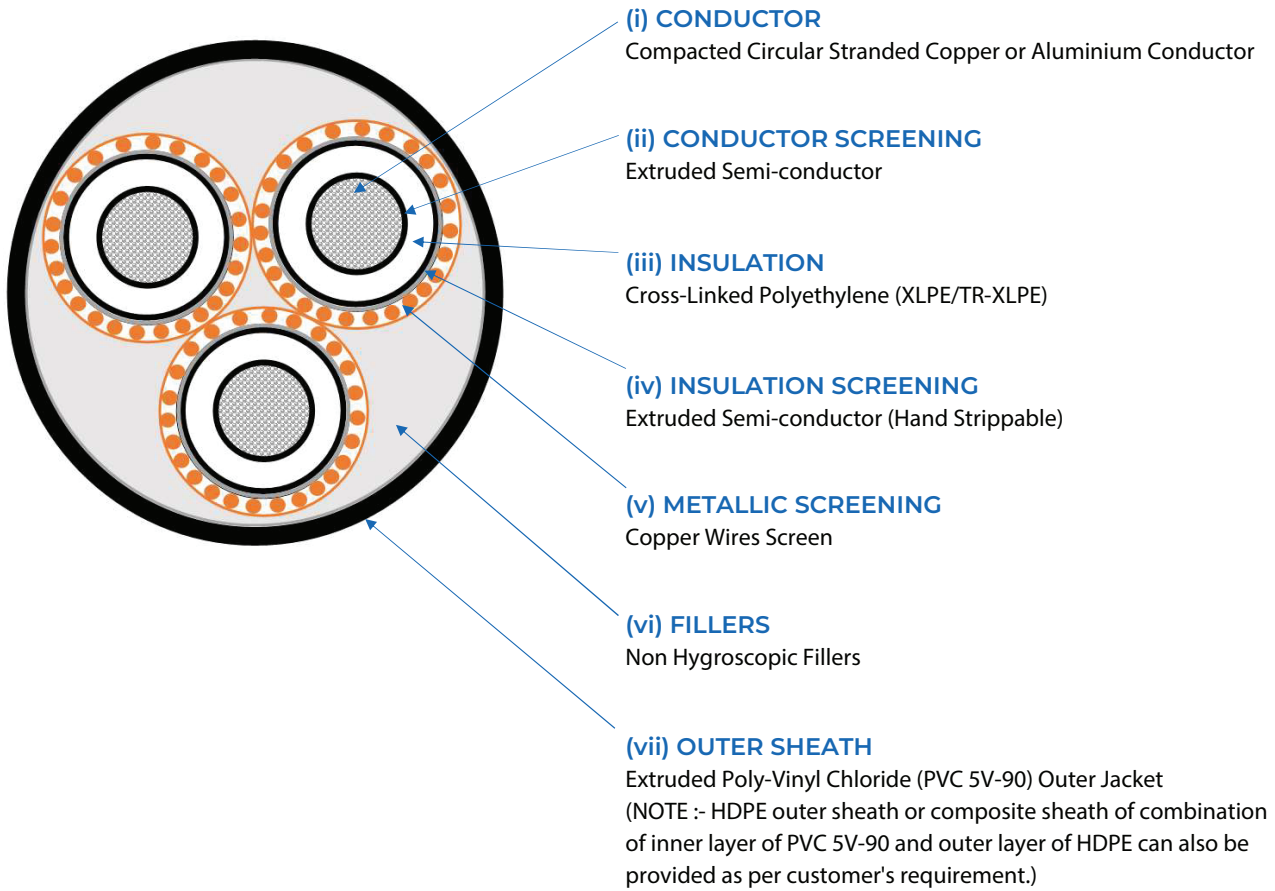
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

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 3 kA and 13.1 kA fault current level as per the customer's request.
- (iv) Armoured construction can be offered as per the customer's request.
- (v) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

THREE CORE UNARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

AS/NZS 1429.1

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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	2.5	17.4	67.4	20.7	1.88	51.0	4.54	6.7	918	612	80
120	12.9	2.5	18.9	67.4	22.2	1.96	55.0	5.32	8.4	990	660	100
150	14.2	2.5	20.2	67.4	23.5	2.04	58.0	6.18	10.5	1044	696	100
185	15.7	2.5	21.7	67.4	25.0	2.20	61.0	7.35	13.0	1098	732	100
240	17.8	2.6	24.0	67.4	27.3	2.28	66.0	9.10	16.8	1188	792	100
300	19.8	2.8	26.4	67.4	29.7	2.44	72.0	11.02	21.0	1296	864	125
400	22.9	3.0	29.9	67.4	33.2	2.68	80.0	13.81	28.0	1440	960	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.101	0.404	0.48	7.3	13.59	10.00
120	0.1530	0.196	0.097	0.446	0.53	8.1	17.16	10.00
150	0.1240	0.159	0.095	0.483	0.58	8.8	21.45	10.00
185	0.0991	0.128	0.092	0.525	0.63	9.5	26.46	10.00
240	0.0754	0.098	0.089	0.563	0.67	10.2	34.32	10.00
300	0.0601	0.079	0.088	0.578	0.69	10.5	42.90	10.00
400	0.0470	0.063	0.085	0.615	0.73	11.2	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	2.5	17.4	60.2	20.7	1.88	51.0	2.88	4.8	918	612	80
120	12.9	2.5	18.9	67.4	22.2	1.96	55.0	3.21	6.0	990	660	80
150	14.2	2.5	20.2	67.4	23.5	2.04	58.0	3.57	7.5	1044	696	100
185	15.7	2.5	21.7	67.4	25.0	2.20	61.0	4.10	9.3	1098	732	100
240	17.8	2.6	24.0	67.4	27.3	2.28	66.0	4.81	12.0	1188	792	100
300	19.8	2.8	26.4	67.4	29.7	2.44	72.0	5.63	15.0	1296	864	125
400	22.9	3.0	29.9	67.4	33.2	2.68	80.0	6.92	20.0	1440	960	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.101	0.404	0.48	0.404	8.93	8.93
120	0.2530	0.325	0.097	0.446	0.53	0.446	11.28	10.00
150	0.2060	0.265	0.095	0.483	0.58	0.483	14.10	10.00
185	0.1640	0.211	0.092	0.525	0.63	0.525	17.39	10.00
240	0.1250	0.161	0.089	0.563	0.67	0.563	22.56	10.00
300	0.1000	0.130	0.088	0.578	0.69	0.578	28.20	10.00
400	0.0778	0.102	0.085	0.615	0.73	0.615	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552



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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	3.4	19.2	67.4	22.5	2.04	55.0	4.82	6.7	990	660	100
120	12.9	3.4	20.7	67.4	24.0	2.12	59.0	5.66	8.4	1062	708	100
150	14.2	3.4	22.0	67.4	25.3	2.20	62.0	6.54	10.5	1116	744	100
185	15.7	3.4	23.5	67.4	26.8	2.28	59.0	6.74	13.0	1062	708	100
240	17.8	3.4	25.6	67.4	28.9	2.44	70.0	9.43	16.8	1260	840	125
300	19.8	3.4	27.6	67.4	30.9	2.52	75.0	11.28	21.0	1350	900	125
400	22.9	3.4	30.7	67.4	34.0	2.68	82.0	13.95	28.0	1476	984	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.106	0.314	0.63	15.9	13.59	10.00
120	0.1530	0.196	0.102	0.345	0.69	17.5	17.16	10.00
150	0.1240	0.159	0.100	0.371	0.74	18.8	21.45	10.00
185	0.0991	0.128	0.096	0.402	0.80	20.4	26.46	10.00
240	0.0754	0.098	0.093	0.446	0.89	22.6	34.32	10.00
300	0.0601	0.079	0.090	0.487	0.97	24.7	42.90	10.00
400	0.0470	0.063	0.087	0.551	1.10	27.9	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696



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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	3.4	19.2	60.2	22.5	2.04	55.0	3.16	4.8	990	660	100
120	12.9	3.4	20.7	67.4	24.0	2.12	59.0	3.56	6.0	1062	708	100
150	14.2	3.4	22.0	67.4	25.3	2.20	62.0	3.94	7.5	1116	744	100
185	15.7	3.4	23.5	67.4	26.8	2.28	59.0	3.50	9.3	1062	708	100
240	17.8	3.4	25.6	67.4	28.9	2.44	70.0	5.15	12.0	1260	840	100
300	19.8	3.4	27.6	67.4	30.9	2.52	75.0	5.88	15.0	1350	900	125
400	22.9	3.4	30.7	67.4	34.0	2.68	82.0	7.06	20.0	1476	984	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.106	0.314	0.63	15.9	8.93	8.93
120	0.2530	0.325	0.102	0.345	0.69	17.5	11.28	10.00
150	0.2060	0.265	0.100	0.371	0.74	18.8	14.10	10.00
185	0.1640	0.211	0.096	0.402	0.80	20.4	17.39	10.00
240	0.1250	0.161	0.093	0.446	0.89	22.6	22.56	10.00
300	0.1000	0.130	0.090	0.487	0.97	24.7	28.20	10.00
400	0.0778	0.102	0.087	0.551	1.10	27.9	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552



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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	5.5	23.4	67.4	26.7	2.28	65.0	5.60	6.7	1170	780	100
120	12.9	5.5	24.9	67.4	28.2	2.36	69.0	6.50	8.4	1242	828	100
150	14.2	5.5	26.2	67.4	29.5	2.44	72.0	7.42	10.5	1296	864	125
185	15.7	5.5	27.7	67.4	31.0	2.52	75.0	8.63	13.0	1350	900	125
240	17.8	5.5	29.8	67.4	33.1	2.68	80.0	10.48	16.8	1440	960	125
300	19.8	5.5	31.8	67.4	35.1	2.76	85.0	12.33	21.0	1530	1020	125
400	22.9	5.5	34.9	67.4	38.2	3.00	92.0	15.13	28.0	1656	1104	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.117	0.216	0.86	43.8	13.59	10.00
120	0.1530	0.196	0.113	0.236	0.94	47.8	17.16	10.00
150	0.1240	0.159	0.109	0.253	1.01	51.2	21.45	10.00
185	0.0991	0.128	0.105	0.272	1.08	55.1	26.46	10.00
240	0.0754	0.098	0.101	0.299	1.19	60.6	34.32	10.00
300	0.0601	0.079	0.098	0.325	1.30	65.8	42.90	10.00
400	0.0470	0.063	0.094	0.364	1.45	73.8	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696



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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	5.5	23.4	60.2	26.7	2.28	65.0	3.94	4.8	1170	780	100
120	12.9	5.5	24.9	67.4	28.2	2.36	69.0	4.39	6.0	1242	828	100
150	14.2	5.5	26.2	67.4	29.5	2.44	72.0	4.82	7.5	1296	864	125
185	15.7	5.5	27.7	67.4	31.0	2.52	75.0	5.38	9.3	1350	900	125
240	17.8	5.5	29.8	67.4	33.1	2.68	80.0	6.20	12.0	1440	960	125
300	19.8	5.5	31.8	67.4	35.1	2.76	85.0	6.93	15.0	1530	1020	125
400	22.9	5.5	34.9	67.4	38.2	3.00	92.0	8.25	20.0	1656	1104	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.117	0.216	0.86	43.8	8.93	8.93
120	0.2530	0.325	0.113	0.236	0.94	47.8	11.28	10.00
150	0.2060	0.265	0.109	0.253	1.01	51.2	14.10	10.00
185	0.1640	0.211	0.105	0.272	1.08	55.1	17.39	10.00
240	0.1250	0.161	0.101	0.299	1.19	60.6	22.56	10.00
300	0.1000	0.130	0.098	0.325	1.30	65.8	28.20	10.00
400	0.0778	0.102	0.094	0.364	1.45	73.8	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552



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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMOURED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	8.0	28.5	67.4	31.8	2.60	77.0	6.78	6.7	1386	924	125
120	12.9	8.0	30.0	67.4	33.3	2.68	80.0	7.73	8.4	1440	960	125
150	14.2	8.0	31.3	67.4	34.6	2.76	83.0	8.66	10.5	1494	996	125
185	15.7	8.0	32.8	67.4	36.1	2.84	87.0	9.90	13.0	1566	1044	125
240	17.8	8.0	34.9	67.4	38.2	2.92	92.0	11.78	16.8	1656	1104	150
300	19.8	8.0	36.9	67.4	40.2	3.08	96.0	13.82	21.0	1728	1152	150
400	22.9	8.0	40.0	67.4	43.3	3.24	103.0	16.66	28.0	1854	1236	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.128	0.167	0.99	75.6	13.59	10.00
120	0.1530	0.196	0.123	0.180	1.08	81.8	17.16	10.00
150	0.1240	0.159	0.120	0.192	1.15	87.2	21.45	10.00
185	0.0991	0.128	0.115	0.206	1.23	93.4	26.46	10.00
240	0.0754	0.098	0.111	0.225	1.34	101.9	34.32	10.00
300	0.0601	0.079	0.107	0.243	1.45	110.0	42.90	10.00
400	0.0470	0.063	0.102	0.270	1.61	122.5	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED UNARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) 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	
95	11.4	8.0	28.5	60.2	31.8	2.60	77.0	5.04	4.8	1386	924	125
120	12.9	8.0	30.0	67.4	33.3	2.68	80.0	5.62	6.0	1440	960	125
150	14.2	8.0	31.3	67.4	34.6	2.76	83.0	6.06	7.5	1494	996	125
185	15.7	8.0	32.8	67.4	36.1	2.84	87.0	6.65	9.3	1566	1044	125
240	17.8	8.0	34.9	67.4	38.2	2.92	92.0	7.50	12.0	1656	1104	150
300	19.8	8.0	36.9	67.4	40.2	3.08	96.0	8.42	15.0	1728	1152	150
400	22.9	8.0	40.0	67.4	43.3	3.24	103.0	9.77	20.0	1854	1236	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.128	0.167	0.99	75.6	8.93	8.93
120	0.2530	0.325	0.123	0.180	1.08	81.8	11.28	10.00
150	0.2060	0.265	0.120	0.192	1.15	87.2	14.10	10.00
185	0.1640	0.211	0.115	0.206	1.23	93.4	17.39	10.00
240	0.1250	0.161	0.111	0.225	1.34	101.9	22.56	10.00
300	0.1000	0.130	0.107	0.243	1.45	110.0	28.20	10.00
400	0.0778	0.102	0.102	0.270	1.61	122.5	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552



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

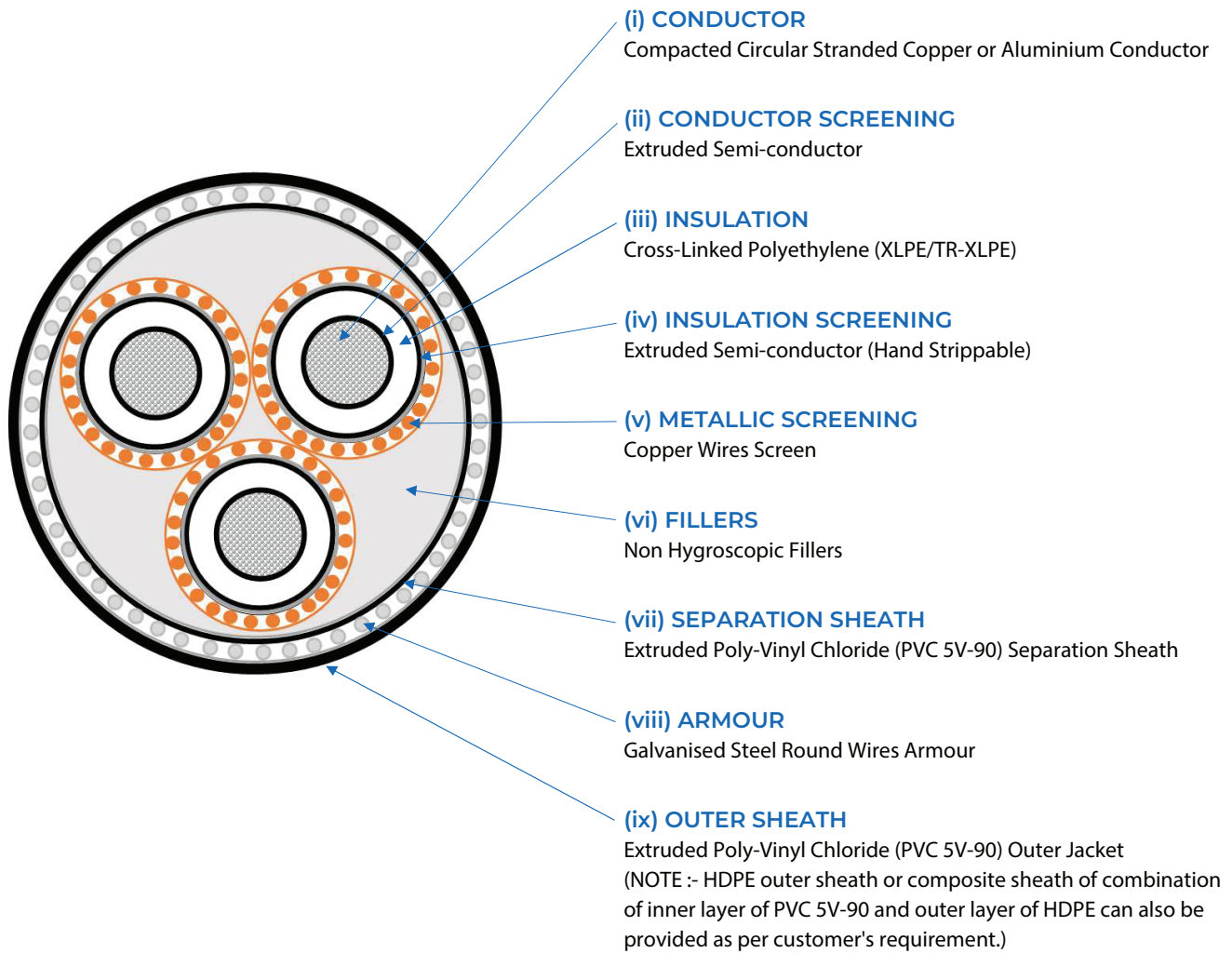
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

THREE CORE ARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

AS/NZS 1429.1

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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	2.5	17.7	67.4	21.0	1.00	2.50	2.12	59.0	7.02	6.7	1062	708	100
120	12.9	2.5	19.2	67.4	22.5	1.00	2.50	2.20	62.0	7.97	8.4	1116	744	100
150	14.2	2.5	20.5	67.4	23.8	1.08	2.50	2.28	65.0	9.01	10.5	1170	780	100
185	15.7	2.5	22.0	67.4	25.3	1.16	2.50	2.36	69.0	10.32	13.0	1242	828	100
240	17.8	2.6	24.1	67.4	27.4	1.24	3.15	2.60	76.0	13.06	16.8	1368	912	125
300	19.8	2.8	26.5	67.4	29.8	1.32	3.15	2.76	81.0	15.36	21.0	1458	972	125
400	22.9	3.0	30.0	67.4	33.3	1.40	3.15	2.92	89.0	18.62	28.0	1602	1068	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.102	0.407	0.49	7.39	13.59	10.00
120	0.1530	0.196	0.098	0.449	0.54	8.15	17.16	10.00
150	0.1240	0.159	0.096	0.486	0.58	8.81	21.45	10.00
185	0.0991	0.128	0.092	0.528	0.63	9.57	26.46	10.00
240	0.0754	0.098	0.089	0.566	0.68	10.27	34.32	10.00
300	0.0601	0.079	0.088	0.580	0.69	10.53	42.90	10.00
400	0.0470	0.063	0.085	0.618	0.74	11.21	57.20	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	2.5	17.7	60.2	21.0	1.00	2.50	2.12	59.0	5.28	4.8	1062	708	100
120	12.9	2.5	19.2	67.4	22.5	1.00	2.50	2.20	62.0	5.86	6.0	1116	744	100
150	14.2	2.5	20.5	67.4	23.8	1.08	2.50	2.28	65.0	6.41	7.5	1170	780	100
185	15.7	2.5	22.0	67.4	25.3	1.16	2.50	2.36	69.0	7.07	9.3	1242	828	100
240	17.8	2.6	24.1	67.4	27.4	1.24	3.15	2.60	76.0	8.78	12.0	1368	912	125
300	19.8	2.8	26.5	67.4	29.8	1.32	3.15	2.76	81.0	9.96	15.0	1458	972	125
400	22.9	3.0	30.0	67.4	33.3	1.40	3.15	2.92	89.0	11.74	20.0	1602	1068	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.102	0.407	0.49	7.39	8.93	8.93
120	0.2530	0.325	0.098	0.449	0.54	8.15	11.28	10.00
150	0.2060	0.265	0.096	0.486	0.58	8.81	14.10	10.00
185	0.1640	0.211	0.092	0.528	0.63	9.57	17.39	10.00
240	0.1250	0.161	0.089	0.566	0.68	10.27	22.56	10.00
300	0.1000	0.130	0.088	0.580	0.69	10.53	28.20	10.00
400	0.0778	0.102	0.085	0.618	0.74	11.21	37.60	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	3.4	19.2	67.4	22.5	1.08	2.50	2.20	62.0	7.36	6.7	1116	744	100
120	12.9	3.4	20.7	67.4	24.0	1.08	2.50	2.36	66.0	8.47	8.4	1188	792	100
150	14.2	3.4	22.0	67.4	25.3	1.16	2.50	2.44	69.0	9.50	10.5	1242	828	100
185	15.7	3.4	23.5	67.4	26.8	1.16	3.15	2.52	74.0	11.47	13.0	1332	888	125
240	17.8	3.4	25.6	67.4	28.9	1.24	3.15	2.68	79.0	13.55	16.8	1422	948	125
300	19.8	3.4	27.6	67.4	30.9	1.32	3.15	2.84	84.0	15.80	21.0	1512	1008	125
400	22.9	3.4	30.7	67.4	34.0	1.48	3.15	3.00	91.0	18.94	28.0	1638	1092	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.106	0.314	0.63	15.89	13.59	10.00
120	0.1530	0.196	0.102	0.345	0.69	17.46	17.16	10.00
150	0.1240	0.159	0.100	0.371	0.74	18.82	21.45	10.00
185	0.0991	0.128	0.096	0.402	0.80	20.39	26.46	10.00
240	0.0754	0.098	0.093	0.446	0.89	22.59	34.32	10.00
300	0.0601	0.079	0.090	0.487	0.97	24.67	42.90	10.00
400	0.0470	0.063	0.087	0.551	1.10	27.90	57.20	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	3.4	19.2	60.2	22.5	1.08	2.50	2.20	62.0	5.69	4.8	1116	744	100
120	12.9	3.4	20.7	67.4	24.0	1.08	2.50	2.36	66.0	6.36	6.0	1188	792	100
150	14.2	3.4	22.0	67.4	25.3	1.16	2.50	2.44	69.0	6.90	7.5	1242	828	100
185	15.7	3.4	23.5	67.4	26.8	1.16	3.15	2.52	74.0	8.22	9.3	1332	888	125
240	17.8	3.4	25.6	67.4	28.9	1.24	3.15	2.68	79.0	9.27	12.0	1422	948	125
300	19.8	3.4	27.6	67.4	30.9	1.32	3.15	2.84	84.0	10.40	15.0	1512	1008	125
400	22.9	3.4	30.7	67.4	34.0	1.48	3.15	3.00	91.0	12.06	20.0	1638	1092	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.106	0.314	0.63	15.89	8.93	8.93
120	0.2530	0.325	0.102	0.345	0.69	17.46	11.28	10.00
150	0.2060	0.265	0.100	0.371	0.74	18.82	14.10	10.00
185	0.1640	0.211	0.096	0.402	0.80	20.39	17.39	10.00
240	0.1250	0.161	0.093	0.446	0.89	22.59	22.56	10.00
300	0.1000	0.130	0.090	0.487	0.97	24.67	28.20	10.00
400	0.0778	0.102	0.087	0.551	1.10	27.90	37.60	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	5.5	23.4	67.4	26.7	1.16	2.50	2.52	72.0	8.66	6.7	1296	864	125
120	12.9	5.5	24.9	67.4	28.2	1.24	3.15	2.60	77.0	10.55	8.4	1386	924	125
150	14.2	5.5	26.2	67.4	29.5	1.32	3.15	2.68	80.0	11.71	10.5	1440	960	125
185	15.7	5.5	27.7	67.4	31.0	1.32	3.15	2.84	84.0	13.15	13.0	1512	1008	125
240	17.8	5.5	29.8	67.4	33.1	1.40	3.15	2.92	89.0	15.27	16.8	1602	1068	150
300	19.8	5.5	31.8	67.4	35.1	1.48	3.15	3.08	87.0	16.14	21.0	1566	1044	150
400	22.9	5.5	34.9	67.4	38.2	1.56	3.15	3.24	101.0	20.73	28.0	1818	1212	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	
							Cond. kA	Screen kA
95	0.193	0.247	0.117	0.216	0.86	43.80	13.59	10.00
120	0.153	0.196	0.113	0.236	0.94	47.76	17.16	10.00
150	0.124	0.159	0.109	0.253	1.01	51.18	21.45	10.00
185	0.099	0.128	0.105	0.272	1.08	55.11	26.46	10.00
240	0.075	0.098	0.101	0.299	1.19	60.59	34.32	10.00
300	0.060	0.079	0.098	0.325	1.30	65.79	42.90	10.00
400	0.047	0.063	0.094	0.364	1.45	73.83	57.20	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	5.5	23.4	60.2	26.7	1.16	2.50	2.52	72.0	7.00	4.8	1296	864	125
120	12.9	5.5	24.9	67.4	28.2	1.24	3.15	2.60	77.0	8.44	6.0	1386	924	125
150	14.2	5.5	26.2	67.4	29.5	1.32	3.15	2.68	80.0	9.10	7.5	1440	960	125
185	15.7	5.5	27.7	67.4	31.0	1.32	3.15	2.84	84.0	9.90	9.3	1512	1008	125
240	17.8	5.5	29.8	67.4	33.1	1.40	3.15	2.92	89.0	10.99	12.0	1602	1068	150
300	19.8	5.5	31.8	67.4	35.1	1.48	3.15	3.08	94.0	12.06	15.0	1692	1128	150
400	22.9	5.5	34.9	67.4	38.2	1.56	3.15	3.24	101.0	13.85	20.0	1818	1212	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.117	0.216	0.86	43.80	8.93	8.93
120	0.2530	0.325	0.113	0.236	0.94	47.76	11.28	10.00
150	0.2060	0.265	0.109	0.253	1.01	51.18	14.10	10.00
185	0.1640	0.211	0.105	0.272	1.08	55.11	17.39	10.00
240	0.1250	0.161	0.101	0.299	1.19	60.59	22.56	10.00
300	0.1000	0.130	0.098	0.325	1.30	65.79	28.20	10.00
400	0.0778	0.102	0.094	0.364	1.45	73.83	37.60	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	8.0	28.5	67.4	31.8	1.32	3.15	2.84	86.0	11.33	6.7	1548	1032	125
120	12.9	8.0	30.0	67.4	33.3	1.40	3.15	2.92	89.0	12.52	8.4	1602	1068	150
150	14.2	8.0	31.3	67.4	34.6	1.48	3.15	3.00	92.0	13.69	10.5	1656	1104	150
185	15.7	8.0	32.8	67.4	36.1	1.48	3.15	3.16	96.0	15.16	13.0	1728	1152	150
240	17.8	8.0	34.9	67.4	38.2	1.56	3.15	3.24	101.0	17.43	16.8	1818	1212	200
300	19.8	8.0	36.9	67.4	40.2	1.64	3.15	3.40	106.0	19.77	21.0	1908	1272	200
400	22.9	8.0	40.0	67.4	43.3	1.72	3.15	3.56	113.0	23.07	28.0	2034	1356	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	
							Cond. kA	Screen kA
95	0.1930	0.247	0.128	0.167	0.99	75.61	13.59	10.00
120	0.1530	0.196	0.123	0.180	1.08	81.84	17.16	10.00
150	0.1240	0.159	0.120	0.192	1.15	87.20	21.45	10.00
185	0.0991	0.128	0.115	0.206	1.23	93.36	26.46	10.00
240	0.0754	0.098	0.111	0.225	1.34	101.92	34.32	10.00
300	0.0601	0.079	0.107	0.243	1.45	110.03	42.90	10.00
400	0.0470	0.063	0.102	0.270	1.61	122.54	57.20	10.00

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) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) 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 HEAVY DUTY SCREENED ARMoured CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area (3 cores collectively) mm ²	Nominal diameter over wire screen mm	Min. thickness of separation sheath mm	Nominal diameter of armour wire mm	Min. 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
95	11.4	8.0	28.5	60.2	31.8	1.32	3.15	2.84	86.0	9.59	4.8	1548	1032	125
120	12.9	8.0	30.0	67.4	33.3	1.40	3.15	2.92	89.0	10.41	6.0	1602	1068	150
150	14.2	8.0	31.3	67.4	34.6	1.48	3.15	3.00	92.0	11.09	7.5	1656	1104	150
185	15.7	8.0	32.8	67.4	36.1	1.48	3.15	3.16	96.0	11.91	9.3	1728	1152	150
240	17.8	8.0	34.9	67.4	38.2	1.56	3.15	3.24	101.0	13.15	12.0	1818	1212	200
300	19.8	8.0	36.9	67.4	40.2	1.64	3.15	3.40	106.0	14.37	15.0	1908	1272	200
400	22.9	8.0	40.0	67.4	43.3	1.72	3.15	3.56	113.0	16.19	20.0	2034	1356	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	
							Cond. kA	Screen kA
95	0.3200	0.411	0.128	0.167	0.99	75.61	8.93	8.93
120	0.2530	0.325	0.123	0.180	1.08	81.84	11.28	10.00
150	0.2060	0.265	0.120	0.192	1.15	87.20	14.10	10.00
185	0.1640	0.211	0.115	0.206	1.23	93.36	17.39	10.00
240	0.1250	0.161	0.111	0.225	1.34	101.92	22.56	10.00
300	0.1000	0.130	0.107	0.243	1.45	110.03	28.20	10.00
400	0.0778	0.102	0.102	0.270	1.61	122.54	37.60	10.00

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

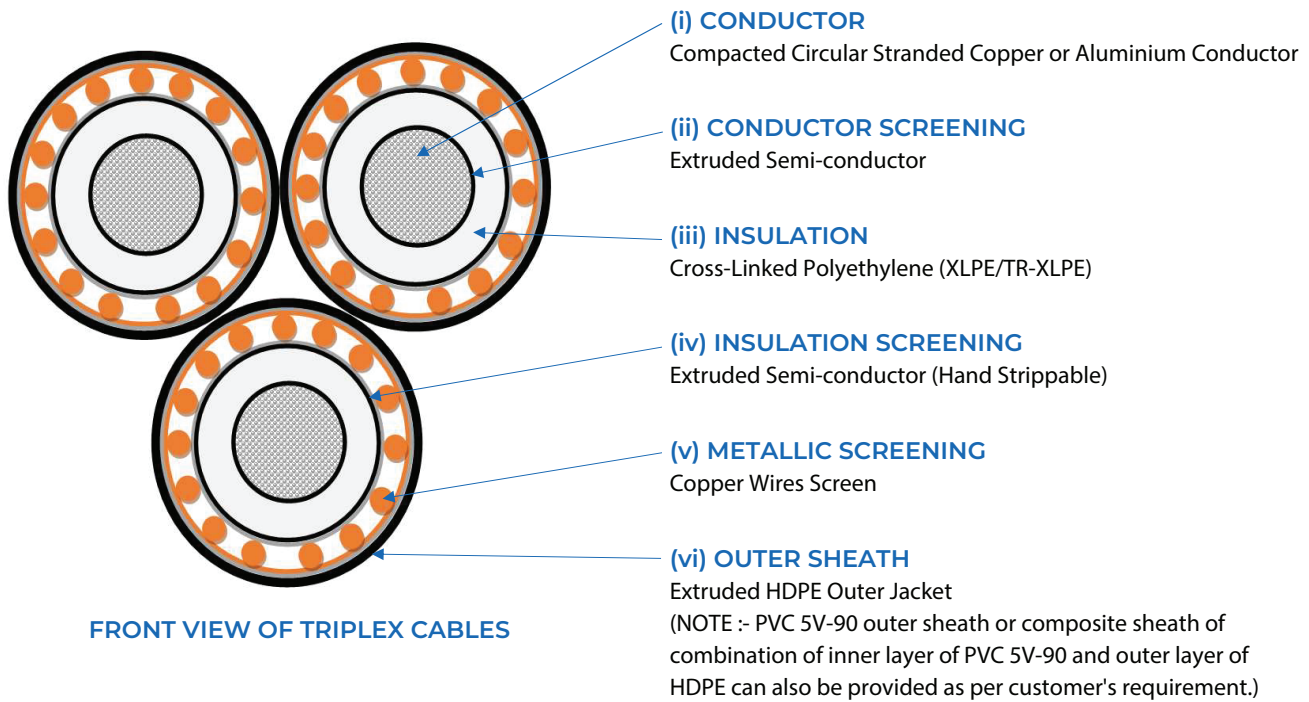
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

- (i) Higher size 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (v) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

TRIPLEX UNARMoured CABLES

CABLE CONSTRUCTION:



APPLICABLE STANDARDS:

AS/NZS 1429.1

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



SIDE VIEW OF TRIPLEX CABLES

3.8/6.6 (7.2) kV TRIPLEX CABLE COPPER CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable		Bundle cable		
											During pulling mm	Set in position mm	During pulling mm	Set in position mm	
															 mm
95	11.4	2.5	17.4	67.4	22.8	1.24	27.1	59.0	5.37	20.0	678	407	885	590	80
120	12.9	2.5	18.9	67.4	23.7	1.32	28.2	61.0	6.10	25.2	705	423	915	610	80
150	14.2	2.5	20.2	67.4	25.0	1.32	29.5	64.0	6.88	31.5	738	443	960	640	100
185	15.7	2.5	21.7	67.4	26.5	1.40	31.2	68.0	7.94	38.9	781	468	1020	680	100
240	17.8	2.6	24.0	67.4	28.8	1.48	33.7	73.0	9.59	50.4	843	506	1095	730	100
300	19.8	2.8	26.4	67.4	30.5	1.56	35.6	77.0	11.37	63.0	891	534	1155	770	100
400	22.9	3.0	29.9	67.4	34.0	1.64	39.3	85.0	13.85	84.0	983	590	1275	850	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	
							Cond. kA	Screen kA/ Phase
95	0.1930	0.247	0.118	0.404	0.48	7.3	13.59	10.00
120	0.1530	0.196	0.112	0.446	0.53	8.1	17.16	10.00
150	0.1240	0.159	0.109	0.483	0.58	8.8	21.45	10.00
185	0.0991	0.128	0.105	0.525	0.63	9.5	26.46	10.00
240	0.0754	0.098	0.102	0.563	0.67	10.2	34.32	10.00
300	0.0601	0.079	0.099	0.578	0.69	10.5	42.90	10.00
400	0.0470	0.063	0.096	0.615	0.73	11.2	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE ALUMINIUM CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable		Bundle cable		
											During pulling mm	Set in position mm	During pulling mm	Set in position mm	 mm
95	11.4	2.5	17.4	60.2	22.2	1.24	26.5	58.0	3.48	14.3	663	398	870	580	80
120	12.9	2.5	18.9	67.4	23.7	1.32	28.2	61.0	3.95	18.0	705	423	915	610	80
150	14.2	2.5	20.2	67.4	25.0	1.32	29.5	64.0	4.22	22.5	738	443	960	640	100
185	15.7	2.5	21.7	67.4	26.5	1.40	31.2	68.0	4.61	27.8	781	468	1020	680	100
240	17.8	2.6	24.0	67.4	28.8	1.48	33.7	73.0	5.21	36.0	843	506	1095	730	100
300	19.8	2.8	26.4	67.4	30.5	1.56	35.6	77.0	5.85	45.0	891	534	1155	770	100
400	22.9	3.0	29.9	67.4	34.0	1.64	39.3	85.0	6.80	60.0	983	590	1275	850	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	
							Cond. kA	Screen kA/ Phase
95	0.3200	0.411	0.116	0.404	0.48	7.3	8.93	8.93
120	0.2530	0.325	0.112	0.446	0.53	8.1	11.28	10.00
150	0.2060	0.265	0.109	0.483	0.58	8.8	14.10	10.00
185	0.1640	0.211	0.105	0.525	0.63	9.5	17.39	10.00
240	0.1250	0.161	0.102	0.563	0.67	10.2	22.56	10.00
300	0.1000	0.130	0.099	0.578	0.69	10.5	28.20	10.00
400	0.0778	0.102	0.096	0.615	0.73	11.2	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552

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) Higher 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 3 kA and 13.1 kA fault current level as per the customer's request.
- (iv) Armoured construction can be offered as per the customer's request.
- (v) 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 TRIPLEX CABLE COPPER CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable During pulling mm	Set in position mm	Bundle cable During pulling mm	Set in position mm	 mm
95	11.4	3.4	19.2	67.4	24.6	1.32	29.1	63.0	5.58	20.0	728	437	945	630	100
120	12.9	3.4	20.7	67.4	25.5	1.32	30.0	65.0	6.30	25.2	750	450	975	650	100
150	14.2	3.4	22.0	67.4	26.8	1.40	31.5	69.0	7.12	31.5	788	473	1035	690	100
185	15.7	3.4	23.5	67.4	28.3	1.40	33.0	72.0	8.16	38.9	826	495	1080	720	100
240	17.8	3.4	25.6	67.4	30.4	1.48	35.3	77.0	9.80	50.4	883	530	1155	770	100
300	19.8	3.4	27.6	67.4	31.7	1.56	36.8	80.0	11.54	63.0	921	552	1200	800	100
400	22.9	3.4	30.7	67.4	34.8	1.64	40.1	87.0	13.97	84.0	1003	602	1305	870	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	
							Cond. kA	Screen kA/ Phase
95	0.1930	0.247	0.122	0.314	0.63	15.9	13.59	10.00
120	0.1530	0.196	0.116	0.345	0.69	17.5	17.16	10.00
150	0.1240	0.159	0.113	0.371	0.74	18.8	21.45	10.00
185	0.0991	0.128	0.109	0.402	0.80	20.4	26.46	10.00
240	0.0754	0.098	0.105	0.446	0.89	22.6	34.32	10.00
300	0.0601	0.079	0.101	0.487	0.97	24.7	42.90	10.00
400	0.0470	0.063	0.097	0.551	1.10	27.9	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE ALUMINIUM CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable During pulling mm	Set in position mm	Bundle cable During pulling mm	Set in position mm	 mm
95	11.4	3.4	19.2	60.2	24.0	1.32	28.5	62.0	3.69	14.3	713	428	930	620	100
120	12.9	3.4	20.7	67.4	25.5	1.32	30.0	65.0	4.15	18.0	750	450	975	650	100
150	14.2	3.4	22.0	67.4	26.8	1.40	31.5	69.0	4.46	22.5	788	473	1035	690	100
185	15.7	3.4	23.5	67.4	28.3	1.40	33.0	72.0	4.84	27.8	826	495	1080	720	100
240	17.8	3.4	25.6	67.4	30.4	1.48	35.3	77.0	5.42	36.0	883	530	1155	770	100
300	19.8	3.4	27.6	67.4	31.7	1.56	36.8	80.0	6.02	45.0	921	552	1200	800	100
400	22.9	3.4	30.7	67.4	34.8	1.64	40.1	87.0	6.93	60.0	1003	602	1305	870	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	
							Cond. kA	Screen kA/ Phase
95	0.3200	0.411	0.121	0.314	0.63	15.9	8.93	8.93
120	0.2530	0.325	0.116	0.345	0.69	17.5	11.28	10.00
150	0.2060	0.265	0.113	0.371	0.74	18.8	14.10	10.00
185	0.1640	0.211	0.109	0.402	0.80	20.4	17.39	10.00
240	0.1250	0.161	0.105	0.446	0.89	22.6	22.56	10.00
300	0.1000	0.130	0.101	0.487	0.97	24.7	28.20	10.00
400	0.0778	0.102	0.097	0.551	1.10	27.9	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE COPPER CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable During pulling mm	Set in position mm	Bundle cable During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.4	67.4	28.2	1.40	32.9	72.0	6.09	20.0	823	494	1080	720	100
120	12.9	5.5	24.9	67.4	29.7	1.48	34.6	75.0	6.88	25.2	866	519	1125	750	100
150	14.2	5.5	26.2	67.4	31.0	1.48	35.9	78.0	7.69	31.5	898	539	1170	780	100
185	15.7	5.5	27.7	67.4	31.8	1.56	36.9	80.0	8.78	38.9	923	554	1200	800	100
240	17.8	5.5	29.8	67.4	33.9	1.64	39.2	85.0	10.48	50.4	981	589	1275	850	125
300	19.8	5.5	31.8	67.4	35.9	1.64	41.2	90.0	12.23	63.0	1031	619	1350	900	125
400	22.9	5.5	34.9	67.4	39.0	1.80	44.8	97.0	14.76	84.0	1119	671	1455	970	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	
							Cond. kA	Screen kA/ Phase
95	0.1930	0.247	0.130	0.216	0.86	43.8	13.59	10.00
120	0.1530	0.196	0.125	0.236	0.94	47.8	17.16	10.00
150	0.1240	0.159	0.122	0.253	1.01	51.2	21.45	10.00
185	0.0991	0.128	0.116	0.272	1.08	55.1	26.46	10.00
240	0.0754	0.098	0.112	0.299	1.19	60.6	34.32	10.00
300	0.0601	0.079	0.108	0.325	1.30	65.8	42.90	10.00
400	0.0470	0.063	0.104	0.364	1.45	73.8	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE ALUMINIUM CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable During pulling mm	Set in position mm	Bundle cable During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.4	60.2	28.2	1.40	32.9	72.0	4.21	14.3	823	494	1080	720	100
120	12.9	5.5	24.9	67.4	29.7	1.48	34.6	75.0	4.72	18.0	866	519	1125	750	100
150	14.2	5.5	26.2	67.4	31.0	1.48	35.9	78.0	5.03	22.5	898	539	1170	780	100
185	15.7	5.5	27.7	67.4	31.8	1.56	36.9	80.0	5.46	27.8	923	554	1200	800	100
240	17.8	5.5	29.8	67.4	33.9	1.64	39.2	85.0	6.10	36.0	981	589	1275	850	125
300	19.8	5.5	31.8	67.4	35.9	1.64	41.2	90.0	6.71	45.0	1031	619	1350	900	125
400	22.9	5.5	34.9	67.4	39.0	1.80	44.8	97.0	7.72	60.0	1119	671	1455	970	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	
							Cond. kA	Screen kA/ Phase
95	0.3200	0.411	0.130	0.216	0.86	43.8	8.93	8.93
120	0.2530	0.325	0.125	0.236	0.94	47.8	11.28	10.00
150	0.2060	0.265	0.122	0.253	1.01	51.2	14.10	10.00
185	0.1640	0.211	0.116	0.272	1.08	55.1	17.39	10.00
240	0.1250	0.161	0.112	0.299	1.19	60.6	22.56	10.00
300	0.1000	0.130	0.108	0.325	1.30	65.8	28.20	10.00
400	0.0778	0.102	0.104	0.364	1.45	73.8	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE COPPER CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable		Bundle cable		
											During pulling mm	Set in position mm	During pulling mm	Set in position mm	 mm
95	11.4	8.0	28.4	67.4	33.2	1.56	38.3	83.0	6.84	20.0	958	575	1245	830	100
120	12.9	8.0	29.9	67.4	34.7	1.64	40.0	87.0	7.67	25.2	1001	601	1305	870	100
150	14.2	8.0	31.2	67.4	36.0	1.64	41.3	90.0	8.52	31.5	1033	620	1350	900	100
185	15.7	8.0	32.7	67.4	36.8	1.72	42.3	92.0	9.65	38.9	1059	635	1380	920	100
240	17.8	8.0	34.8	67.4	38.9	1.72	44.4	96.0	11.35	50.4	1111	667	1440	960	125
300	19.8	8.0	36.8	67.4	40.9	1.80	46.7	101.0	13.19	63.0	1166	700	1515	1010	150
400	22.9	8.0	39.9	67.4	44.0	1.88	50.0	108.0	15.76	84.0	1249	749	1620	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	
							Cond. kA	Screen kA/ Phase
95	0.1930	0.247	0.140	0.166	0.99	75.2	13.59	10.00
120	0.1530	0.196	0.135	0.180	1.07	81.4	17.16	10.00
150	0.1240	0.159	0.131	0.191	1.14	86.8	21.45	10.00
185	0.0991	0.128	0.125	0.205	1.22	92.9	26.46	10.00
240	0.0754	0.098	0.120	0.224	1.34	101.5	34.32	10.00
300	0.0601	0.079	0.116	0.242	1.44	109.6	42.90	10.00
400	0.0470	0.063	0.111	0.269	1.61	122.1	57.20	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	262	231	304
120	298	264	351
150	334	297	398
185	377	336	455
240	434	390	531
300	489	441	606
400	553	501	696

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- 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 TRIPLEX CABLE ALUMINIUM CONDUCTOR HEAVY DUTY SCREENED WATER BLOCKING TAPED HDPE SHEATHED CABLE

Dimensional Characteristics, up to 10 kA Fault Current Level

Nominal conductor area mm ²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area on each phase cable mm ²	Nominal diameter over wire screen mm	Minimum thickness of over sheath mm	Nominal overall diameter		Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius				Nominal duct diameter
							Phase cable mm	Bundle (Triplex) cable mm			Phase cable During pulling mm	Set in position mm	Bundle cable During pulling mm	Set in position mm	 mm
95	11.4	8.0	28.4	60.2	33.2	1.56	38.3	83.0	4.96	14.3	958	575	1245	830	100
120	12.9	8.0	29.9	67.4	34.7	1.64	40.0	87.0	5.52	18.0	1001	601	1305	870	100
150	14.2	8.0	31.2	67.4	36.0	1.64	41.3	90.0	5.86	22.5	1033	620	1350	900	100
185	15.7	8.0	32.7	67.4	36.8	1.72	42.3	92.0	6.33	27.8	1059	635	1380	920	100
240	17.8	8.0	34.8	67.4	38.9	1.72	44.4	96.0	6.97	36.0	1111	667	1440	960	125
300	19.8	8.0	36.8	67.4	40.9	1.80	46.7	101.0	7.67	45.0	1166	700	1515	1010	150
400	22.9	8.0	39.9	67.4	44.0	1.88	50.0	108.0	8.72	60.0	1249	749	1620	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	
							Cond. kA	Screen kA/ Phase
	0.3200	0.411	0.140	0.166	0.99	75.2	8.93	8.93
	0.2530	0.325	0.135	0.180	1.07	81.4	11.28	10.00
	0.2060	0.265	0.131	0.191	1.14	86.8	14.10	10.00
	0.1640	0.211	0.125	0.205	1.22	92.9	17.39	10.00
	0.1250	0.161	0.120	0.224	1.34	101.5	22.56	10.00
	0.1000	0.130	0.116	0.242	1.44	109.6	28.20	10.00
	0.0778	0.102	0.111	0.269	1.61	122.1	37.60	10.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in ground	In a Buried duct	In Air
			
95	203	179	236
120	232	205	273
150	260	231	309
185	294	262	355
240	340	305	415
300	384	346	475
400	438	398	552

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:

- Higher sizes can be offered as per the customer's request.
- Water-tight construction can be offered as per the customer's request.
- Cables can also be designed for 3 kA and 13.1 kA fault current level as per the customer's request.
- Armoured construction can be offered as per the customer's request.
- Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

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 months.

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.

Additionally, the screen short-circuit rating is based on the collective cross-sectional area of the metallic screen and a transient maximum temperature of the screen under earth fault conditions of 250°C, and an initial temperature of 80°C as per AS/NZS 4026.

The non-adiabatic method as per IEC 60949 maybe 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 air 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

Technical Information - Charts for Rating Factors

Table C.3 - Correction factors for soil thermal resistivities other than 1.5 K.m/W for direct buried three-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	1.26	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

Table C.4 - Correction factors for soil thermal resistivities other than 1.5 K.m/W for three-core cables in 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	1.15	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

Table D.1 - Correction factors for groups of three-core cables in horizontal formation laid direct in the ground					
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	-	-

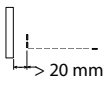
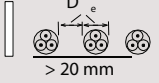
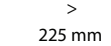
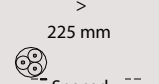
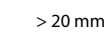
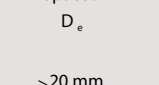
Table D.2 - Correction factors for groups of three-phase circuits of single-core cables laid direct in the ground					
Number of cables in group	Spacing between group centres mm				
	Touching	200	400	600	800
2	0.73	0.83	0.88	0.90	0.92
3	0.60	0.73	0.79	0.83	0.86
4	0.54	0.68	0.75	0.80	0.84
5	0.49	0.63	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	-	-

Table D.3 - Correction factors for groups of three-core cables in single way ducts in horizontal formation					
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	-	-

Table D.4 - Correction factors for groups of three-phase circuits of single-core cables in single-way ducts					
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	 Touching	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	 Spaced	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	 > 225 mm	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	 Touching	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.	 Touching	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.	 Spaced	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 %.

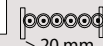
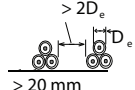
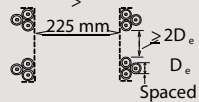
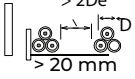
NOTE 2 Factors apply to single layer groups of cables as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.

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)	Touching 	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)	Touching 	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)		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)		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)		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.

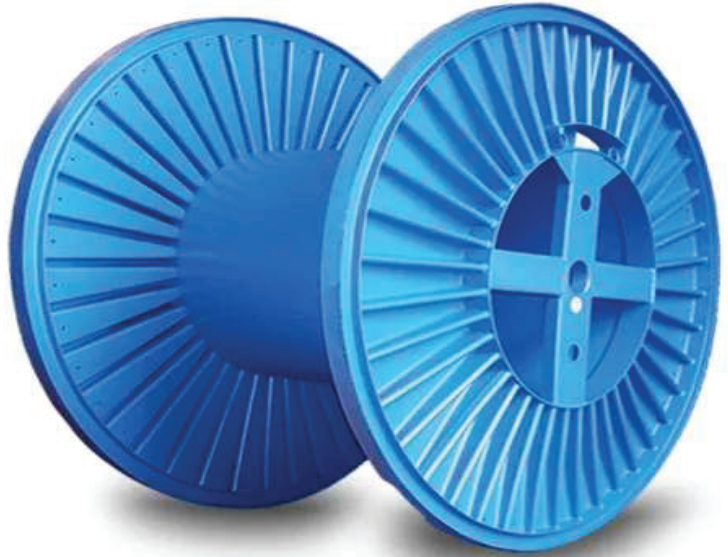
NOTE 3 Values are given for vertical spacings between trays of 300 mm. For closer spacing, the factors should be reduced.

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 specially designed with I-Sections strictly in line with AS 3983.
- ⇒ The I-Section drums allow to properly fix the wooden logs (battens) to cover the drum. Superior quality Pinewood material shall be used for wooden logs.
- ⇒ 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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