DOMESTIC

Sterlite Power

MEDIUM VOLTAGE
CABLES

Connecting The World With Power Cables

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

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

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

Sterlite Power

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, FR/FRLSH Variant
Anti Termite Protection : Nylon Sheath, Double Brass/Stainless Steel Tape, or suitable additives

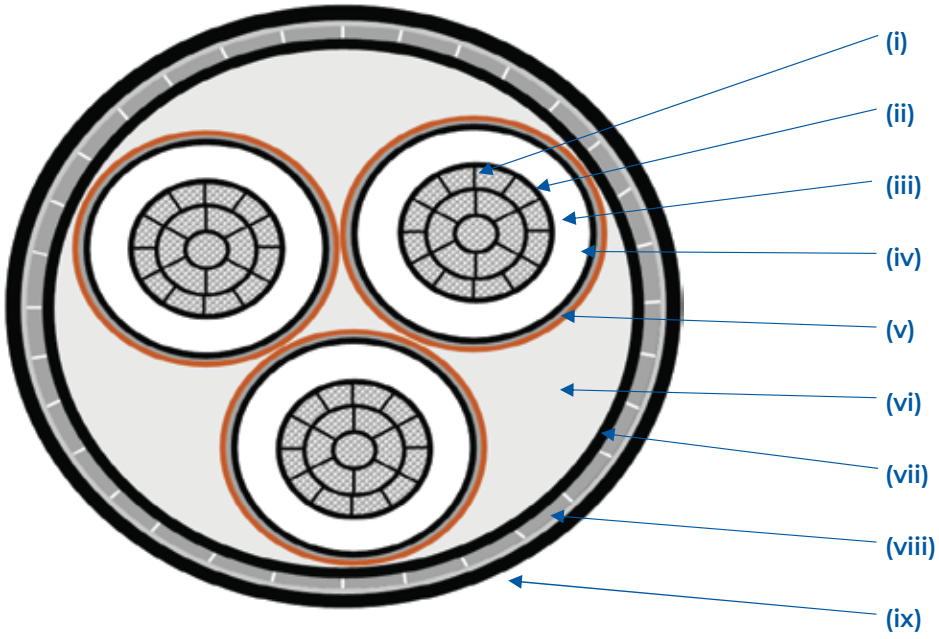
	CABLE CODES	
Sl. No.	Constitute	Code
i	Aluminium Conductor	A
ii	XLPE Insulation	2X
iii	Steel Round Wire Armour	W
iv	Aluminium Round Wire Armour	Wa
v	Steel Strip Armour	F
vi	Aluminium Strip Armour	Fa
vii	PVC Outer Sheath	Y
viii	Polyethylene Outer Sheath	2Y
NOTE : No code letter for conductor is required when the conductor material is Copper.		

SUMMARY OF THE CABLE ELEMENTS		
Item	Function	Composition
Conductor	· 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 semiconductor. · 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 insulation The internal and external semi-conducting layers and the insulation are to be triple extruded simutaneoulsy in the same operation.
External Semi-Conductor	· To prevent concentration of electric field at the interface between the insulation and the external semiconductor. · To ensure close contact with the insulation.	XLPE semi-conducting shield (Bonded/Strippable)
Metallic Screen	· 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 zerosequence short-circuit current.	· Copper foil laminate · Copper wire screen with helical equalising tape are suitably designed for high levels of fault current
Fillers	· Provide a round shape to the cable cross-section. · Only applicable for three core cables.	· Non hygroscopic fillers in case of three core cables
Separation Sheath	· Separates the metallic screen from the armour in order to prevent short-circuit.	· PVC (ST-2) jacket in case of armoured cables
Armour	· Primarily provide mechnical 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/Aluminium round wire armour · Galvanised steel/Aluminium flat strip armour
Outer Protective Sheath	· To display the cable information and length marking thought 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-Ethylene (ST-7) jacket · PVC (ST-2) jacket · FR/FRLSH jacket variant

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 ST-2) 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 ST-2) Outer Jacketing

(NOTE :- Polyethylene ST-7 or FR/FRLSH type outer jacket can also be provided as per customer's requirement.)

Current Comparison Chart (in Amperes) :

Nominal conductor area mm²	36 kV 3 Core Al Standard Cable			36 kV 3 Core Al High Ampactiy Cable		
	Buried direct in	In a Buried duct	In Air	Buried direct in	In a Buried duct	In Air
						
95	189	169	227	214	191	263
120	215	192	262	243	217	304
150	239	214	294	270	242	341
185	270	245	336	305	277	390
240	312	282	393	353	319	456
300	351	317	448	397	358	520
400	400	361	519	452	408	602

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.

INTELLECTUAL PROPERTY INDIA

पेटेंट कार्यालय भारत सरकार
पेटेंट प्रमाण पत्र |

The Patent Office, Government Of India
Patent Certificate

पेटेंट सं. / Patent No. : 406737
आवेदन सं. / Application No. : 201711014000
फाइल करने की तारीख / Date of Filing : 20/04/2017
पेटेंटी / Patentee : STERLITE POWER TRANSMISSION LIMITED

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में वर्णनानुसार HIGH AMPACITY POWER CABLE नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख अप्रैल 2017 से बीसवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled HIGH AMPACITY POWER CABLE as disclosed in the above mentioned application for the term of 20 years from the 20th day of April 2017 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख
Date of Grant : 09/01/2024

Controller of Patents

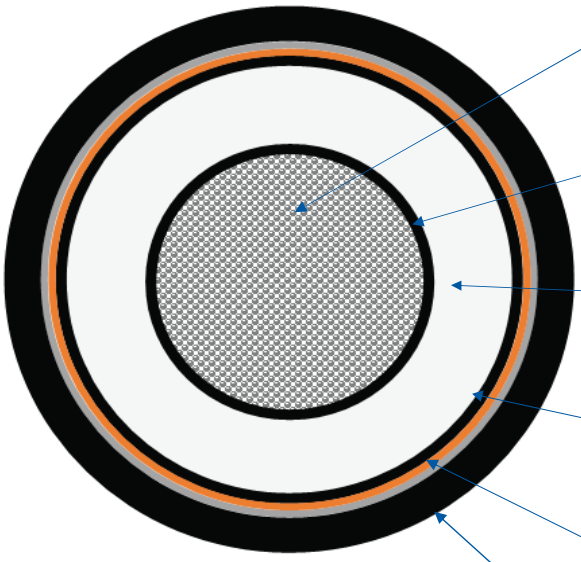
Note: - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 20th day of April 2019 and on the same day in every year thereafter.

CONTENTS

RATINGS AND DIMENSIONS — PAGE NUMBERS

SINGLE CORE UNARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(v) METALLIC SCREENING
Copper Tape

(vi) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED UNARMOURED - 2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	2.8	18.1	2.6	18.9	1.40	24.0	1.20	4.8	480	360	50	80
120	12.9	2.8	19.6	2.6	20.4	1.40	25.0	1.44	6.0	500	375	50	80
150	14.2	2.8	20.9	2.6	21.7	1.40	27.0	1.71	7.5	540	405	50	80
185	15.7	2.8	22.4	2.6	23.2	1.40	28.0	2.05	9.3	560	420	50	100
240	17.8	2.8	24.5	2.6	25.3	1.56	31.0	2.62	12.0	620	465	65	100
300	19.8	3.0	26.9	2.6	27.7	1.56	33.0	3.21	15.0	660	495	65	100
400	22.9	3.3	30.6	2.6	31.4	1.56	37.0	4.05	20.0	740	555	65	150
500	26.5	3.5	34.6	2.6	35.4	1.72	41.0	5.14	25.0	820	615	65	150
630	29.1	3.5	37.5	2.6	38.3	1.72	44.0	6.44	31.5	880	660	65	150
800	33.4	3.5	41.8	2.6	42.6	1.88	49.0	8.19	40.0	980	735	80	150
1000	37.4	3.6	46.0	2.6	46.8	2.04	53.0	10.11	50.0	1060	795	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	0.106	0.120	0.164	0.370	0.44	6.7	13.59	0.33
120	0.1530	0.196	0.102	0.116	0.160	0.408	0.49	7.4	17.16	0.33
150	0.1240	0.159	0.099	0.114	0.157	0.440	0.53	8.0	21.45	0.33
185	0.0991	0.128	0.096	0.110	0.154	0.478	0.57	8.7	26.46	0.33
240	0.0754	0.098	0.093	0.108	0.151	0.530	0.63	9.6	34.32	0.33
300	0.0601	0.079	0.091	0.106	0.149	0.546	0.65	9.9	42.90	0.33
400	0.0470	0.064	0.088	0.103	0.147	0.567	0.68	10.3	57.20	0.33
500	0.0366	0.051	0.086	0.101	0.145	0.610	0.73	11.1	71.50	0.33
630	0.0283	0.042	0.085	0.099	0.143	0.667	0.80	12.1	90.09	0.33
800	0.0221	0.035	0.083	0.097	0.141	0.753	0.90	13.7	114.40	0.33
1000	0.0176	0.031	0.081	0.096	0.139	0.811	0.97	14.7	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	256	260	227	220	323	327
120	290	292	257	247	374	376
150	323	323	285	272	422	422
185	362	359	319	302	484	481
240	411	398	361	333	565	550
300	456	435	400	363	641	615
400	508	474	443	393	734	690
500	559	509	486	420	828	761
630	611	543	529	446	929	834
800	638	549	549	447	1002	872
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

3.8/6.6 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED UNARMOURED - A2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	2.8	18.1	2.6	18.9	1.40	24.0	0.64	2.9	480	360	50	80
120	12.9	2.8	19.6	2.6	20.4	1.40	25.0	0.74	3.6	500	375	50	80
150	14.2	2.8	20.9	2.6	21.7	1.40	27.0	0.83	4.5	540	405	50	80
185	15.7	2.8	22.4	2.6	23.2	1.40	28.0	0.97	5.6	560	420	50	100
240	17.8	2.8	24.5	2.6	25.3	1.56	31.0	1.19	7.2	620	465	65	100
300	19.8	3.0	26.9	2.6	27.7	1.56	33.0	1.40	9.0	660	495	65	100
400	22.9	3.3	30.6	2.6	31.4	1.56	37.0	1.74	12.0	740	555	65	150
500	26.5	3.5	34.6	2.6	35.4	1.72	41.0	2.17	15.0	820	615	65	150
630	29.1	3.5	37.5	2.6	38.3	1.72	44.0	2.62	18.9	880	660	65	150
800	33.4	3.5	41.8	2.6	42.6	1.88	49.0	3.24	24.0	980	735	80	150
1000	37.4	3.6	46.0	2.6	46.8	2.04	53.0	3.98	30.0	1060	795	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	0.106	0.120	0.164	0.370	0.44	6.7	8.93	0.33
120	0.2530	0.325	0.102	0.116	0.160	0.408	0.49	7.4	11.28	0.33
150	0.2060	0.265	0.099	0.114	0.157	0.440	0.53	8.0	14.10	0.33
185	0.1640	0.211	0.096	0.110	0.154	0.478	0.57	8.7	17.39	0.33
240	0.1250	0.162	0.093	0.108	0.151	0.530	0.63	9.6	22.56	0.33
300	0.1000	0.130	0.091	0.106	0.149	0.546	0.65	9.9	28.20	0.33
400	0.0778	0.102	0.088	0.103	0.147	0.567	0.68	10.3	37.60	0.33
500	0.0605	0.081	0.086	0.101	0.145	0.610	0.73	11.1	47.00	0.33
630	0.0469	0.064	0.085	0.099	0.143	0.667	0.80	12.1	59.22	0.33
800	0.0367	0.052	0.083	0.097	0.141	0.753	0.90	13.7	75.20	0.33
1000	0.0291	0.043	0.081	0.096	0.139	0.811	0.97	14.7	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	252	256
120	227	230	201	195	292	296
150	252	255	223	215	329	333
185	285	287	251	241	380	383
240	326	323	286	270	448	444
300	365	357	319	298	511	502
400	412	397	359	329	593	574
500	461	436	401	360	680	647
630	514	475	445	390	777	725
800	552	495	476	403	863	780
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED UNARMOURED - 2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	3.6	19.7	2.6	20.5	1.40	25.0	1.26	4.8	500	375	50	80
120	12.9	3.6	21.2	2.6	22.0	1.40	27.0	1.51	6.0	540	405	50	80
150	14.2	3.6	22.5	2.6	23.3	1.40	28.0	1.78	7.5	560	420	50	100
185	15.7	3.6	24.0	2.6	24.8	1.40	30.0	2.16	9.3	600	450	65	100
240	17.8	3.6	26.1	2.6	26.9	1.56	32.0	2.70	12.0	640	480	65	100
300	19.8	3.6	28.1	2.6	28.9	1.56	34.0	3.28	15.0	680	510	65	100
400	22.9	3.6	31.2	2.6	32.0	1.56	37.0	4.09	20.0	740	555	65	150
500	26.5	3.6	34.8	2.6	35.6	1.72	41.0	5.15	25.0	820	615	65	150
630	29.1	3.6	37.7	2.6	38.5	1.72	44.0	6.45	31.5	880	660	65	150
800	33.4	3.6	42.0	2.6	42.8	1.88	49.0	8.20	40.0	980	735	80	150
1000	37.4	3.6	46.0	2.6	46.8	2.04	53.0	10.11	50.0	1060	795	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	0.110	0.124	0.168	0.301	0.60	15.3	13.59	0.33
120	0.1530	0.196	0.106	0.120	0.164	0.331	0.66	16.8	17.16	0.33
150	0.1240	0.159	0.103	0.117	0.161	0.356	0.71	18.1	21.45	0.33
185	0.0991	0.128	0.100	0.114	0.158	0.385	0.77	19.5	26.46	0.33
240	0.0754	0.098	0.096	0.111	0.154	0.426	0.85	21.6	34.32	0.33
300	0.0601	0.079	0.094	0.108	0.152	0.465	0.93	23.6	42.90	0.33
400	0.0470	0.063	0.089	0.104	0.148	0.525	1.05	26.6	57.20	0.33
500	0.0366	0.051	0.087	0.101	0.145	0.595	1.19	30.2	71.50	0.33
630	0.0283	0.042	0.085	0.100	0.143	0.651	1.30	33.0	90.09	0.33
800	0.0221	0.035	0.083	0.097	0.141	0.734	1.46	37.2	114.40	0.33
1000	0.0176	0.031	0.081	0.096	0.139	0.811	1.62	41.1	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

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6.35/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED UNARMOURED - A2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	3.6	19.7	2.6	20.5	1.40	25.0	0.70	2.9	500	375	50	80
120	12.9	3.6	21.2	2.6	22.0	1.40	27.0	0.80	3.6	540	405	50	80
150	14.2	3.6	22.5	2.6	23.3	1.40	28.0	0.90	4.5	560	420	50	100
185	15.7	3.6	24.0	2.6	24.8	1.56	30.0	1.07	5.6	600	450	65	100
240	17.8	3.6	26.1	2.6	26.9	1.56	32.0	1.27	7.2	640	480	65	100
300	19.8	3.6	28.1	2.6	28.9	1.56	34.0	1.47	9.0	680	510	65	100
400	22.9	3.6	31.2	2.6	32.0	1.56	37.0	1.78	12.0	740	555	65	150
500	26.5	3.6	34.8	2.6	35.6	1.72	41.0	2.19	15.0	820	615	65	150
630	29.1	3.6	37.7	2.6	38.5	1.72	44.0	2.63	18.9	880	660	65	150
800	33.4	3.6	42.0	2.6	42.8	1.88	49.0	3.25	24.0	980	735	80	150
1000	37.4	3.6	46.0	2.6	46.8	2.04	53.0	3.98	30.0	1060	795	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	0.110	0.124	0.168	0.301	0.60	15.3	8.93	0.33
120	0.2530	0.325	0.106	0.120	0.164	0.331	0.66	16.8	11.28	0.33
150	0.2060	0.265	0.103	0.117	0.161	0.356	0.71	18.1	14.10	0.33
185	0.1640	0.211	0.100	0.114	0.158	0.385	0.77	19.5	17.39	0.33
240	0.1250	0.162	0.096	0.111	0.154	0.426	0.85	21.6	22.56	0.33
300	0.1000	0.130	0.094	0.108	0.152	0.465	0.93	23.6	28.20	0.33
400	0.0778	0.102	0.089	0.104	0.148	0.525	1.05	26.6	37.60	0.33
500	0.0605	0.081	0.087	0.101	0.145	0.595	1.19	30.2	47.00	0.33
630	0.0469	0.064	0.085	0.100	0.143	0.651	1.30	33.0	59.22	0.33
800	0.0367	0.052	0.083	0.097	0.141	0.734	1.46	37.2	75.20	0.33
1000	0.0291	0.043	0.081	0.096	0.139	0.811	1.62	41.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

11/11 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED UNARMOURED - 2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	23.5	2.6	24.3	1.40	29.0	1.42	4.8	580	435	50	100
120	12.9	5.5	25.0	2.6	25.8	1.40	31.0	1.71	6.0	620	465	65	100
150	14.2	5.5	26.3	2.6	27.1	1.40	32.0	1.99	7.5	640	480	65	100
185	15.7	5.5	27.8	2.6	28.6	1.40	34.0	2.35	9.3	680	510	65	100
240	17.8	5.5	29.9	2.6	30.7	1.56	36.0	2.90	12.0	720	540	65	100
300	19.8	5.5	31.9	2.6	32.7	1.56	38.0	3.49	15.0	760	570	65	150
400	22.9	5.5	35.0	2.6	35.8	1.56	41.0	4.36	20.0	820	615	65	150
500	26.5	5.5	38.6	2.6	39.4	1.72	45.0	5.41	25.0	900	675	65	150
630	29.1	5.5	41.5	2.6	42.3	1.72	48.0	6.77	31.5	960	720	80	150
800	33.4	5.5	45.8	2.6	46.6	1.88	53.0	8.55	40.0	1060	795	80	200
1000	37.4	5.5	49.8	2.6	50.6	2.04	57.0	10.44	50.0	1140	855	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	0.119	0.133	0.177	0.217	0.75	33.1	13.59	0.33
120	0.1530	0.196	0.115	0.130	0.173	0.237	0.82	36.0	17.16	0.33
150	0.1240	0.159	0.112	0.126	0.170	0.254	0.88	38.6	21.45	0.33
185	0.0991	0.128	0.108	0.122	0.166	0.273	0.94	41.5	26.46	0.33
240	0.0754	0.098	0.103	0.118	0.162	0.300	1.04	45.6	34.32	0.33
300	0.0601	0.079	0.100	0.115	0.158	0.326	1.13	49.6	42.90	0.33
400	0.0470	0.063	0.096	0.111	0.154	0.366	1.26	55.6	57.20	0.33
500	0.0366	0.051	0.092	0.107	0.150	0.412	1.42	62.6	71.50	0.33
630	0.0283	0.041	0.091	0.105	0.149	0.448	1.55	68.1	90.09	0.33
800	0.0221	0.035	0.088	0.103	0.146	0.502	1.74	76.4	114.40	0.33
1000	0.0176	0.030	0.086	0.100	0.144	0.553	1.91	84.1	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

11/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED UNARMOURED - A2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	23.5	2.6	24.3	1.40	29.0	0.87	2.9	580	435	50	100
120	12.9	5.5	25.0	2.6	25.8	1.56	31.0	1.01	3.6	620	465	65	100
150	14.2	5.5	26.3	2.6	27.1	1.56	32.0	1.12	4.5	640	480	65	100
185	15.7	5.5	27.8	2.6	28.6	1.56	34.0	1.26	5.6	680	510	65	100
240	17.8	5.5	29.9	2.6	30.7	1.56	36.0	1.47	7.2	720	540	65	100
300	19.8	5.5	31.9	2.6	32.7	1.56	38.0	1.68	9.0	760	570	65	150
400	22.9	5.5	35.0	2.6	35.8	1.72	41.0	2.05	12.0	820	615	65	150
500	26.5	5.5	38.6	2.6	39.4	1.72	45.0	2.44	15.0	900	675	65	150
630	29.1	5.5	41.5	2.6	42.3	1.88	48.0	2.95	18.9	960	720	80	150
800	33.4	5.5	45.8	2.6	46.6	2.04	53.0	3.60	24.0	1060	795	80	200
1000	37.4	5.5	49.8	2.6	50.6	2.04	57.0	4.30	30.0	1140	855	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	0.119	0.133	0.177	0.217	0.75	33.1	8.93	0.33
120	0.2530	0.325	0.115	0.130	0.173	0.237	0.82	36.0	11.28	0.33
150	0.2060	0.265	0.112	0.126	0.170	0.254	0.88	38.6	14.10	0.33
185	0.1640	0.211	0.108	0.122	0.166	0.273	0.94	41.5	17.39	0.33
240	0.1250	0.161	0.103	0.118	0.162	0.300	1.04	45.6	22.56	0.33
300	0.1000	0.130	0.100	0.115	0.158	0.326	1.13	49.6	28.20	0.33
400	0.0778	0.102	0.096	0.111	0.154	0.366	1.26	55.6	37.60	0.33
500	0.0605	0.080	0.092	0.107	0.150	0.412	1.42	62.6	47.00	0.33
630	0.0469	0.064	0.091	0.105	0.149	0.448	1.55	68.1	59.22	0.33
800	0.0367	0.051	0.088	0.103	0.146	0.502	1.74	76.4	75.20	0.33
1000	0.0291	0.043	0.086	0.100	0.144	0.553	1.91	84.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 0.9 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

12.7/22 kV SINGLE CORE COPPER CONDUCOTR TAPE SCREENED UNARMOURED - 2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	6.0	24.5	2.6	25.3	1.40	31.0	1.50	4.8	620	465	65	100
120	12.9	6.0	26.0	2.6	26.8	1.40	32.0	1.76	6.0	640	480	65	100
150	14.2	6.0	27.3	2.6	28.1	1.40	33.0	2.04	7.5	660	495	65	100
185	15.7	6.0	28.8	2.6	29.6	1.40	35.0	2.40	9.3	700	525	65	100
240	17.8	6.0	30.9	2.6	31.7	1.56	37.0	2.96	12.0	740	555	65	150
300	19.8	6.0	32.9	2.6	33.7	1.56	39.0	3.55	15.0	780	585	65	150
400	22.9	6.0	36.0	2.6	36.8	1.56	42.0	4.42	20.0	840	630	65	150
500	26.5	6.0	39.6	2.6	40.4	1.72	47.0	5.52	25.0	940	705	65	150
630	29.1	6.0	42.5	2.6	43.3	1.72	49.0	6.84	31.5	980	735	80	150
800	33.4	6.0	46.8	2.6	47.6	1.88	54.0	8.63	40.0	1080	810	80	200
1000	37.4	6.0	50.8	2.6	51.6	2.04	58.0	10.58	50.0	1160	870	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	0.122	0.136	0.180	0.204	0.81	41.3	13.59	0.33
120	0.1530	0.196	0.117	0.132	0.175	0.222	0.89	45.0	17.16	0.33
150	0.1240	0.159	0.114	0.128	0.172	0.237	0.95	48.1	21.45	0.33
185	0.0991	0.128	0.109	0.124	0.167	0.255	1.02	51.7	26.46	0.33
240	0.0754	0.098	0.105	0.120	0.163	0.280	1.12	56.8	34.32	0.33
300	0.0601	0.079	0.102	0.116	0.160	0.304	1.21	61.6	42.90	0.33
400	0.0470	0.063	0.098	0.112	0.156	0.340	1.36	69.0	57.20	0.33
500	0.0366	0.051	0.094	0.109	0.152	0.382	1.53	77.5	71.50	0.33
630	0.0283	0.041	0.092	0.107	0.150	0.416	1.66	84.3	90.09	0.33
800	0.0221	0.034	0.089	0.104	0.147	0.466	1.86	94.4	114.40	0.33
1000	0.0176	0.030	0.087	0.102	0.145	0.512	2.04	103.9	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

12.7/22 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED UNARMOURED - A2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	6.0	24.5	2.6	25.3	1.40	31.0	0.94	2.9	620	465	65	100
120	12.9	6.0	26.0	2.6	26.8	1.40	32.0	1.06	3.6	640	480	65	100
150	14.2	6.0	27.3	2.6	28.1	1.40	33.0	1.17	4.5	660	495	65	100
185	15.7	6.0	28.8	2.6	29.6	1.40	35.0	1.31	5.6	700	525	65	100
240	17.8	6.0	30.9	2.6	31.7	1.56	37.0	1.53	7.2	740	555	65	150
300	19.8	6.0	32.9	2.6	33.7	1.56	39.0	1.74	9.0	780	585	65	150
400	22.9	6.0	36.0	2.6	36.8	1.56	42.0	2.12	12.0	840	630	65	150
500	26.5	6.0	39.6	2.6	40.4	1.72	47.0	2.56	15.0	940	705	65	150
630	29.1	6.0	42.5	2.6	43.3	1.72	49.0	3.02	18.9	980	735	80	150
800	33.4	6.0	46.8	2.6	47.6	1.88	54.0	3.69	24.0	1080	810	80	200
1000	37.4	6.0	50.8	2.6	51.6	2.04	58.0	4.45	30.0	1160	870	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	0.122	0.136	0.180	0.204	0.81	41.3	8.93	0.33
120	0.2530	0.325	0.117	0.132	0.175	0.222	0.89	45.0	11.28	0.33
150	0.2060	0.265	0.114	0.128	0.172	0.237	0.95	48.1	14.10	0.33
185	0.1640	0.211	0.109	0.124	0.167	0.255	1.02	51.7	17.39	0.33
240	0.1250	0.161	0.105	0.120	0.163	0.280	1.12	56.8	22.56	0.33
300	0.1000	0.130	0.102	0.116	0.160	0.304	1.21	61.6	28.20	0.33
400	0.0778	0.102	0.098	0.112	0.156	0.340	1.36	69.0	37.60	0.33
500	0.0605	0.080	0.094	0.109	0.152	0.382	1.53	77.5	47.00	0.33
630	0.0469	0.063	0.092	0.107	0.150	0.416	1.66	84.3	59.22	0.33
800	0.0367	0.051	0.089	0.104	0.147	0.466	1.86	94.4	75.20	0.33
1000	0.0291	0.043	0.087	0.102	0.145	0.512	2.04	103.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

19/33 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED UNARMOURED - 2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	8.8	30.1	2.6	30.9	1.40	36.0	1.80	4.8	720	540	65	100
120	12.9	8.8	31.6	2.6	32.4	1.40	38.0	2.07	6.0	760	570	65	150
150	14.2	8.8	32.9	2.6	33.7	1.40	39.0	2.36	7.5	780	585	65	150
185	15.7	8.8	34.4	2.6	35.2	1.40	41.0	2.77	9.3	820	615	65	150
240	17.8	8.8	36.5	2.6	37.3	1.56	43.0	3.35	12.0	860	645	65	150
300	19.8	8.8	38.5	2.6	39.3	1.56	45.0	4.00	15.0	900	675	65	150
400	22.9	8.8	41.6	2.6	42.4	1.56	49.0	4.86	20.0	980	735	80	150
500	26.5	8.8	45.2	2.6	46.0	1.72	53.0	6.00	25.0	1060	795	80	200
630	29.1	8.8	48.1	2.6	48.9	1.72	55.0	7.35	31.5	1100	825	100	200
800	33.4	8.8	52.4	2.6	53.2	1.88	60.0	9.18	40.0	1200	900	100	200
1000	37.4	8.8	56.4	2.6	57.2	2.04	64.0	11.17	50.0	1280	960	100	200

Electrical Characteristics

Nominal conductor area mm 2	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.1930	0.247	0.133	0.147	0.191	0.156	0.93	70.9	13.59	0.33
120	0.1530	0.196	0.127	0.142	0.186	0.169	1.01	76.6	17.16	0.33
150	0.1240	0.159	0.124	0.138	0.182	0.180	1.07	81.5	21.45	0.33
185	0.0991	0.127	0.120	0.134	0.178	0.192	1.15	87.2	26.46	0.33
240	0.0754	0.098	0.115	0.129	0.173	0.209	1.25	95.0	34.32	0.33
300	0.0601	0.079	0.112	0.126	0.170	0.226	1.35	102.4	42.90	0.33
400	0.0470	0.063	0.106	0.121	0.164	0.251	1.50	113.8	57.20	0.33
500	0.0366	0.050	0.102	0.117	0.160	0.280	1.67	127.0	71.50	0.33
630	0.0283	0.040	0.100	0.114	0.158	0.303	1.81	137.4	90.09	0.33
800	0.0221	0.034	0.096	0.111	0.154	0.337	2.01	153.0	114.40	0.33
1000	0.0176	0.029	0.093	0.108	0.152	0.369	2.20	167.5	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

19/33 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED UNARMOURED - A2XY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape 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	8.8	30.1	2.6	30.9	1.40	36.0	1.24	2.9	720	540	65	100
120	12.9	8.8	31.6	2.6	32.4	1.40	38.0	1.36	3.6	760	570	65	150
150	14.2	8.8	32.9	2.6	33.7	1.40	39.0	1.48	4.5	780	585	65	150
185	15.7	8.8	34.4	2.6	35.2	1.40	41.0	1.68	5.6	820	615	65	150
240	17.8	8.8	36.5	2.6	37.3	1.56	43.0	1.91	7.2	860	645	65	150
300	19.8	8.8	38.5	2.6	39.3	1.56	45.0	2.19	9.0	900	675	65	150
400	22.9	8.8	41.6	2.6	42.4	1.56	49.0	2.56	12.0	980	735	80	150
500	26.5	8.8	45.2	2.6	46.0	1.72	53.0	3.04	15.0	1060	795	80	200
630	29.1	8.8	48.1	2.6	48.9	1.72	55.0	3.53	18.9	1100	825	100	200
800	33.4	8.8	52.4	2.6	53.2	1.88	60.0	4.24	24.0	1200	900	100	200
1000	37.4	8.8	56.4	2.6	57.2	2.04	64.0	5.04	30.0	1280	960	100	200

Electrical Characteristics

Nominal conductor area mm 2	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz & 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C			Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second	
			Trefoil touching Ohm/km	Flat touching Ohm/km	Flat spaced Ohm/km				Cond. kA	Screen kA
95	0.3200	0.411	0.133	0.147	0.191	0.156	0.93	70.9	8.93	0.33
120	0.2530	0.325	0.127	0.142	0.186	0.169	1.01	76.6	11.28	0.33
150	0.2060	0.265	0.124	0.138	0.182	0.180	1.07	81.5	14.10	0.33
185	0.1640	0.211	0.120	0.134	0.178	0.192	1.15	87.2	17.39	0.33
240	0.1250	0.161	0.115	0.129	0.173	0.209	1.25	95.0	22.56	0.33
300	0.1000	0.129	0.112	0.126	0.170	0.226	1.35	102.4	28.20	0.33
400	0.0778	0.101	0.106	0.121	0.164	0.251	1.50	113.8	37.60	0.33
500	0.0605	0.080	0.102	0.117	0.160	0.280	1.67	127.0	47.00	0.33
630	0.0469	0.063	0.100	0.114	0.158	0.303	1.81	137.4	59.22	0.33
800	0.0367	0.051	0.096	0.111	0.154	0.337	2.01	153.0	75.20	0.33
1000	0.0291	0.042	0.093	0.108	0.152	0.369	2.20	167.5	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

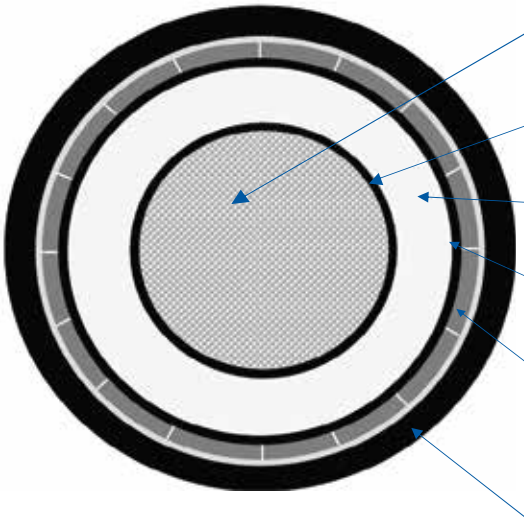
(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) 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.

SINGLE CORE UNSCREENED FLAT STRIP ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(vii) ARMOURING
Aluminium Flat Strip Armour

(viii) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	2.8	18.1	0.8	1.40	25.0	1.23	4.8	500	375	50	80
120	12.9	2.8	19.6	0.8	1.40	26.0	1.48	6.0	520	390	50	80
150	14.2	2.8	20.9	0.8	1.40	28.0	1.74	7.5	560	420	50	80
185	15.7	2.8	22.4	0.8	1.56	29.0	2.12	9.3	580	435	50	100
240	17.8	2.8	24.5	0.8	1.56	32.0	2.65	12.0	640	480	65	100
300	19.8	3.0	26.9	0.8	1.56	34.0	3.25	15.0	680	510	65	100
400	22.9	3.3	30.6	0.8	1.56	38.0	4.09	20.0	760	570	65	150
500	26.5	3.5	34.6	0.8	1.72	42.0	5.18	25.0	840	630	65	150
630	29.1	3.5	37.5	0.8	1.72	45.0	6.48	31.5	900	675	65	150
800	33.4	3.5	41.8	0.8	1.88	49.0	8.23	40.0	980	735	80	150
1000	37.4	3.6	46.0	0.8	2.04	54.0	10.15	50.0	1080	810	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				Conductor kA
95	0.1930	0.247	0.108	0.123	0.167	0.370	0.44	6.7	8.93
120	0.1530	0.196	0.104	0.119	0.163	0.408	0.49	7.4	11.28
150	0.1240	0.159	0.102	0.116	0.160	0.440	0.53	8.0	14.10
185	0.0991	0.128	0.099	0.113	0.157	0.478	0.57	8.7	17.39
240	0.0754	0.098	0.095	0.110	0.153	0.530	0.63	9.6	22.56
300	0.0601	0.079	0.093	0.108	0.151	0.546	0.65	9.9	28.20
400	0.0470	0.063	0.090	0.105	0.148	0.567	0.68	10.3	37.60
500	0.0366	0.051	0.088	0.102	0.146	0.610	0.73	11.1	47.00
630	0.0283	0.042	0.086	0.101	0.144	0.667	0.80	12.1	59.22
800	0.0221	0.035	0.084	0.098	0.142	0.753	0.90	13.7	75.20
1000	0.0176	0.030	0.082	0.097	0.140	0.811	0.97	14.7	94.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	256	260	227	220	323	327
120	290	292	257	247	374	376
150	323	323	285	272	422	422
185	362	359	319	302	484	481
240	411	398	361	333	565	550
300	456	435	400	363	641	615
400	508	474	443	393	734	690
500	559	509	486	420	828	761
630	611	543	529	446	929	834
800	638	549	549	447	1002	872
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) 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 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	2.8	18.1	0.8	1.40	25.0	0.67	2.9	500	375	50	80
120	12.9	2.8	19.6	0.8	1.40	26.0	0.77	3.6	520	390	50	80
150	14.2	2.8	20.9	0.8	1.40	28.0	0.87	4.5	560	420	50	80
185	15.7	2.8	22.4	0.8	1.56	29.0	1.03	5.6	580	435	50	100
240	17.8	2.8	24.5	0.8	1.56	32.0	1.22	7.2	640	480	65	100
300	19.8	3.0	26.9	0.8	1.56	34.0	1.45	9.0	680	510	65	100
400	22.9	3.3	30.6	0.8	1.56	38.0	1.79	12.0	760	570	65	150
500	26.5	3.5	34.6	0.8	1.72	42.0	2.21	15.0	840	630	65	150
630	29.1	3.5	37.5	0.8	1.72	45.0	2.66	18.9	900	675	65	150
800	33.4	3.5	41.8	0.8	1.88	49.0	3.28	24.0	980	735	80	150
1000	37.4	3.6	46.0	0.8	2.04	54.0	4.02	30.0	1080	810	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				Conductor kA
95	0.3200	0.411	0.108	0.123	0.167	0.370	0.44	6.7	8.93
120	0.2530	0.325	0.104	0.119	0.163	0.408	0.49	7.4	11.28
150	0.2060	0.265	0.102	0.116	0.160	0.440	0.53	8.0	14.10
185	0.1640	0.211	0.099	0.113	0.157	0.478	0.57	8.7	17.39
240	0.1250	0.162	0.095	0.110	0.153	0.530	0.63	9.6	22.56
300	0.1000	0.130	0.093	0.108	0.151	0.546	0.65	9.9	28.20
400	0.0778	0.102	0.090	0.105	0.148	0.567	0.68	10.3	37.60
500	0.0605	0.080	0.088	0.102	0.146	0.610	0.73	11.1	47.00
630	0.0469	0.064	0.086	0.101	0.144	0.667	0.80	12.1	59.22
800	0.0367	0.052	0.084	0.098	0.142	0.753	0.90	13.7	75.20
1000	0.0291	0.043	0.082	0.097	0.140	0.811	0.97	14.7	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	252	256
120	227	230	201	195	292	296
150	252	255	223	215	329	333
185	285	287	251	241	380	383
240	326	323	286	270	448	444
300	365	357	319	298	511	502
400	412	397	359	329	593	574
500	461	436	401	360	680	647
630	514	475	445	390	777	725
800	552	495	476	403	863	780
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	3.6	19.7	0.8	1.40	26.0	1.29	4.8	520	390	50	80
120	12.9	3.6	21.2	0.8	1.40	28.0	1.54	6.0	560	420	50	80
150	14.2	3.6	22.5	0.8	1.56	30.0	1.84	7.5	600	450	65	100
185	15.7	3.6	24.0	0.8	1.56	31.0	2.19	9.3	620	465	65	100
240	17.8	3.6	26.1	0.8	1.56	33.0	2.74	12.0	660	495	65	100
300	19.8	3.6	28.1	0.8	1.56	35.0	3.32	15.0	700	525	65	100
400	22.9	3.6	31.2	0.8	1.56	38.0	4.13	20.0	760	570	65	150
500	26.5	3.6	34.8	0.8	1.72	42.0	5.19	25.0	840	630	65	150
630	29.1	3.6	37.7	0.8	1.88	45.0	6.53	31.5	900	675	65	150
800	33.4	3.6	42.0	0.8	1.88	50.0	8.24	40.0	1000	750	80	150
1000	37.4	3.6	46.0	0.8	2.04	54.0	10.15	50.0	1080	810	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				Conductor kA
95	0.1930	0.247	0.112	0.127	0.171	0.370	0.74	18.8	8.93
120	0.1530	0.196	0.108	0.123	0.166	0.408	0.81	20.7	11.28
150	0.1240	0.159	0.106	0.120	0.164	0.440	0.88	22.3	14.10
185	0.0991	0.128	0.102	0.116	0.160	0.478	0.95	24.2	17.39
240	0.0754	0.098	0.098	0.113	0.156	0.530	1.06	26.9	22.56
300	0.0601	0.079	0.095	0.110	0.153	0.546	1.09	27.6	28.20
400	0.0470	0.063	0.091	0.106	0.149	0.567	1.13	28.8	37.60
500	0.0366	0.051	0.088	0.103	0.146	0.610	1.22	30.9	47.00
630	0.0283	0.042	0.087	0.101	0.145	0.667	1.33	33.8	59.22
800	0.0221	0.035	0.084	0.098	0.142	0.753	1.50	38.1	75.20
1000	0.0176	0.030	0.082	0.097	0.140	0.811	1.62	41.1	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	3.6	19.7	0.8	1.40	26.0	0.74	2.9	520	390	50	80
120	12.9	3.6	21.2	0.8	1.40	28.0	0.84	3.6	560	420	50	80
150	14.2	3.6	22.5	0.8	1.56	30.0	0.97	4.5	600	450	65	100
185	15.7	3.6	24.0	0.8	1.56	31.0	1.10	5.6	620	465	65	100
240	17.8	3.6	26.1	0.8	1.56	33.0	1.30	7.2	660	495	65	100
300	19.8	3.6	28.1	0.8	1.56	35.0	1.51	9.0	700	525	65	100
400	22.9	3.6	31.2	0.8	1.56	38.0	1.83	12.0	760	570	65	150
500	26.5	3.6	34.8	0.8	1.72	42.0	2.23	15.0	840	630	65	150
630	29.1	3.6	37.7	0.8	1.88	45.0	2.71	18.9	900	675	65	150
800	33.4	3.6	42.0	0.8	1.88	50.0	3.30	24.0	1000	750	80	150
1000	37.4	3.6	46.0	0.8	2.04	54.0	4.02	30.0	1080	810	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				Conductor kA
95	0.3200	0.411	0.112	0.127	0.171	0.370	0.74	18.8	8.93
120	0.2530	0.325	0.108	0.123	0.166	0.408	0.81	20.7	11.28
150	0.2060	0.265	0.106	0.120	0.164	0.440	0.88	22.3	14.10
185	0.1640	0.211	0.102	0.116	0.160	0.478	0.95	24.2	17.39
240	0.1250	0.161	0.098	0.113	0.156	0.530	1.06	26.9	22.56
300	0.1000	0.130	0.095	0.110	0.153	0.546	1.09	27.6	28.20
400	0.0778	0.102	0.091	0.106	0.149	0.567	1.13	28.8	37.60
500	0.0605	0.080	0.088	0.103	0.146	0.610	1.22	30.9	47.00
630	0.0469	0.064	0.087	0.101	0.145	0.667	1.33	33.8	59.22
800	0.0367	0.052	0.084	0.098	0.142	0.753	1.50	38.1	75.20
1000	0.0291	0.043	0.082	0.097	0.140	0.811	1.62	41.1	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	23.5	0.8	1.56	31.0	1.49	4.8	620	465	65	100
120	12.9	5.5	25.0	0.8	1.56	32.0	1.75	6.0	640	480	65	100
150	14.2	5.5	26.3	0.8	1.56	33.0	2.02	7.5	660	495	65	100
185	15.7	5.5	27.8	0.8	1.56	35.0	2.39	9.3	700	525	65	100
240	17.8	5.5	29.9	0.8	1.56	37.0	2.95	12.0	740	555	65	150
300	19.8	5.5	31.9	0.8	1.72	39.0	3.57	15.0	780	585	65	150
400	22.9	5.5	35.0	0.8	1.72	42.0	4.40	20.0	840	630	65	150
500	26.5	5.5	38.6	0.8	1.88	46.0	5.50	25.0	920	690	65	150
630	29.1	5.5	41.5	0.8	1.88	49.0	6.81	31.5	980	735	80	150
800	33.4	5.5	45.8	0.8	2.04	54.0	8.59	40.0	1080	810	80	200
1000	37.4	5.5	49.8	0.8	2.20	58.0	10.53	50.0	1160	870	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				Conductor kA
95	0.1930	0.247	0.122	0.136	0.180	0.370	1.28	56.3	8.93
120	0.1530	0.196	0.117	0.132	0.175	0.408	1.41	62.0	11.28
150	0.1240	0.159	0.114	0.128	0.172	0.440	1.52	66.9	14.10
185	0.0991	0.128	0.109	0.124	0.167	0.478	1.65	72.6	17.39
240	0.0754	0.098	0.105	0.120	0.163	0.530	1.83	80.6	22.56
300	0.0601	0.079	0.102	0.117	0.160	0.546	1.89	83.0	28.20
400	0.0470	0.063	0.098	0.112	0.156	0.567	1.96	86.3	37.60
500	0.0366	0.051	0.094	0.109	0.152	0.610	2.11	92.8	47.00
630	0.0283	0.041	0.092	0.106	0.150	0.667	2.31	101.5	59.22
800	0.0221	0.034	0.089	0.104	0.147	0.753	2.60	114.5	75.20
1000	0.0176	0.030	0.087	0.101	0.145	0.811	2.80	123.3	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	23.5	0.8	1.56	31.0	0.93	2.9	620	465	65	100
120	12.9	5.5	25.0	0.8	1.56	32.0	1.05	3.6	640	480	65	100
150	14.2	5.5	26.3	0.8	1.56	33.0	1.15	4.5	660	495	65	100
185	15.7	5.5	27.8	0.8	1.56	35.0	1.31	5.6	700	525	65	100
240	17.8	5.5	29.9	0.8	1.56	37.0	1.52	7.2	740	555	65	150
300	19.8	5.5	31.9	0.8	1.72	39.0	1.76	9.0	780	585	65	150
400	22.9	5.5	35.0	0.8	1.72	42.0	2.09	12.0	840	630	65	150
500	26.5	5.5	38.6	0.8	1.88	46.0	2.53	15.0	920	690	65	150
630	29.1	5.5	41.5	0.8	1.88	49.0	2.99	18.9	980	735	80	150
800	33.4	5.5	45.8	0.8	2.04	54.0	3.65	24.0	1080	810	80	200
1000	37.4	5.5	49.8	0.8	2.20	58.0	4.40	30.0	1160	870	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				Conductor kA
95	0.3200	0.411	0.122	0.136	0.180	0.370	1.28	56.3	8.93
120	0.2530	0.325	0.117	0.132	0.175	0.408	1.41	62.0	11.28
150	0.2060	0.265	0.114	0.128	0.172	0.440	1.52	66.9	14.10
185	0.1640	0.211	0.109	0.124	0.167	0.478	1.65	72.6	17.39
240	0.1250	0.161	0.105	0.120	0.163	0.530	1.83	80.6	22.56
300	0.1000	0.130	0.102	0.117	0.160	0.546	1.89	83.0	28.20
400	0.0778	0.102	0.098	0.112	0.156	0.567	1.96	86.3	37.60
500	0.0605	0.080	0.094	0.109	0.152	0.610	2.11	92.8	47.00
630	0.0469	0.063	0.092	0.106	0.150	0.667	2.31	101.5	59.22
800	0.0367	0.051	0.089	0.104	0.147	0.753	2.60	114.5	75.20
1000	0.0291	0.043	0.087	0.101	0.145	0.811	2.80	123.3	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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.

(ii) 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 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	6.0	24.5	0.8	1.56	32.0	1.54	4.8	640	480	65	100
120	12.9	6.0	26.0	0.8	1.56	33.0	1.80	6.0	660	495	65	100
150	14.2	6.0	27.3	0.8	1.56	34.0	2.08	7.5	680	510	65	100
185	15.7	6.0	28.8	0.8	1.56	36.0	2.44	9.3	720	540	65	100
240	17.8	6.0	30.9	0.8	1.56	38.0	3.01	12.0	760	570	65	150
300	19.8	6.0	32.9	0.8	1.72	40.0	3.63	15.0	800	600	65	150
400	22.9	6.0	36.0	0.8	1.72	43.0	4.47	20.0	860	645	65	150
500	26.5	6.0	39.6	0.8	1.88	47.0	5.57	25.0	940	705	80	150
630	29.1	6.0	42.5	0.8	1.88	50.0	6.89	31.5	1000	750	80	150
800	33.4	6.0	46.8	0.8	2.04	55.0	8.68	40.0	1100	825	80	200
1000	37.4	6.0	50.8	0.8	2.20	59.0	10.62	50.0	1180	885	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				Conductor kA
95	0.1930	0.247	0.124	0.138	0.182	0.370	1.48	75.0	8.93
120	0.1530	0.196	0.119	0.134	0.177	0.408	1.63	82.6	11.28
150	0.1240	0.159	0.116	0.130	0.174	0.440	1.76	89.2	14.10
185	0.0991	0.128	0.111	0.126	0.169	0.478	1.91	96.8	17.39
240	0.0754	0.098	0.107	0.121	0.165	0.530	2.12	107.5	22.56
300	0.0601	0.079	0.104	0.118	0.162	0.546	2.18	110.6	28.20
400	0.0470	0.063	0.099	0.114	0.157	0.567	2.26	115.0	37.60
500	0.0366	0.051	0.095	0.110	0.153	0.610	2.44	123.7	47.00
630	0.0283	0.041	0.093	0.108	0.151	0.667	2.66	135.2	59.22
800	0.0221	0.034	0.090	0.105	0.148	0.753	3.00	152.6	75.20
1000	0.0176	0.030	0.088	0.102	0.146	0.811	3.24	164.4	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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.

(ii) 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 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	6.0	24.5	0.8	1.56	32.0	0.98	2.9	640	480	65	100
120	12.9	6.0	26.0	0.8	1.56	33.0	1.09	3.6	660	495	65	100
150	14.2	6.0	27.3	0.8	1.56	34.0	1.21	4.5	680	510	65	100
185	15.7	6.0	28.8	0.8	1.56	36.0	1.36	5.6	720	540	65	100
240	17.8	6.0	30.9	0.8	1.56	38.0	1.58	7.2	760	570	65	150
300	19.8	6.0	32.9	0.8	1.72	40.0	1.82	9.0	800	600	65	150
400	22.9	6.0	36.0	0.8	1.72	43.0	2.16	12.0	860	645	65	150
500	26.5	6.0	39.6	0.8	1.88	47.0	2.60	15.0	940	705	80	150
630	29.1	6.0	42.5	0.8	1.88	50.0	3.07	18.9	1000	750	80	150
800	33.4	6.0	46.8	0.8	2.04	55.0	3.73	24.0	1100	825	80	200
1000	37.4	6.0	50.8	0.8	2.20	59.0	4.48	30.0	1180	885	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				Conductor kA
95	0.3200	0.411	0.124	0.138	0.182	0.370	1.48	75.0	8.93
120	0.2530	0.325	0.119	0.134	0.177	0.408	1.63	82.6	11.28
150	0.2060	0.265	0.116	0.130	0.174	0.440	1.76	89.2	14.10
185	0.1640	0.211	0.111	0.126	0.169	0.478	1.91	96.8	17.39
240	0.1250	0.161	0.107	0.121	0.165	0.530	2.12	107.5	22.56
300	0.1000	0.130	0.104	0.118	0.162	0.546	2.18	110.6	28.20
400	0.0778	0.102	0.099	0.114	0.157	0.567	2.26	115.0	37.60
500	0.0605	0.080	0.095	0.110	0.153	0.610	2.44	123.7	47.00
630	0.0469	0.063	0.093	0.108	0.151	0.667	2.66	135.2	59.22
800	0.0367	0.051	0.090	0.105	0.148	0.753	3.00	152.6	75.20
1000	0.0291	0.043	0.088	0.102	0.146	0.811	3.24	164.4	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	8.8	30.1	0.8	1.56	37.0	1.84	4.8	740	555	65	150
120	12.9	8.8	31.6	0.8	1.56	39.0	2.12	6.0	780	585	65	150
150	14.2	8.8	32.9	0.8	1.72	40.0	2.44	7.5	800	600	65	150
185	15.7	8.8	34.4	0.8	1.72	42.0	2.81	9.3	840	630	65	150
240	17.8	8.8	36.5	0.8	1.72	44.0	3.40	12.0	880	660	65	150
300	19.8	8.8	38.5	0.8	1.88	46.0	4.05	15.0	920	690	65	150
400	22.9	8.8	41.6	0.8	1.88	49.0	4.91	20.0	980	735	80	150
500	26.5	8.8	45.2	0.8	2.04	53.0	6.05	25.0	1060	795	80	200
630	29.1	8.8	48.1	0.8	2.20	56.0	7.43	31.5	1120	840	80	200
800	33.4	8.8	52.4	0.8	2.20	61.0	9.22	40.0	1220	915	100	200
1000	37.4	8.8	56.4	0.8	2.36	65.0	11.20	50.0	1300	975	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				Conductor kA
95	0.1930	0.247	0.134	0.149	0.192	0.370	2.21	167.9	8.93
120	0.1530	0.196	0.129	0.144	0.187	0.408	2.43	185.0	11.28
150	0.1240	0.159	0.126	0.140	0.184	0.440	2.63	199.7	14.10
185	0.0991	0.127	0.121	0.135	0.179	0.478	2.85	216.7	17.39
240	0.0754	0.098	0.116	0.131	0.174	0.530	3.16	240.5	22.56
300	0.0601	0.079	0.113	0.127	0.171	0.546	3.26	247.5	28.20
400	0.0470	0.062	0.107	0.122	0.165	0.567	3.39	257.4	37.60
500	0.0366	0.050	0.103	0.117	0.161	0.610	3.64	276.9	47.00
630	0.0283	0.040	0.101	0.115	0.159	0.667	3.98	302.7	59.22
800	0.0221	0.034	0.097	0.111	0.155	0.753	4.49	341.5	75.20
1000	0.0176	0.029	0.094	0.108	0.152	0.811	4.84	368.0	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal thickness of armour strip 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	8.8	30.1	0.8	1.56	37.0	1.28	2.9	740	555	65	150
120	12.9	8.8	31.6	0.8	1.56	39.0	1.41	3.6	780	585	65	150
150	14.2	8.8	32.9	0.8	1.72	40.0	1.57	4.5	800	600	65	150
185	15.7	8.8	34.4	0.8	1.72	42.0	1.73	5.6	840	630	65	150
240	17.8	8.8	36.5	0.8	1.72	44.0	1.97	7.2	880	660	65	150
300	19.8	8.8	38.5	0.8	1.88	46.0	2.24	9.0	920	690	65	150
400	22.9	8.8	41.6	0.8	1.88	49.0	2.60	12.0	980	735	80	150
500	26.5	8.8	45.2	0.8	2.04	53.0	3.08	15.0	1060	795	80	200
630	29.1	8.8	48.1	0.8	2.20	56.0	3.61	18.9	1120	840	80	200
800	33.4	8.8	52.4	0.8	2.20	61.0	4.27	24.0	1220	915	100	200
1000	37.4	8.8	56.4	0.8	2.36	65.0	5.07	30.0	1300	975	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				Conductor kA
95	0.3200	0.411	0.134	0.149	0.192	0.370	2.21	167.9	8.93
120	0.2530	0.325	0.129	0.144	0.187	0.408	2.43	185.0	11.28
150	0.2060	0.265	0.126	0.140	0.184	0.440	2.63	199.7	14.10
185	0.1640	0.211	0.121	0.135	0.179	0.478	2.85	216.7	17.39
240	0.1250	0.161	0.116	0.131	0.174	0.530	3.16	240.5	22.56
300	0.1000	0.129	0.113	0.127	0.171	0.546	3.26	247.5	28.20
400	0.0778	0.101	0.107	0.122	0.165	0.567	3.39	257.4	37.60
500	0.0605	0.080	0.103	0.117	0.161	0.610	3.64	276.9	47.00
630	0.0469	0.063	0.101	0.115	0.159	0.667	3.98	302.7	59.22
800	0.0367	0.051	0.097	0.111	0.155	0.753	4.49	341.5	75.20
1000	0.0291	0.042	0.094	0.108	0.152	0.811	4.84	368.0	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 1.05 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

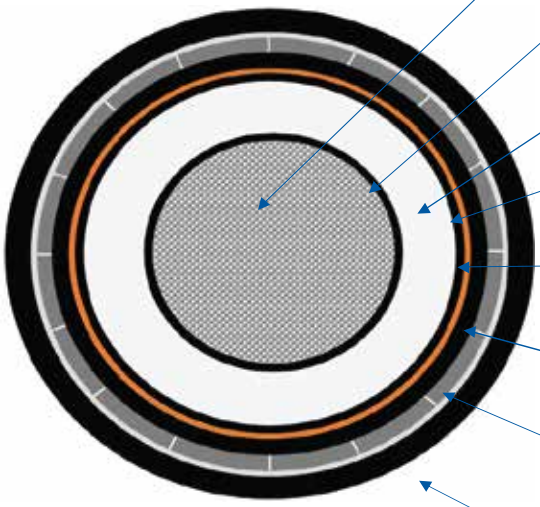
(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(ii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

SINGLE CORE TAPE SCREENED FLAT STRIP ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(v) METALLIC SCREENING
Copper Tape

(vii) SEPARATION SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Inner Sheath

(viii) ARMOURING
Aluminium Flat Strip Armour

(vii) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	2.8	18.1	2.6	18.9	0.3	0.8	1.40	26.0	0.85	4.8	520	390	50	80
120	12.9	2.8	19.6	2.6	20.4	0.3	0.8	1.40	27.0	0.96	6.0	540	405	50	80
150	14.2	2.8	20.9	2.6	21.7	0.3	0.8	1.40	28.0	1.09	7.5	560	420	50	100
185	15.7	2.8	22.4	2.6	23.2	0.3	0.8	1.56	30.0	1.24	9.3	600	450	65	100
240	17.8	2.8	24.5	2.6	25.3	0.4	0.8	1.56	32.0	1.53	12.0	640	480	65	100
300	19.8	3.0	26.9	2.6	27.7	0.4	0.8	1.56	35.0	1.78	15.0	700	525	65	100
400	22.9	3.3	30.6	2.6	31.4	0.4	0.8	1.56	38.0	2.19	20.0	760	570	65	150
500	26.5	3.5	34.6	2.6	35.4	0.5	0.8	1.72	43.0	2.69	25.0	860	645	65	150
630	29.1	3.5	37.5	2.6	38.3	0.5	0.8	1.88	46.0	3.18	31.5	920	690	65	150
800	33.4	3.5	41.8	2.6	42.6	0.5	0.8	1.88	50.0	4.00	40.0	1000	750	80	150
1000	37.4	3.6	46.0	2.6	46.8	0.6	0.8	2.04	55.0	4.83	50.0	1100	825	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	0.110	0.125	0.168	0.370	0.44	6.7	8.93	0.33
120	0.1530	0.196	0.106	0.121	0.164	0.408	0.49	7.4	11.28	0.33
150	0.1240	0.159	0.103	0.118	0.161	0.440	0.53	8.0	14.10	0.33
185	0.0991	0.128	0.100	0.115	0.158	0.478	0.57	8.7	17.39	0.33
240	0.0754	0.098	0.097	0.111	0.155	0.530	0.63	9.6	22.56	0.33
300	0.0601	0.079	0.094	0.109	0.152	0.546	0.65	9.9	28.20	0.33
400	0.0470	0.063	0.091	0.106	0.149	0.567	0.68	10.3	37.60	0.33
500	0.0366	0.051	0.089	0.104	0.147	0.610	0.73	11.1	47.00	0.33
630	0.0283	0.042	0.088	0.102	0.146	0.667	0.80	12.1	59.22	0.33
800	0.0221	0.035	0.085	0.099	0.143	0.753	0.90	13.7	75.20	0.33
1000	0.0176	0.030	0.083	0.098	0.142	0.811	0.97	14.7	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	256	260	227	220	323	327
120	290	292	257	247	374	376
150	323	323	285	272	422	422
185	362	359	319	302	484	481
240	411	398	361	333	565	550
300	456	435	400	363	641	615
400	508	474	443	393	734	690
500	559	509	486	420	828	761
630	611	543	529	446	929	834
800	638	549	549	447	1002	872
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	2.8	18.1	2.6	18.9	0.3	0.8	1.40	26.0	0.85	2.9	520	390	50	80
120	12.9	2.8	19.6	2.6	20.4	0.3	0.8	1.40	27.0	0.96	3.6	540	405	50	80
150	14.2	2.8	20.9	2.6	21.7	0.3	0.8	1.40	28.0	1.09	4.5	560	420	50	100
185	15.7	2.8	22.4	2.6	23.2	0.3	0.8	1.56	30.0	1.24	5.6	600	450	65	100
240	17.8	2.8	24.5	2.6	25.3	0.4	0.8	1.56	32.0	1.53	7.2	640	480	65	100
300	19.8	3.0	26.9	2.6	27.7	0.4	0.8	1.56	35.0	1.78	9.0	700	525	65	100
400	22.9	3.3	30.6	2.6	31.4	0.4	0.8	1.56	38.0	2.19	12.0	760	570	65	150
500	26.5	3.5	34.6	2.6	35.4	0.5	0.8	1.72	43.0	2.69	15.0	860	645	65	150
630	29.1	3.5	37.5	2.6	38.3	0.5	0.8	1.88	46.0	3.18	18.9	920	690	65	150
800	33.4	3.5	41.8	2.6	42.6	0.5	0.8	1.88	50.0	4.00	24.0	1000	750	80	150
1000	37.4	3.6	46.0	2.6	46.8	0.6	0.8	2.04	55.0	4.83	30.0	1100	825	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	0.110	0.125	0.168	0.370	0.44	6.7	8.93	0.33
120	0.2530	0.325	0.106	0.121	0.164	0.408	0.49	7.4	11.28	0.33
150	0.2060	0.265	0.103	0.118	0.161	0.440	0.53	8.0	14.10	0.33
185	0.1640	0.211	0.100	0.115	0.158	0.478	0.57	8.7	17.39	0.33
240	0.1250	0.162	0.097	0.111	0.155	0.530	0.63	9.6	22.56	0.33
300	0.1000	0.130	0.094	0.109	0.152	0.546	0.65	9.9	28.20	0.33
400	0.0778	0.102	0.091	0.106	0.149	0.567	0.68	10.3	37.60	0.33
500	0.0605	0.080	0.089	0.104	0.147	0.610	0.73	11.1	47.00	0.33
630	0.0469	0.064	0.088	0.102	0.146	0.667	0.80	12.1	59.22	0.33
800	0.0367	0.052	0.085	0.099	0.143	0.753	0.90	13.7	75.20	0.33
1000	0.0291	0.043	0.083	0.098	0.142	0.811	0.97	14.7	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	252	256
120	227	230	201	195	292	296
150	252	255	223	215	329	333
185	285	287	251	241	380	383
240	326	323	286	270	448	444
300	365	357	319	298	511	502
400	412	397	359	329	593	574
500	461	436	401	360	680	647
630	514	475	445	390	777	725
800	552	495	476	403	863	780
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FALT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	3.6	19.7	2.6	20.5	0.3	0.8	1.40	27.0	0.85	4.8	540	405	50	80
120	12.9	3.6	21.2	2.6	22.0	0.3	0.8	1.40	29.0	0.96	6.0	580	435	50	100
150	14.2	3.6	22.5	2.6	23.3	0.3	0.8	1.56	30.0	1.09	7.5	600	450	65	100
185	15.7	3.6	24.0	2.6	24.8	0.4	0.8	1.56	32.0	1.24	9.3	640	480	65	100
240	17.8	3.6	26.1	2.6	26.9	0.4	0.8	1.56	34.0	1.53	12.0	680	510	65	100
300	19.8	3.6	28.1	2.6	28.9	0.4	0.8	1.56	36.0	1.78	15.0	720	540	65	100
400	22.9	3.6	31.2	2.6	32.0	0.4	0.8	1.72	39.0	2.19	20.0	780	585	65	150
500	26.5	3.6	34.8	2.6	35.6	0.5	0.8	1.72	43.0	2.69	25.0	860	645	65	150
630	29.1	3.6	37.7	2.6	38.5	0.5	0.8	1.88	46.0	3.18	31.5	920	690	65	150
800	33.4	3.6	42.0	2.6	42.8	0.5	0.8	1.88	51.0	4.00	40.0	1020	765	80	150
1000	37.4	3.6	46.0	2.6	46.8	0.6	0.8	2.04	55.0	4.83	50.0	1100	825	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	0.172	0.301	0.60	15.3	8.93	0.33
120	0.1530	0.196	0.110	0.124	0.168	0.331	0.66	16.8	11.28	0.33
150	0.1240	0.159	0.107	0.122	0.166	0.356	0.71	18.1	14.10	0.33
185	0.0991	0.128	0.103	0.118	0.162	0.385	0.77	19.5	17.39	0.33
240	0.0754	0.098	0.100	0.114	0.158	0.426	0.85	21.6	22.56	0.33
300	0.0601	0.079	0.097	0.111	0.155	0.465	0.93	23.6	28.20	0.33
400	0.0470	0.063	0.093	0.107	0.151	0.525	1.05	26.6	37.60	0.33
500	0.0366	0.051	0.090	0.104	0.148	0.595	1.19	30.2	47.00	0.33
630	0.0283	0.041	0.088	0.103	0.146	0.651	1.30	33.0	59.22	0.33
800	0.0221	0.035	0.085	0.100	0.143	0.734	1.46	37.2	75.20	0.33
1000	0.0176	0.030	0.083	0.098	0.142	0.811	1.62	41.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	3.6	19.7	2.6	20.5	0.3	0.8	1.40	27.0	0.85	2.9	540	405	50	80
120	12.9	3.6	21.2	2.6	22.0	0.3	0.8	1.40	29.0	0.96	3.6	580	435	50	100
150	14.2	3.6	22.5	2.6	23.3	0.3	0.8	1.56	30.0	1.09	4.5	600	450	65	100
185	15.7	3.6	24.0	2.6	24.8	0.4	0.8	1.56	32.0	1.24	5.6	640	480	65	100
240	17.8	3.6	26.1	2.6	26.9	0.4	0.8	1.56	34.0	1.53	7.2	680	510	65	100
300	19.8	3.6	28.1	2.6	28.9	0.4	0.8	1.56	36.0	1.78	9.0	720	540	65	100
400	22.9	3.6	31.2	2.6	32.0	0.4	0.8	1.72	39.0	2.19	12.0	780	585	65	150
500	26.5	3.6	34.8	2.6	35.6	0.5	0.8	1.72	43.0	2.69	15.0	860	645	65	150
630	29.1	3.6	37.7	2.6	38.5	0.5	0.8	1.88	46.0	3.18	18.9	920	690	65	150
800	33.4	3.6	42.0	2.6	42.8	0.5	0.8	1.88	51.0	4.00	24.0	1020	765	80	150
1000	37.4	3.6	46.0	2.6	46.8	0.6	0.8	2.04	55.0	4.83	30.0	1100	825	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	0.172	0.301	0.60	15.3	8.93	0.33
120	0.2530	0.325	0.110	0.124	0.168	0.331	0.66	16.8	11.28	0.33
150	0.2060	0.265	0.107	0.122	0.166	0.356	0.71	18.1	14.10	0.33
185	0.1640	0.211	0.103	0.118	0.162	0.385	0.77	19.5	17.39	0.33
240	0.1250	0.161	0.100	0.114	0.158	0.426	0.85	21.6	22.56	0.33
300	0.1000	0.130	0.097	0.111	0.155	0.465	0.93	23.6	28.20	0.33
400	0.0778	0.102	0.093	0.107	0.151	0.525	1.05	26.6	37.60	0.33
500	0.0605	0.080	0.090	0.104	0.148	0.595	1.19	30.2	47.00	0.33
630	0.0469	0.064	0.088	0.103	0.146	0.651	1.30	33.0	59.22	0.33
800	0.0367	0.052	0.085	0.100	0.143	0.734	1.46	37.2	75.20	0.33
1000	0.0291	0.043	0.083	0.098	0.142	0.811	1.62	41.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	23.5	2.6	24.3	0.3	0.8	1.56	31.0	0.85	4.8	620	465	65	100
120	12.9	5.5	25.0	2.6	25.8	0.4	0.8	1.56	33.0	0.96	6.0	660	495	65	100
150	14.2	5.5	26.3	2.6	27.1	0.4	0.8	1.56	34.0	1.09	7.5	680	510	65	100
185	15.7	5.5	27.8	2.6	28.6	0.4	0.8	1.56	36.0	1.24	9.3	720	540	65	100
240	17.8	5.5	29.9	2.6	30.7	0.4	0.8	1.56	38.0	1.53	12.0	760	570	65	150
300	19.8	5.5	31.9	2.6	32.7	0.4	0.8	1.72	40.0	1.78	15.0	800	600	65	150
400	22.9	5.5	35.0	2.6	35.8	0.5	0.8	1.72	43.0	2.19	20.0	860	645	65	150
500	26.5	5.5	38.6	2.6	39.4	0.5	0.8	1.88	47.0	2.69	25.0	940	705	80	150
630	29.1	5.5	41.5	2.6	42.3	0.5	0.8	1.88	50.0	3.18	31.5	1000	750	80	150
800	33.4	5.5	45.8	2.6	46.6	0.6	0.8	2.04	55.0	4.00	40.0	1100	825	80	200
1000	37.4	5.5	49.8	2.6	50.6	0.6	0.8	2.20	59.0	4.83	50.0	1180	885	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	0.123	0.138	0.181	0.217	0.75	33.1	8.93	0.33
120	0.1530	0.196	0.119	0.133	0.177	0.237	0.82	36.0	11.28	0.33
150	0.1240	0.159	0.115	0.130	0.173	0.254	0.88	38.6	14.10	0.33
185	0.0991	0.128	0.111	0.125	0.169	0.273	0.94	41.5	17.39	0.33
240	0.0754	0.098	0.106	0.121	0.164	0.300	1.04	45.6	22.56	0.33
300	0.0601	0.079	0.104	0.118	0.162	0.326	1.13	49.6	28.20	0.33
400	0.0470	0.063	0.099	0.114	0.157	0.366	1.26	55.6	37.60	0.33
500	0.0366	0.051	0.095	0.110	0.153	0.412	1.42	62.6	47.00	0.33
630	0.0283	0.041	0.093	0.108	0.151	0.448	1.55	68.1	59.22	0.33
800	0.0221	0.034	0.090	0.105	0.148	0.502	1.74	76.4	75.20	0.33
1000	0.0176	0.030	0.088	0.103	0.146	0.553	1.91	84.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	23.5	2.6	24.3	0.3	0.8	1.56	31.0	0.85	2.9	620	465	65	100
120	12.9	5.5	25.0	2.6	25.8	0.4	0.8	1.56	33.0	0.96	3.6	660	495	65	100
150	14.2	5.5	26.3	2.6	27.1	0.4	0.8	1.56	34.0	1.09	4.5	680	510	65	100
185	15.7	5.5	27.8	2.6	28.6	0.4	0.8	1.56	36.0	1.24	5.6	720	540	65	100
240	17.8	5.5	29.9	2.6	30.7	0.4	0.8	1.56	38.0	1.53	7.2	760	570	65	150
300	19.8	5.5	31.9	2.6	32.7	0.4	0.8	1.72	40.0	1.78	9.0	800	600	65	150
400	22.9	5.5	35.0	2.6	35.8	0.5	0.8	1.72	43.0	2.19	12.0	860	645	65	150
500	26.5	5.5	38.6	2.6	39.4	0.5	0.8	1.88	47.0	2.69	15.0	940	705	80	150
630	29.1	5.5	41.5	2.6	42.3	0.5	0.8	1.88	50.0	3.18	18.9	1000	750	80	150
800	33.4	5.5	45.8	2.6	46.6	0.6	0.8	2.04	55.0	4.00	24.0	1100	825	80	200
1000	37.4	5.5	49.8	2.6	50.6	0.6	0.8	2.20	59.0	4.83	30.0	1180	885	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	0.123	0.138	0.181	0.217	0.75	33.1	8.93	0.33
120	0.2530	0.325	0.119	0.133	0.177	0.237	0.82	36.0	11.28	0.33
150	0.2060	0.265	0.115	0.130	0.173	0.254	0.88	38.6	14.10	0.33
185	0.1640	0.211	0.111	0.125	0.169	0.273	0.94	41.5	17.39	0.33
240	0.1250	0.161	0.106	0.121	0.164	0.300	1.04	45.6	22.56	0.33
300	0.1000	0.130	0.104	0.118	0.162	0.326	1.13	49.6	28.20	0.33
400	0.0778	0.102	0.099	0.114	0.157	0.366	1.26	55.6	37.60	0.33
500	0.0605	0.080	0.095	0.110	0.153	0.412	1.42	62.6	47.00	0.33
630	0.0469	0.063	0.093	0.108	0.151	0.448	1.55	68.1	59.22	0.33
800	0.0367	0.051	0.090	0.105	0.148	0.502	1.74	76.4	75.20	0.33
1000	0.0291	0.043	0.088	0.103	0.146	0.553	1.91	84.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	6.0	24.5	2.6	25.3	0.4	0.8	1.56	32.0	0.85	4.8	640	480	65	100
120	12.9	6.0	26.0	2.6	26.8	0.4	0.8	1.56	34.0	0.96	6.0	680	510	65	100
150	14.2	6.0	27.3	2.6	28.1	0.4	0.8	1.56	35.0	1.09	7.5	700	525	65	100
185	15.7	6.0	28.8	2.6	29.6	0.4	0.8	1.56	37.0	1.24	9.3	740	555	65	150
240	17.8	6.0	30.9	2.6	31.7	0.4	0.8	1.56	39.0	1.53	12.0	780	585	65	150
300	19.8	6.0	32.9	2.6	33.7	0.4	0.8	1.72	41.0	1.78	15.0	820	615	65	150
400	22.9	6.0	36.0	2.6	36.8	0.5	0.8	1.88	45.0	2.19	20.0	900	675	65	150
500	26.5	6.0	39.6	2.6	40.4	0.5	0.8	1.88	48.0	2.69	25.0	960	720	80	150
630	29.1	6.0	42.5	2.6	43.3	0.5	0.8	2.04	51.0	3.18	31.5	1020	765	80	150
800	33.4	6.0	46.8	2.6	47.6	0.6	0.8	2.04	56.0	4.00	40.0	1120	840	80	200
1000	37.4	6.0	50.8	2.6	51.6	0.6	0.8	2.20	60.0	4.83	50.0	1200	900	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	0.125	0.140	0.183	0.204	0.81	41.3	8.93	0.33
120	0.1530	0.196	0.120	0.135	0.179	0.222	0.89	45.0	11.28	0.33
150	0.1240	0.159	0.117	0.131	0.175	0.237	0.95	48.1	14.10	0.33
185	0.0991	0.128	0.112	0.127	0.170	0.255	1.02	51.7	17.39	0.33
240	0.0754	0.098	0.108	0.123	0.166	0.280	1.12	56.8	22.56	0.33
300	0.0601	0.079	0.105	0.120	0.163	0.304	1.21	61.6	28.20	0.33
400	0.0470	0.063	0.101	0.115	0.159	0.340	1.36	69.0	37.60	0.33
500	0.0366	0.050	0.097	0.111	0.155	0.382	1.53	77.5	47.00	0.33
630	0.0283	0.041	0.095	0.109	0.153	0.416	1.66	84.3	59.22	0.33
800	0.0221	0.034	0.091	0.106	0.150	0.466	1.86	94.4	75.20	0.33
1000	0.0176	0.029	0.089	0.104	0.147	0.512	2.04	103.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	6.0	24.5	2.6	25.3	0.4	0.8	1.56	32.0	0.85	2.9	640	480	65	100
120	12.9	6.0	26.0	2.6	26.8	0.4	0.8	1.56	34.0	0.96	3.6	680	510	65	100
150	14.2	6.0	27.3	2.6	28.1	0.4	0.8	1.56	35.0	1.09	4.5	700	525	65	100
185	15.7	6.0	28.8	2.6	29.6	0.4	0.8	1.56	37.0	1.24	5.6	740	555	65	150
240	17.8	6.0	30.9	2.6	31.7	0.4	0.8	1.56	39.0	1.53	7.2	780	585	65	150
300	19.8	6.0	32.9	2.6	33.7	0.4	0.8	1.72	41.0	1.78	9.0	820	615	65	150
400	22.9	6.0	36.0	2.6	36.8	0.5	0.8	1.88	45.0	2.19	12.0	900	675	65	150
500	26.5	6.0	39.6	2.6	40.4	0.5	0.8	1.88	48.0	2.69	15.0	960	720	80	150
630	29.1	6.0	42.5	2.6	43.3	0.5	0.8	2.04	51.0	3.18	18.9	1020	765	80	150
800	33.4	6.0	46.8	2.6	47.6	0.6	0.8	2.04	56.0	4.00	24.0	1120	840	80	200
1000	37.4	6.0	50.8	2.6	51.6	0.6	0.8	2.20	60.0	4.83	30.0	1200	900	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	0.125	0.140	0.183	0.204	0.81	41.3	8.93	0.33
120	0.2530	0.325	0.120	0.135	0.179	0.222	0.89	45.0	11.28	0.33
150	0.2060	0.265	0.117	0.131	0.175	0.237	0.95	48.1	14.10	0.33
185	0.1640	0.211	0.112	0.127	0.170	0.255	1.02	51.7	17.39	0.33
240	0.1250	0.161	0.108	0.123	0.166	0.280	1.12	56.8	22.56	0.33
300	0.1000	0.130	0.105	0.120	0.163	0.304	1.21	61.6	28.20	0.33
400	0.0778	0.102	0.101	0.115	0.159	0.340	1.36	69.0	37.60	0.33
500	0.0605	0.080	0.097	0.111	0.155	0.382	1.53	77.5	47.00	0.33
630	0.0469	0.063	0.095	0.109	0.153	0.416	1.66	84.3	59.22	0.33
800	0.0367	0.051	0.091	0.106	0.150	0.466	1.86	94.4	75.20	0.33
1000	0.0291	0.043	0.089	0.104	0.147	0.512	2.04	103.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - 2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	8.8	30.1	2.6	30.9	0.4	0.8	1.56	38.0	0.85	4.8	760	570	65	150
120	12.9	8.8	31.6	2.6	32.4	0.4	0.8	1.72	40.0	0.96	6.0	800	600	65	150
150	14.2	8.8	32.9	2.6	33.7	0.4	0.8	1.72	41.0	1.09	7.5	820	615	65	150
185	15.7	8.8	34.4	2.6	35.2	0.5	0.8	1.72	43.0	1.24	9.3	860	645	65	150
240	17.8	8.8	36.5	2.6	37.3	0.5	0.8	1.88	45.0	1.53	12.0	900	675	65	150
300	19.8	8.8	38.5	2.6	39.3	0.5	0.8	1.88	47.0	1.78	15.0	940	705	80	150
400	22.9	8.8	41.6	2.6	42.4	0.5	0.8	2.04	51.0	2.19	20.0	1020	765	80	150
500	26.5	8.8	45.2	2.6	46.0	0.6	0.8	2.04	54.0	2.69	25.0	1080	810	80	200
630	29.1	8.8	48.1	2.6	48.9	0.6	0.8	2.20	58.0	3.18	31.5	1160	870	100	200
800	33.4	8.8	52.4	2.6	53.2	0.6	0.8	2.36	62.0	4.00	40.0	1240	930	100	200
1000	37.4	8.8	56.4	2.6	57.2	0.7	0.8	2.36	66.0	4.83	50.0	1320	990	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	0.136	0.150	0.194	0.156	0.93	70.9	8.93	0.33
120	0.1530	0.196	0.131	0.145	0.189	0.169	1.01	76.6	11.28	0.33
150	0.1240	0.159	0.127	0.141	0.185	0.180	1.07	81.5	14.10	0.33
185	0.0991	0.127	0.122	0.137	0.180	0.192	1.15	87.2	17.39	0.33
240	0.0754	0.098	0.118	0.132	0.176	0.209	1.25	95.0	22.56	0.33
300	0.0601	0.078	0.114	0.128	0.172	0.226	1.35	102.4	28.20	0.33
400	0.0470	0.062	0.109	0.123	0.167	0.251	1.50	113.8	37.60	0.33
500	0.0366	0.050	0.104	0.119	0.162	0.280	1.67	127.0	47.00	0.33
630	0.0283	0.040	0.102	0.117	0.160	0.303	1.81	137.4	59.22	0.33
800	0.0221	0.033	0.098	0.113	0.156	0.337	2.01	153.0	75.20	0.33
1000	0.0176	0.029	0.095	0.110	0.153	0.369	2.20	167.5	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM FLAT STRIP ARMOURED - A2XFaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip 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	8.8	30.1	2.6	30.9	0.4	0.8	1.56	38.0	0.85	2.9	760	570	65	150
120	12.9	8.8	31.6	2.6	32.4	0.4	0.8	1.72	40.0	0.96	3.6	800	600	65	150
150	14.2	8.8	32.9	2.6	33.7	0.4	0.8	1.72	41.0	1.09	4.5	820	615	65	150
185	15.7	8.8	34.4	2.6	35.2	0.5	0.8	1.72	43.0	1.24	5.6	860	645	65	150
240	17.8	8.8	36.5	2.6	37.3	0.5	0.8	1.88	45.0	1.53	7.2	900	675	65	150
300	19.8	8.8	38.5	2.6	39.3	0.5	0.8	1.88	47.0	1.78	9.0	940	705	80	150
400	22.9	8.8	41.6	2.6	42.4	0.5	0.8	2.04	51.0	2.19	12.0	1020	765	80	150
500	26.5	8.8	45.2	2.6	46.0	0.6	0.8	2.04	54.0	2.69	15.0	1080	810	80	200
630	29.1	8.8	48.1	2.6	48.9	0.6	0.8	2.20	58.0	3.18	18.9	1160	870	100	200
800	33.4	8.8	52.4	2.6	53.2	0.6	0.8	2.36	62.0	4.00	24.0	1240	930	100	200
1000	37.4	8.8	56.4	2.6	57.2	0.7	0.8	2.36	66.0	4.83	30.0	1320	990	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	0.136	0.150	0.194	0.156	0.93	70.9	8.93	0.33
120	0.2530	0.325	0.131	0.145	0.189	0.169	1.01	76.6	11.28	0.33
150	0.2060	0.265	0.127	0.141	0.185	0.180	1.07	81.5	14.10	0.33
185	0.1640	0.211	0.122	0.137	0.180	0.192	1.15	87.2	17.39	0.33
240	0.1250	0.161	0.118	0.132	0.176	0.209	1.25	95.0	22.56	0.33
300	0.1000	0.129	0.114	0.128	0.172	0.226	1.35	102.4	28.20	0.33
400	0.0778	0.101	0.109	0.123	0.167	0.251	1.50	113.8	37.60	0.33
500	0.0605	0.080	0.104	0.119	0.162	0.280	1.67	127.0	47.00	0.33
630	0.0469	0.063	0.102	0.117	0.160	0.303	1.81	137.4	59.22	0.33
800	0.0367	0.051	0.098	0.113	0.156	0.337	2.01	153.0	75.20	0.33
1000	0.0291	0.042	0.095	0.110	0.153	0.369	2.20	167.5	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

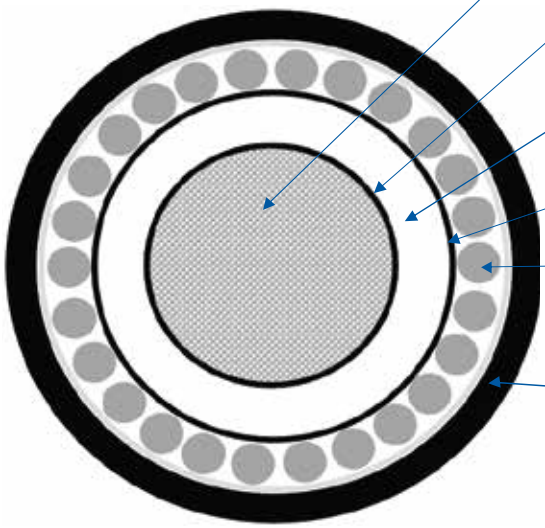
(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

SINGLE CORE UNSCREENED ROUND WIRE ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(viii) ARMOURING
Aluminium Round Wire Armour

(ix) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	 mm	 mm
95	11.4	2.8	18.1	1.6	1.40	26.0	1.33	4.8	520	390	50	80
120	12.9	2.8	19.6	1.6	1.40	27.0	1.58	6.0	540	405	50	80
150	14.2	2.8	20.9	1.6	1.56	29.0	1.88	7.5	580	435	50	100
185	15.7	2.8	22.4	1.6	1.56	31.0	2.24	9.3	620	465	65	100
240	17.8	2.8	24.5	2.0	1.56	34.0	2.85	12.0	680	510	65	100
300	19.8	3.0	26.9	2.0	1.56	36.0	3.47	15.0	720	540	65	100
400	22.9	3.3	30.6	2.0	1.72	40.0	4.37	20.0	800	600	65	150
500	26.5	3.5	34.6	2.0	1.72	44.0	5.46	25.0	880	660	65	150
630	29.1	3.5	37.5	2.0	1.88	47.0	6.82	31.5	940	705	80	150
800	33.4	3.5	41.8	2.5	2.04	53.0	8.75	40.0	1060	795	80	200
1000	37.4	3.6	46.0	2.5	2.20	57.0	10.72	50.0	1140	855	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				Conductor kA
95	0.1930	0.247	0.112	00.126	0.170	0.370	0.44	6.7	13.59
120	0.1530	0.196	0.107	0.122	0.165	0.408	0.49	7.4	17.16
150	0.1240	0.159	0.105	0.120	0.163	0.440	0.53	8.0	21.45
185	0.0991	0.128	0.101	0.116	0.159	0.478	0.57	8.7	26.46
240	0.0754	0.098	0.099	0.114	0.157	0.530	0.63	9.6	34.32
300	0.0601	0.079	0.097	0.111	0.155	0.546	0.65	9.9	42.90
400	0.0470	0.063	0.094	0.108	0.152	0.567	0.68	10.3	57.20
500	0.0366	0.051	0.091	0.105	0.149	0.610	0.73	11.1	71.50
630	0.0283	0.041	0.089	0.104	0.147	0.667	0.80	12.1	90.09
800	0.0221	0.035	0.088	0.102	0.146	0.753	0.90	13.7	114.40
1000	0.0176	0.030	0.086	0.100	0.144	0.811	0.97	14.7	143.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	256	260	227	220	323	327
120	290	292	257	247	374	376
150	323	323	285	272	422	422
185	362	359	319	302	484	481
240	411	398	361	333	565	550
300	456	435	400	363	641	615
400	508	474	443	393	734	690
500	559	509	486	420	828	761
630	611	543	529	446	929	834
800	638	549	549	447	1002	872
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) 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 kV ALUMINIUM CONDUCTOR SINGLE CORE UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	2.8	18.1	1.6	1.40	26.0	0.77	2.9	520	390	50	80
120	12.9	2.8	19.6	1.6	1.40	27.0	0.88	3.6	540	405	50	80
150	14.2	2.8	20.9	1.6	1.56	29.0	1.01	4.5	580	435	50	100
185	15.7	2.8	22.4	1.6	1.56	31.0	1.15	5.6	620	465	65	100
240	17.8	2.8	24.5	2.0	1.56	34.0	1.42	7.2	680	510	65	100
300	19.8	3.0	26.9	2.0	1.56	36.0	1.66	9.0	720	540	65	100
400	22.9	3.3	30.6	2.0	1.72	40.0	2.06	12.0	800	600	65	150
500	26.5	3.5	34.6	2.0	1.72	44.0	2.49	15.0	880	660	65	150
630	29.1	3.5	37.5	2.0	1.88	47.0	3.00	18.9	940	705	80	150
800	33.4	3.5	41.8	2.5	2.04	53.0	3.80	24.0	1060	795	80	200
1000	37.4	3.6	46.0	2.5	2.20	57.0	4.59	30.0	1140	855	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				Conductor kA
95	0.3200	0.411	0.112	0.126	0.170	0.370	0.44	6.7	8.93
120	0.2530	0.325	0.107	0.122	0.165	0.408	0.49	7.4	11.28
150	0.2060	0.265	0.105	0.120	0.163	0.440	0.53	8.0	14.10
185	0.1640	0.211	0.101	0.116	0.159	0.478	0.57	8.7	17.39
240	0.1250	0.161	0.099	0.114	0.157	0.530	0.63	9.6	22.56
300	0.1000	0.130	0.097	0.111	0.155	0.546	0.65	9.9	28.20
400	0.0778	0.102	0.094	0.108	0.152	0.567	0.68	10.3	37.60
500	0.0605	0.080	0.091	0.105	0.149	0.610	0.73	11.1	47.00
630	0.0469	0.064	0.089	0.104	0.147	0.667	0.80	12.1	59.22
800	0.0367	0.052	0.088	0.102	0.146	0.753	0.90	13.7	75.20
1000	0.0291	0.043	0.086	0.100	0.144	0.811	0.97	14.7	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	252	256
120	227	230	201	195	292	296
150	252	255	223	215	329	333
185	285	287	251	241	380	383
240	326	323	286	270	448	444
300	365	357	319	298	511	502
400	412	397	359	329	593	574
500	461	436	401	360	680	647
630	514	475	445	390	777	725
800	552	495	476	403	863	780
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	3.6	19.7	1.6	1.40	28.0	1.40	4.8	560	420	50	80
120	12.9	3.6	21.2	1.6	1.56	29.0	1.68	6.0	580	435	65	100
150	14.2	3.6	22.5	1.6	1.56	31.0	1.96	7.5	620	465	65	100
185	15.7	3.6	24.0	2.0	1.56	33.0	2.39	9.3	660	495	65	100
240	17.8	3.6	26.1	2.0	1.56	35.0	2.95	12.0	700	525	65	100
300	19.8	3.6	28.1	2.0	1.56	37.0	3.55	15.0	740	555	65	150
400	22.9	3.6	31.2	2.0	1.72	41.0	4.41	20.0	820	615	65	150
500	26.5	3.6	34.8	2.0	1.72	44.0	5.47	25.0	880	660	65	150
630	29.1	3.6	37.7	2.0	1.88	47.0	6.83	31.5	940	705	80	150
800	33.4	3.6	42.0	2.5	2.04	53.0	8.76	40.0	1060	795	80	200
1000	37.4	3.6	46.0	2.5	2.20	57.0	10.72	50.0	1140	855	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				Conductor kA
95	0.1930	0.247	0.115	0.130	0.173	0.301	0.60	15.3	13.59
120	0.1530	0.196	0.112	0.126	0.170	0.331	0.66	16.8	17.16
150	0.1240	0.159	0.108	0.123	0.167	0.356	0.71	18.1	21.45
185	0.0991	0.128	0.106	0.120	0.164	0.385	0.77	19.5	26.46
240	0.0754	0.098	0.102	0.116	0.160	0.426	0.85	21.6	34.32
300	0.0601	0.079	0.099	0.113	0.157	0.465	0.93	23.6	42.90
400	0.0470	0.063	0.095	0.109	0.153	0.525	1.05	26.6	57.20
500	0.0366	0.051	0.091	0.106	0.149	0.595	1.19	30.2	71.50
630	0.0283	0.041	0.090	0.104	0.148	0.651	1.30	33.0	90.09
800	0.0221	0.035	0.088	0.103	0.146	0.734	1.46	37.2	114.40
1000	0.0176	0.030	0.086	0.100	0.144	0.811	1.62	41.1	143.00

Current Ratings in Amperes

Nominal conductor area mm ²	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	 mm	 mm
95	11.4	3.6	19.7	1.6	1.40	28.0	0.84	2.9	560	420	50	80
120	12.9	3.6	21.2	1.6	1.56	29.0	0.98	3.6	580	435	65	100
150	14.2	3.6	22.5	1.6	1.56	31.0	1.09	4.5	620	465	65	100
185	15.7	3.6	24.0	2.0	1.56	33.0	1.30	5.6	660	495	65	100
240	17.8	3.6	26.1	2.0	1.56	35.0	1.52	7.2	700	525	65	100
300	19.8	3.6	28.1	2.0	1.56	37.0	1.74	9.0	740	555	65	150
400	22.9	3.6	31.2	2.0	1.72	41.0	2.10	12.0	820	615	65	150
500	26.5	3.6	34.8	2.0	1.72	44.0	2.50	15.0	880	660	65	150
630	29.1	3.6	37.7	2.0	1.88	47.0	3.01	18.9	940	705	80	150
800	33.4	3.6	42.0	2.5	2.04	53.0	3.81	24.0	1060	795	80	200
1000	37.4	3.6	46.0	2.5	2.20	57.0	4.59	30.0	1140	855	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				Conductor kA
95	0.3200	0.411	0.115	0.130	0.173	0.301	0.60	15.3	8.93
120	0.2530	0.325	0.112	0.126	0.170	0.331	0.66	16.8	11.28
150	0.2060	0.265	0.108	0.123	0.167	0.356	0.71	18.1	14.10
185	0.1640	0.211	0.106	0.120	0.164	0.385	0.77	19.5	17.39
240	0.1250	0.161	0.102	0.116	0.160	0.426	0.85	21.6	22.56
300	0.1000	0.130	0.099	0.113	0.157	0.465	0.93	23.6	28.20
400	0.0778	0.102	0.095	0.109	0.153	0.525	1.05	26.6	37.60
500	0.0605	0.080	0.091	0.106	0.149	0.595	1.19	30.2	47.00
630	0.0469	0.064	0.090	0.104	0.148	0.651	1.30	33.0	59.22
800	0.0367	0.051	0.088	0.103	0.146	0.734	1.46	37.2	75.20
1000	0.0291	0.043	0.086	0.100	0.144	0.811	1.62	41.1	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	5.5	23.5	1.6	1.56	32.0	1.62	4.8	640	480	65	100
120	12.9	5.5	25.0	2.0	1.56	34.0	1.95	6.0	680	510	65	100
150	14.2	5.5	26.3	2.0	1.56	35.0	2.24	7.5	700	525	65	100
185	15.7	5.5	27.8	2.0	1.56	37.0	2.61	9.3	740	555	65	150
240	17.8	5.5	29.9	2.0	1.72	39.0	3.22	12.0	780	585	65	150
300	19.8	5.5	31.9	2.0	1.72	41.0	3.82	15.0	820	615	65	150
400	22.9	5.5	35.0	2.0	1.88	45.0	4.72	20.0	900	675	65	150
500	26.5	5.5	38.6	2.0	1.88	48.0	5.80	25.0	960	720	80	150
630	29.1	5.5	41.5	2.5	2.04	52.0	7.33	31.5	1040	780	80	200
800	33.4	5.5	45.8	2.5	2.20	57.0	9.16	40.0	1140	855	100	200
1000	37.4	5.5	49.8	2.5	2.20	61.0	11.09	50.0	1220	915	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				Conductor kA
95	0.1930	0.247	0.124	0.139	0.182	0.217	0.75	33.1	13.59
120	0.1530	0.196	0.121	0.135	0.179	0.237	0.82	36.0	17.16
150	0.1240	0.159	0.117	0.132	0.175	0.254	0.88	38.6	21.45
185	0.0991	0.128	0.113	0.127	0.171	0.273	0.94	41.5	26.46
240	0.0754	0.098	0.109	0.124	0.167	0.300	1.04	45.6	34.32
300	0.0601	0.079	0.105	0.120	0.164	0.326	1.13	49.6	42.90
400	0.0470	0.063	0.101	0.116	0.159	0.366	1.26	55.6	57.20
500	0.0366	0.050	0.097	0.111	0.155	0.412	1.42	62.6	71.50
630	0.0283	0.041	0.096	0.111	0.154	0.448	1.55	68.1	90.09
800	0.0221	0.034	0.093	0.107	0.151	0.502	1.74	76.4	114.40
1000	0.0176	0.029	0.090	0.105	0.148	0.553	1.91	84.1	143.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	5.5	23.5	1.6	1.56	32.0	1.06	2.9	640	480	65	100
120	12.9	5.5	25.0	2.0	1.56	34.0	1.25	3.6	680	510	65	100
150	14.2	5.5	26.3	2.0	1.56	35.0	1.37	4.5	700	525	65	100
185	15.7	5.5	27.8	2.0	1.56	37.0	1.52	5.6	740	555	65	150
240	17.8	5.5	29.9	2.0	1.72	39.0	1.78	7.2	780	585	65	150
300	19.8	5.5	31.9	2.0	1.72	41.0	2.02	9.0	820	615	65	150
400	22.9	5.5	35.0	2.0	1.88	45.0	2.41	12.0	900	675	65	150
500	26.5	5.5	38.6	2.0	1.88	48.0	2.84	15.0	960	720	80	150
630	29.1	5.5	41.5	2.5	2.04	52.0	3.51	18.9	1040	780	80	200
800	33.4	5.5	45.8	2.5	2.20	57.0	4.21	24.0	1140	855	100	200
1000	37.4	5.5	49.8	2.5	2.20	61.0	4.96	30.0	1220	915	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				Conductor kA
95	0.3200	0.411	0.124	0.139	0.182	0.217	0.75	33.1	8.93
120	0.2530	0.325	0.121	0.135	0.179	0.237	0.82	36.0	11.28
150	0.2060	0.265	0.117	0.132	0.175	0.254	0.88	38.6	14.10
185	0.1640	0.211	0.113	0.127	0.171	0.273	0.94	41.5	17.39
240	0.1250	0.161	0.109	0.124	0.167	0.300	1.04	45.6	22.56
300	0.1000	0.130	0.105	0.120	0.164	0.326	1.13	49.6	28.20
400	0.0778	0.102	0.101	0.116	0.159	0.366	1.26	55.6	37.60
500	0.0605	0.080	0.097	0.111	0.155	0.412	1.42	62.6	47.00
630	0.0469	0.063	0.096	0.111	0.154	0.448	1.55	68.1	59.22
800	0.0367	0.051	0.093	0.107	0.151	0.502	1.74	76.4	75.20
1000	0.0291	0.042	0.090	0.105	0.148	0.553	1.91	84.1	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 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) 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 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	6.0	24.5	2.0	1.56	34.0	1.73	4.8	680	510	65	100
120	12.9	6.0	26.0	2.0	1.56	35.0	2.02	6.0	700	525	65	100
150	14.2	6.0	27.3	2.0	1.56	36.0	2.30	7.5	720	540	65	100
185	15.7	6.0	28.8	2.0	1.56	38.0	2.68	9.3	760	570	65	150
240	17.8	6.0	30.9	2.0	1.72	40.0	3.29	12.0	800	600	65	150
300	19.8	6.0	32.9	2.0	1.72	42.0	3.90	15.0	840	630	65	150
400	22.9	6.0	36.0	2.0	1.88	46.0	4.79	20.0	920	690	65	150
500	26.5	6.0	39.6	2.5	2.04	51.0	6.05	25.0	1020	765	80	150
630	29.1	6.0	42.5	2.5	2.04	53.0	7.42	31.5	1060	795	80	200
800	33.4	6.0	46.8	2.5	2.20	58.0	9.25	40.0	1160	870	100	200
1000	37.4	6.0	50.8	2.5	2.36	62.0	11.24	50.0	1240	930	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				Conductor kA
95	0.1930	0.247	0.128	0.142	0.186	0.204	0.81	41.3	13.59
120	0.1530	0.196	0.123	0.137	0.181	0.222	0.89	45.0	17.16
150	0.1240	0.159	0.119	0.134	0.177	0.237	0.95	48.1	21.45
185	0.0991	0.128	0.115	0.129	0.173	0.255	1.02	51.7	26.46
240	0.0754	0.098	0.111	0.125	0.169	0.280	1.12	56.8	34.32
300	0.0601	0.079	0.107	0.122	0.165	0.304	1.21	61.6	42.90
400	0.0470	0.063	0.102	0.117	0.160	0.340	1.36	69.0	57.20
500	0.0366	0.050	0.100	0.114	0.158	0.382	1.53	77.5	71.50
630	0.0283	0.041	0.097	0.112	0.155	0.416	1.66	84.3	90.09
800	0.0221	0.034	0.094	0.108	0.152	0.466	1.86	94.4	114.40
1000	0.0176	0.029	0.091	0.106	0.149	0.512	2.04	103.9	143.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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) 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 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	 mm	 mm
95	11.4	6.0	24.5	2.0	1.56	34.0	1.18	2.9	680	510	65	100
120	12.9	6.0	26.0	2.0	1.56	35.0	1.31	3.6	700	525	65	100
150	14.2	6.0	27.3	2.0	1.56	36.0	1.43	4.5	720	540	65	100
185	15.7	6.0	28.8	2.0	1.56	38.0	1.59	5.6	760	570	65	150
240	17.8	6.0	30.9	2.0	1.72	40.0	1.85	7.2	800	600	65	150
300	19.8	6.0	32.9	2.0	1.72	42.0	2.09	9.0	840	630	65	150
400	22.9	6.0	36.0	2.0	1.88	46.0	2.48	12.0	920	690	65	150
500	26.5	6.0	39.6	2.5	2.04	51.0	3.08	15.0	1020	765	80	150
630	29.1	6.0	42.5	2.5	2.04	53.0	3.59	18.9	1060	795	80	200
800	33.4	6.0	46.8	2.5	2.20	58.0	4.31	24.0	1160	870	100	200
1000	37.4	6.0	50.8	2.5	2.36	62.0	5.10	30.0	1240	930	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				Conductor kA
95	0.3200	0.411	0.128	0.142	0.186	0.204	0.81	41.3	8.93
120	0.2530	0.325	0.123	0.137	0.181	0.222	0.89	45.0	11.28
150	0.2060	0.265	0.119	0.134	0.177	0.237	0.95	48.1	14.10
185	0.1640	0.211	0.115	0.129	0.173	0.255	1.02	51.7	17.39
240	0.1250	0.161	0.111	0.125	0.169	0.280	1.12	56.8	22.56
300	0.1000	0.129	0.107	0.122	0.165	0.304	1.21	61.6	28.20
400	0.0778	0.101	0.102	0.117	0.160	0.340	1.36	69.0	37.60
500	0.0605	0.080	0.100	0.114	0.158	0.382	1.53	77.5	47.00
630	0.0469	0.063	0.097	0.112	0.155	0.416	1.66	84.3	59.22
800	0.0367	0.051	0.094	0.108	0.152	0.466	1.86	94.4	75.20
1000	0.0291	0.042	0.091	0.106	0.149	0.512	2.04	103.9	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE COPPER CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	mm	mm
95	11.4	8.8	30.1	2.0	1.72	39.0	2.12	4.8	780	585	65	150
120	12.9	8.8	31.6	2.0	1.72	41.0	2.40	6.0	820	615	65	150
150	14.2	8.8	32.9	2.0	1.72	42.0	2.71	7.5	840	630	65	150
185	15.7	8.8	34.4	2.0	1.72	44.0	3.09	9.3	880	660	65	150
240	17.8	8.8	36.5	2.0	1.88	46.0	3.73	12.0	920	690	65	150
300	19.8	8.8	38.5	2.5	2.04	50.0	4.52	15.0	1000	750	80	150
400	22.9	8.8	41.6	2.5	2.04	53.0	5.42	20.0	1060	795	80	200
500	26.5	8.8	45.2	2.5	2.20	57.0	6.60	25.0	1140	855	100	200
630	29.1	8.8	48.1	2.5	2.20	59.0	7.98	31.5	1180	885	100	200
800	33.4	8.8	52.4	2.5	2.36	64.0	9.86	40.0	1280	960	125	200
1000	37.4	8.8	56.4	3.2	2.52	70.0	12.14	50.0	1400	1050	125	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				Conductor kA
95	0.1930	0.247	0.138	0.153	0.196	0.156	0.93	70.9	13.59
120	0.1530	0.196	0.133	0.147	0.191	0.169	1.01	76.6	17.16
150	0.1240	0.159	0.129	0.143	0.187	0.180	1.07	81.5	21.45
185	0.0991	0.127	0.124	0.138	0.182	0.192	1.15	87.2	26.46
240	0.0754	0.098	0.119	0.134	0.177	0.209	1.25	95.0	34.32
300	0.0601	0.078	0.117	0.132	0.175	0.226	1.35	102.4	42.90
400	0.0470	0.062	0.111	0.126	0.169	0.251	1.50	113.8	57.20
500	0.0366	0.050	0.107	0.121	0.165	0.280	1.67	127.0	71.50
630	0.0283	0.040	0.104	0.119	0.162	0.303	1.81	137.4	90.09
800	0.0221	0.033	0.100	0.115	0.158	0.337	2.01	153.0	114.40
1000	0.0176	0.028	0.098	0.113	0.156	0.369	2.20	167.5	143.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 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) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE ALUMINIUM CONDUCTOR UNSCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal diameter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
									During pulling mm	Set in position mm	 mm	 mm
95	11.4	8.8	30.1	2.0	1.72	39.0	1.56	2.9	780	585	65	150
120	12.9	8.8	31.6	2.0	1.72	41.0	1.70	3.6	820	615	65	150
150	14.2	8.8	32.9	2.0	1.72	42.0	1.83	4.5	840	630	65	150
185	15.7	8.8	34.4	2.0	1.72	44.0	2.00	5.6	880	660	65	150
240	17.8	8.8	36.5	2.0	1.88	46.0	2.29	7.2	920	690	65	150
300	19.8	8.8	38.5	2.5	2.04	50.0	2.71	9.0	1000	750	80	150
400	22.9	8.8	41.6	2.5	2.04	53.0	3.12	12.0	1060	795	80	200
500	26.5	8.8	45.2	2.5	2.20	57.0	3.63	15.0	1140	855	100	200
630	29.1	8.8	48.1	2.5	2.20	59.0	4.16	18.9	1180	885	100	200
800	33.4	8.8	52.4	2.5	2.36	64.0	4.91	24.0	1280	960	125	200
1000	37.4	8.8	56.4	3.2	2.52	70.0	6.01	30.0	1400	1050	125	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				Conductor kA
95	0.3200	0.411	0.138	0.153	0.196	0.156	0.93	70.9	8.93
120	0.2530	0.325	0.133	0.147	0.191	0.169	1.01	76.6	11.28
150	0.2060	0.265	0.129	0.143	0.187	0.180	1.07	81.5	14.10
185	0.1640	0.211	0.124	0.138	0.182	0.192	1.15	87.2	17.39
240	0.1250	0.161	0.119	0.134	0.177	0.209	1.25	95.0	22.56
300	0.1000	0.129	0.117	0.132	0.175	0.226	1.35	102.4	28.20
400	0.0778	0.101	0.111	0.126	0.169	0.251	1.50	113.8	37.60
500	0.0605	0.080	0.107	0.121	0.165	0.280	1.67	127.0	47.00
630	0.0469	0.063	0.104	0.119	0.162	0.303	1.81	137.4	59.22
800	0.0367	0.051	0.100	0.115	0.158	0.337	2.01	153.0	75.20
1000	0.0291	0.042	0.098	0.113	0.156	0.369	2.20	167.5	94.00

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

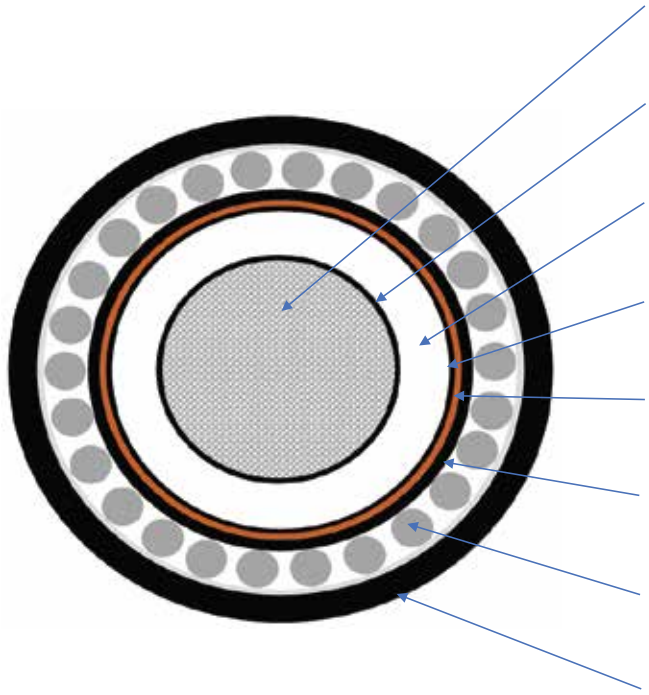
(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

SINGLE CORE TAPE SCREENED ROUND WIRE ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(v) METALLIC SCREENING
Copper Tape

(vii) SEPARATION SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Inner Sheath

(viii) ARMOURING
Aluminium Round Wire Armour

(ix) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	2.8	18.1	2.6	18.9	0.3	1.6	1.40	27.0	1.41	4.8	540	405	50	80
120	12.9	2.8	19.6	2.6	20.4	0.3	1.6	1.40	28.0	1.67	6.0	560	420	50	80
150	14.2	2.8	20.9	2.6	21.7	0.3	1.6	1.56	30.0	1.97	7.5	600	450	65	100
185	15.7	2.8	22.4	2.6	23.2	0.3	1.6	1.56	31.0	2.33	9.3	620	465	65	100
240	17.8	2.8	24.5	2.6	25.3	0.4	2.0	1.56	34.0	2.96	12.0	680	510	65	100
300	19.8	3.0	26.9	2.6	27.7	0.4	2.0	1.56	37.0	3.59	15.0	740	555	65	150
400	22.9	3.3	30.6	2.6	31.4	0.4	2.0	1.72	41.0	4.50	20.0	820	615	65	150
500	26.5	3.5	34.6	2.6	35.4	0.5	2.0	1.88	45.0	5.66	25.0	900	675	65	150
630	29.1	3.5	37.5	2.6	38.3	0.5	2.0	1.88	48.0	7.00	31.5	960	720	80	150
800	33.4	3.5	41.8	2.6	42.6	0.5	2.5	2.04	54.0	8.95	40.0	1080	810	80	200
1000	37.4	3.6	46.0	2.6	46.8	0.6	2.5	2.20	58.0	10.97	50.0	1160	870	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	0.113	0.128	0.171	0.370	0.44	6.7	13.59	0.33
120	0.1530	0.196	0.109	0.124	0.167	0.408	0.49	7.4	17.16	0.33
150	0.1240	0.159	0.107	0.121	0.165	0.440	0.53	8.0	21.45	0.33
185	0.0991	0.128	0.103	0.117	0.161	0.478	0.57	8.7	26.46	0.33
240	0.0754	0.098	0.100	0.115	0.158	0.530	0.63	9.6	34.32	0.33
300	0.0601	0.079	0.098	0.113	0.156	0.546	0.65	9.9	42.90	0.33
400	0.0470	0.063	0.095	0.110	0.153	0.567	0.68	10.3	57.20	0.33
500	0.0366	0.051	0.093	0.107	0.151	0.610	0.73	11.1	71.50	0.33
630	0.0283	0.041	0.091	0.105	0.149	0.667	0.80	12.1	90.09	0.33
800	0.0221	0.034	0.089	0.103	0.147	0.753	0.90	13.7	114.40	0.33
1000	0.0176	0.030	0.087	0.102	0.145	0.811	0.97	14.7	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	256	260	227	220	323	327
120	290	292	257	247	374	376
150	323	323	285	272	422	422
185	362	359	319	302	484	481
240	411	398	361	333	565	550
300	456	435	400	363	641	615
400	508	474	443	393	734	690
500	559	509	486	420	828	761
630	611	543	529	446	929	834
800	638	549	549	447	1002	872
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	2.8	18.1	2.6	18.9	0.3	1.6	1.40	27.0	0.85	2.9	540	405	50	80
120	12.9	2.8	19.6	2.6	20.4	0.3	1.6	1.40	28.0	0.96	3.6	560	420	50	80
150	14.2	2.8	20.9	2.6	21.7	0.3	1.6	1.56	30.0	1.09	4.5	600	450	65	100
185	15.7	2.8	22.4	2.6	23.2	0.3	1.6	1.56	31.0	1.24	5.6	620	465	65	100
240	17.8	2.8	24.5	2.6	25.3	0.4	2.0	1.56	34.0	1.53	7.2	680	510	65	100
300	19.8	3.0	26.9	2.6	27.7	0.4	2.0	1.56	37.0	1.78	9.0	740	555	65	150
400	22.9	3.3	30.6	2.6	31.4	0.4	2.0	1.72	41.0	2.19	12.0	820	615	65	150
500	26.5	3.5	34.6	2.6	35.4	0.5	2.0	1.88	45.0	2.69	15.0	900	675	65	150
630	29.1	3.5	37.5	2.6	38.3	0.5	2.0	1.88	48.0	3.18	18.9	960	720	80	150
800	33.4	3.5	41.8	2.6	42.6	0.5	2.5	2.04	54.0	4.00	24.0	1080	810	80	200
1000	37.4	3.6	46.0	2.6	46.8	0.6	2.5	2.20	58.0	4.83	30.0	1160	870	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	0.113	0.128	0.171	0.370	0.44	6.7	8.93	0.33
120	0.2530	0.325	0.109	0.124	0.167	0.408	0.49	7.4	11.28	0.33
150	0.2060	0.265	0.107	0.121	0.165	0.440	0.53	8.0	14.10	0.33
185	0.1640	0.211	0.103	0.117	0.161	0.478	0.57	8.7	17.39	0.33
240	0.1250	0.161	0.100	0.115	0.158	0.530	0.63	9.6	22.56	0.33
300	0.1000	0.130	0.098	0.113	0.156	0.546	0.65	9.9	28.20	0.33
400	0.0778	0.102	0.095	0.110	0.153	0.567	0.68	10.3	37.60	0.33
500	0.0605	0.080	0.093	0.107	0.151	0.610	0.73	11.1	47.00	0.33
630	0.0469	0.064	0.091	0.105	0.149	0.667	0.80	12.1	59.22	0.33
800	0.0367	0.051	0.089	0.103	0.147	0.753	0.90	13.7	75.20	0.33
1000	0.0291	0.043	0.087	0.102	0.145	0.811	0.97	14.7	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	252	256
120	227	230	201	195	292	296
150	252	255	223	215	329	333
185	285	287	251	241	380	383
240	326	323	286	270	448	444
300	365	357	319	298	511	502
400	412	397	359	329	593	574
500	461	436	401	360	680	647
630	514	475	445	390	777	725
800	552	495	476	403	863	780
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	3.6	19.7	2.6	20.5	0.3	1.6	1.40	28.0	1.49	4.8	560	420	50	80
120	12.9	3.6	21.2	2.6	22.0	0.3	1.6	1.56	30.0	1.77	6.0	600	450	65	100
150	14.2	3.6	22.5	2.6	23.3	0.3	1.6	1.56	31.0	2.05	7.5	620	465	65	100
185	15.7	3.6	24.0	2.6	24.8	0.4	2.0	1.56	34.0	2.49	9.3	680	510	65	100
240	17.8	3.6	26.1	2.6	26.9	0.4	2.0	1.56	36.0	3.07	12.0	720	540	65	100
300	19.8	3.6	28.1	2.6	28.9	0.4	2.0	1.56	38.0	3.67	15.0	760	570	65	150
400	22.9	3.6	31.2	2.6	32.0	0.4	2.0	1.72	41.0	4.54	20.0	820	615	65	150
500	26.5	3.6	34.8	2.6	35.6	0.5	2.0	1.88	45.0	5.68	25.0	900	675	65	150
630	29.1	3.6	37.7	2.6	38.5	0.5	2.0	1.88	48.0	7.02	31.5	960	720	80	150
800	33.4	3.6	42.0	2.6	42.8	0.5	2.5	2.04	54.0	8.96	40.0	1080	810	80	200
1000	37.4	3.6	46.0	2.6	46.8	0.6	2.5	2.20	58.0	10.97	50.0	1160	870	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	0.117	0.132	0.175	0.301	0.60	15.3	13.59	0.33
120	0.1530	0.196	0.113	0.128	0.171	0.331	0.66	16.8	17.16	0.33
150	0.1240	0.159	0.110	0.124	0.168	0.356	0.71	18.1	21.45	0.33
185	0.0991	0.128	0.107	0.122	0.165	0.385	0.77	19.5	26.46	0.33
240	0.0754	0.098	0.103	0.118	0.161	0.426	0.85	21.6	34.32	0.33
300	0.0601	0.079	0.100	0.115	0.158	0.465	0.93	23.6	42.90	0.33
400	0.0470	0.063	0.096	0.110	0.154	0.525	1.05	26.6	57.20	0.33
500	0.0366	0.051	0.093	0.107	0.151	0.595	1.19	30.2	71.50	0.33
630	0.0283	0.041	0.091	0.105	0.149	0.651	1.30	33.0	90.09	0.33
800	0.0221	0.034	0.089	0.104	0.147	0.734	1.46	37.2	114.40	0.33
1000	0.0176	0.030	0.087	0.102	0.145	0.811	1.62	41.1	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
		Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	3.6	19.7	2.6	20.5	0.3	1.6	1.40	28.0	0.93	2.9	560	420	50	80
120	12.9	3.6	21.2	2.6	22.0	0.3	1.6	1.56	30.0	1.07	3.6	600	450	65	100
150	14.2	3.6	22.5	2.6	23.3	0.3	1.6	1.56	31.0	1.18	4.5	620	465	65	100
185	15.7	3.6	24.0	2.6	24.8	0.4	2.0	1.56	34.0	1.41	5.6	680	510	65	100
240	17.8	3.6	26.1	2.6	26.9	0.4	2.0	1.56	36.0	1.63	7.2	720	540	65	100
300	19.8	3.6	28.1	2.6	28.9	0.4	2.0	1.56	38.0	1.86	9.0	760	570	65	150
400	22.9	3.6	31.2	2.6	32.0	0.4	2.0	1.72	41.0	2.24	12.0	820	615	65	150
500	26.5	3.6	34.8	2.6	35.6	0.5	2.0	1.88	45.0	2.71	15.0	900	675	65	150
630	29.1	3.6	37.7	2.6	38.5	0.5	2.0	1.88	48.0	3.20	18.9	960	720	80	150
800	33.4	3.6	42.0	2.6	42.8	0.5	2.5	2.04	54.0	4.01	24.0	1080	810	80	200
1000	37.4	3.6	46.0	2.6	46.8	0.6	2.5	2.20	58.0	4.83	30.0	1160	870	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	0.132	0.175	0.301	0.60	15.3	8.93	0.33
120	0.2530	0.325	0.113	0.128	0.171	0.331	0.66	16.8	11.28	0.33
150	0.2060	0.265	0.110	0.124	0.168	0.356	0.71	18.1	14.10	0.33
185	0.1640	0.211	0.107	0.122	0.165	0.385	0.77	19.5	17.39	0.33
240	0.1250	0.161	0.103	0.118	0.161	0.426	0.85	21.6	22.56	0.33
300	0.1000	0.130	0.100	0.115	0.158	0.465	0.93	23.6	28.20	0.33
400	0.0778	0.102	0.096	0.110	0.154	0.525	1.05	26.6	37.60	0.33
500	0.0605	0.080	0.093	0.107	0.151	0.595	1.19	30.2	47.00	0.33
630	0.0469	0.064	0.091	0.105	0.149	0.651	1.30	33.0	59.22	0.33
800	0.0367	0.051	0.089	0.104	0.147	0.734	1.46	37.2	75.20	0.33
1000	0.0291	0.043	0.087	0.102	0.145	0.811	1.62	41.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	 mm	 mm
95	11.4	5.5	23.5	2.6	24.3	0.3	2.0	1.56	33.0	1.78	4.8	660	495	65	100
120	12.9	5.5	25.0	2.6	25.8	0.4	2.0	1.56	35.0	2.06	6.0	700	525	65	100
150	14.2	5.5	26.3	2.6	27.1	0.4	2.0	1.56	36.0	2.35	7.5	720	540	65	100
185	15.7	5.5	27.8	2.6	28.6	0.4	2.0	1.56	38.0	2.73	9.3	760	570	65	150
240	17.8	5.5	29.9	2.6	30.7	0.4	2.0	1.72	40.0	3.34	12.0	800	600	65	150
300	19.8	5.5	31.9	2.6	32.7	0.4	2.0	1.72	42.0	3.96	15.0	840	630	65	150
400	22.9	5.5	35.0	2.6	35.8	0.5	2.0	1.88	46.0	4.89	20.0	920	690	65	150
500	26.5	5.5	38.6	2.6	39.4	0.5	2.5	2.04	51.0	6.15	25.0	1020	765	80	150
630	29.1	5.5	41.5	2.6	42.3	0.5	2.5	2.04	53.0	7.53	31.5	1060	795	80	200
800	33.4	5.5	45.8	2.6	46.6	0.6	2.5	2.20	58.0	9.40	40.0	1160	870	100	200
1000	37.4	5.5	49.8	2.6	50.6	0.6	2.5	2.36	63.0	11.41	50.0	1260	945	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	0.127	0.142	0.185	0.217	0.75	33.1	13.59	0.33
120	0.1530	0.196	0.122	0.137	0.180	0.237	0.82	36.0	17.16	0.33
150	0.1240	0.159	0.119	0.133	0.177	0.254	0.88	38.6	21.45	0.33
185	0.0991	0.128	0.114	0.129	0.172	0.273	0.94	41.5	26.46	0.33
240	0.0754	0.098	0.110	0.125	0.168	0.300	1.04	45.6	34.32	0.33
300	0.0601	0.079	0.107	0.121	0.165	0.326	1.13	49.6	42.90	0.33
400	0.0470	0.063	0.102	0.117	0.160	0.366	1.26	55.6	57.20	0.33
500	0.0366	0.050	0.100	0.114	0.158	0.412	1.42	62.6	71.50	0.33
630	0.0283	0.041	0.097	0.112	0.155	0.448	1.55	68.1	90.09	0.33
800	0.0221	0.034	0.094	0.109	0.152	0.502	1.74	76.4	114.40	0.33
1000	0.0176	0.029	0.092	0.106	0.150	0.553	1.91	84.1	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	257	259	227	219	326	329
120	290	292	256	246	376	378
150	323	323	285	272	424	425
185	360	354	317	297	487	480
240	411	398	361	332	568	552
300	456	435	399	362	643	616
400	508	474	443	392	735	690
500	559	510	486	420	828	761
630	611	544	529	446	930	835
800	639	550	550	448	1003	873
1000	672	569	575	460	1083	927

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	5.5	23.5	2.6	24.3	0.3	2.0	1.56	33.0	1.23	2.9	660	495	65	100
120	12.9	5.5	25.0	2.6	25.8	0.4	2.0	1.56	35.0	1.35	3.6	700	525	65	100
150	14.2	5.5	26.3	2.6	27.1	0.4	2.0	1.56	36.0	1.48	4.5	720	540	65	100
185	15.7	5.5	27.8	2.6	28.6	0.4	2.0	1.56	38.0	1.64	5.6	760	570	65	150
240	17.8	5.5	29.9	2.6	30.7	0.4	2.0	1.72	40.0	1.91	7.2	800	600	65	150
300	19.8	5.5	31.9	2.6	32.7	0.4	2.0	1.72	42.0	2.15	9.0	840	630	65	150
400	22.9	5.5	35.0	2.6	35.8	0.5	2.0	1.88	46.0	2.58	12.0	920	690	65	150
500	26.5	5.5	38.6	2.6	39.4	0.5	2.5	2.04	51.0	3.19	15.0	1020	765	80	150
630	29.1	5.5	41.5	2.6	42.3	0.5	2.5	2.04	53.0	3.71	18.9	1060	795	80	200
800	33.4	5.5	45.8	2.6	46.6	0.6	2.5	2.20	58.0	4.46	24.0	1160	870	100	200
1000	37.4	5.5	49.8	2.6	50.6	0.6	2.5	2.36	63.0	5.28	30.0	1260	945	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	0.127	0.142	0.185	0.217	0.75	33.1	8.93	0.33
120	0.2530	0.325	0.122	0.137	0.180	0.237	0.82	36.0	11.28	0.33
150	0.2060	0.265	0.119	0.133	0.177	0.254	0.88	38.6	14.10	0.33
185	0.1640	0.211	0.114	0.129	0.172	0.273	0.94	41.5	17.39	0.33
240	0.1250	0.161	0.110	0.125	0.168	0.300	1.04	45.6	22.56	0.33
300	0.1000	0.129	0.107	0.121	0.165	0.326	1.13	49.6	28.20	0.33
400	0.0778	0.101	0.102	0.117	0.160	0.366	1.26	55.6	37.60	0.33
500	0.0605	0.080	0.100	0.114	0.158	0.412	1.42	62.6	47.00	0.33
630	0.0469	0.063	0.097	0.112	0.155	0.448	1.55	68.1	59.22	0.33
800	0.0367	0.051	0.094	0.109	0.152	0.502	1.74	76.4	75.20	0.33
1000	0.0291	0.042	0.092	0.106	0.150	0.553	1.91	84.1	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts in		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	200	204	177	172	254	258
120	227	230	201	195	294	298
150	252	255	223	215	331	335
185	285	287	251	241	383	384
240	326	323	286	270	450	446
300	365	357	319	298	512	503
400	412	397	359	329	594	575
500	461	436	401	360	680	647
630	514	475	445	390	778	725
800	552	495	476	403	863	781
1000	595	523	509	423	954	846

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 0.9 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	6.0	24.5	2.6	25.3	0.4	2.0	1.56	34.0	1.84	4.8	680	510	65	100
120	12.9	6.0	26.0	2.6	26.8	0.4	2.0	1.56	36.0	2.13	6.0	720	540	65	100
150	14.2	6.0	27.3	2.6	28.1	0.4	2.0	1.56	37.0	2.42	7.5	740	555	65	150
185	15.7	6.0	28.8	2.6	29.6	0.4	2.0	1.72	39.0	2.83	9.3	780	585	65	150
240	17.8	6.0	30.9	2.6	31.7	0.4	2.0	1.72	41.0	3.42	12.0	820	615	65	150
300	19.8	6.0	32.9	2.6	33.7	0.4	2.0	1.72	43.0	4.04	15.0	860	645	65	150
400	22.9	6.0	36.0	2.6	36.8	0.5	2.0	1.88	47.0	4.96	20.0	940	705	80	150
500	26.5	6.0	39.6	2.6	40.4	0.5	2.5	2.04	52.0	6.26	25.0	1040	780	80	200
630	29.1	6.0	42.5	2.6	43.3	0.5	2.5	2.04	54.0	7.62	31.5	1080	810	80	200
800	33.4	6.0	46.8	2.6	47.6	0.6	2.5	2.20	59.0	9.50	40.0	1180	885	100	200
1000	37.4	6.0	50.8	2.6	51.6	0.6	2.5	2.36	64.0	11.51	50.0	1280	960	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	0.129	0.144	0.187	0.204	0.81	41.3	13.59	0.33
120	0.1530	0.196	0.124	0.139	0.182	0.222	0.89	45.0	17.16	0.33
150	0.1240	0.159	0.120	0.135	0.178	0.237	0.95	48.1	21.45	0.33
185	0.0991	0.127	0.116	0.131	0.174	0.255	1.02	51.7	26.46	0.33
240	0.0754	0.098	0.112	0.126	0.170	0.280	1.12	56.8	34.32	0.33
300	0.0601	0.079	0.108	0.123	0.166	0.304	1.21	61.6	42.90	0.33
400	0.0470	0.063	0.104	0.118	0.162	0.340	1.36	69.0	57.20	0.33
500	0.0366	0.050	0.101	0.115	0.159	0.382	1.53	77.5	71.50	0.33
630	0.0283	0.041	0.098	0.113	0.157	0.416	1.66	84.3	90.09	0.33
800	0.0221	0.034	0.095	0.110	0.153	0.466	1.86	94.4	114.40	0.33
1000	0.0176	0.029	0.093	0.107	0.151	0.512	2.04	103.9	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	6.0	24.5	2.6	25.3	0.4	2.0	1.56	34.0	1.28	2.9	680	510	65	100
120	12.9	6.0	26.0	2.6	26.8	0.4	2.0	1.56	36.0	1.42	3.6	720	540	65	100
150	14.2	6.0	27.3	2.6	28.1	0.4	2.0	1.56	37.0	1.55	4.5	740	555	65	150
185	15.7	6.0	28.8	2.6	29.6	0.4	2.0	1.72	39.0	1.74	5.6	780	585	65	150
240	17.8	6.0	30.9	2.6	31.7	0.4	2.0	1.72	41.0	1.98	7.2	820	615	65	150
300	19.8	6.0	32.9	2.6	33.7	0.4	2.0	1.72	43.0	2.23	9.0	860	645	65	150
400	22.9	6.0	36.0	2.6	36.8	0.5	2.0	1.88	47.0	2.65	12.0	940	705	80	150
500	26.5	6.0	39.6	2.6	40.4	0.5	2.5	2.04	52.0	3.29	15.0	1040	780	80	200
630	29.1	6.0	42.5	2.6	43.3	0.5	2.5	2.04	54.0	3.80	18.9	1080	810	80	200
800	33.4	6.0	46.8	2.6	47.6	0.6	2.5	2.20	59.0	4.55	24.0	1180	885	100	200
1000	37.4	6.0	50.8	2.6	51.6	0.6	2.5	2.36	64.0	5.38	30.0	1280	960	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	0.129	0.144	0.187	0.204	0.81	41.3	8.93	0.33
120	0.2530	0.325	0.124	0.139	0.182	0.222	0.89	45.0	11.28	0.33
150	0.2060	0.265	0.120	0.135	0.178	0.237	0.95	48.1	14.10	0.33
185	0.1640	0.211	0.116	0.131	0.174	0.255	1.02	51.7	17.39	0.33
240	0.1250	0.161	0.112	0.126	0.170	0.280	1.12	56.8	22.56	0.33
300	0.1000	0.129	0.108	0.123	0.166	0.304	1.21	61.6	28.20	0.33
400	0.0778	0.101	0.104	0.118	0.162	0.340	1.36	69.0	37.60	0.33
500	0.0605	0.080	0.101	0.115	0.159	0.382	1.53	77.5	47.00	0.33
630	0.0469	0.063	0.098	0.113	0.157	0.416	1.66	84.3	59.22	0.33
800	0.0367	0.051	0.095	0.110	0.153	0.466	1.86	94.4	75.20	0.33
1000	0.0291	0.042	0.093	0.107	0.151	0.512	2.04	103.9	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - 2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	8.8	30.1	2.6	30.9	0.4	2.0	1.72	40.0	2.24	4.8	800	600	65	150
120	12.9	8.8	31.6	2.6	32.4	0.4	2.0	1.72	42.0	2.53	6.0	840	630	65	150
150	14.2	8.8	32.9	2.6	33.7	0.4	2.0	1.72	43.0	2.84	7.5	860	645	65	150
185	15.7	8.8	34.4	2.6	35.2	0.5	2.0	1.88	45.0	3.29	9.3	900	675	65	150
240	17.8	8.8	36.5	2.6	37.3	0.5	2.0	1.88	47.0	3.90	12.0	940	705	80	150
300	19.8	8.8	38.5	2.6	39.3	0.5	2.5	2.04	50.0	4.70	15.0	1000	750	80	150
400	22.9	8.8	41.6	2.6	42.4	0.5	2.5	2.04	54.0	5.62	20.0	1080	810	80	200
500	26.5	8.8	45.2	2.6	46.0	0.6	2.5	2.20	58.0	6.84	25.0	1160	870	100	200
630	29.1	8.8	48.1	2.6	48.9	0.6	2.5	2.36	61.0	8.29	31.5	1220	915	100	200
800	33.4	8.8	52.4	2.6	53.2	0.6	2.5	2.36	65.0	10.14	40.0	1300	975	100	200
1000	37.4	8.8	56.4	2.6	57.2	0.7	3.2	2.52	71.0	12.47	50.0	1420	1065	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
95	0.1930	0.247	0.139	0.154	0.197	0.156	0.93	70.9	13.59	0.33
120	0.1530	0.196	0.134	0.148	0.192	0.169	1.01	76.6	17.16	0.33
150	0.1240	0.159	0.130	0.144	0.188	0.180	1.07	81.5	21.45	0.33
185	0.0991	0.127	0.126	0.140	0.184	0.192	1.15	87.2	26.46	0.33
240	0.0754	0.098	0.121	0.135	0.179	0.209	1.25	95.0	34.32	0.33
300	0.0601	0.078	0.118	0.133	0.176	0.226	1.35	102.4	42.90	0.33
400	0.0470	0.062	0.112	0.127	0.171	0.251	1.50	113.8	57.20	0.33
500	0.0366	0.050	0.108	0.123	0.166	0.280	1.67	127.0	71.50	0.33
630	0.0283	0.040	0.106	0.120	0.164	0.303	1.81	137.4	90.09	0.33
800	0.0221	0.033	0.101	0.116	0.159	0.337	2.01	153.0	114.40	0.33
1000	0.0176	0.028	0.100	0.114	0.158	0.369	2.20	167.5	143.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	253	253	221	212	336	336
120	285	284	249	236	386	384
150	317	313	276	260	434	429
185	355	346	308	286	494	485
240	404	387	350	320	575	556
300	442	413	382	339	644	611
400	490	449	422	367	734	683
500	538	482	462	393	825	753
630	586	513	501	416	920	823
800	629	540	550	447	1014	890
1000	643	552	560	453	1074	938

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV SINGLE CORE ALUMINIUM CONDUCTOR TAPE SCREENED ALUMINIUM ROUND WIRE ARMOURED - A2XWaY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension kN	Min. bending radius		Nominal duct diameter	
												During pulling mm	Set in position mm	mm	mm
95	11.4	8.8	30.1	2.6	30.9	0.4	2.0	1.72	40.0	1.69	2.9	800	600	65	150
120	12.9	8.8	31.6	2.6	32.4	0.4	2.0	1.72	42.0	1.83	3.6	840	630	65	150
150	14.2	8.8	32.9	2.6	33.7	0.4	2.0	1.72	43.0	1.97	4.5	860	645	65	150
185	15.7	8.8	34.4	2.6	35.2	0.5	2.0	1.88	45.0	2.20	5.6	900	675	65	150
240	17.8	8.8	36.5	2.6	37.3	0.5	2.0	1.88	47.0	2.46	7.2	940	705	80	150
300	19.8	8.8	38.5	2.6	39.3	0.5	2.5	2.04	50.0	2.89	9.0	1000	750	80	150
400	22.9	8.8	41.6	2.6	42.4	0.5	2.5	2.04	54.0	3.32	12.0	1080	810	80	200
500	26.5	8.8	45.2	2.6	46.0	0.6	2.5	2.20	58.0	3.87	15.0	1160	870	100	200
630	29.1	8.8	48.1	2.6	48.9	0.6	2.5	2.36	61.0	4.47	18.9	1220	915	100	200
800	33.4	8.8	52.4	2.6	53.2	0.6	2.5	2.36	65.0	5.20	24.0	1300	975	100	200
1000	37.4	8.8	56.4	2.6	57.2	0.7	3.2	2.52	71.0	6.34	30.0	1420	1065	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	0.139	0.154	0.197	0.156	0.93	70.9	8.93	0.33
120	0.2530	0.325	0.134	0.148	0.192	0.169	1.01	76.6	11.28	0.33
150	0.2060	0.265	0.130	0.144	0.188	0.180	1.07	81.5	14.10	0.33
185	0.1640	0.211	0.126	0.140	0.184	0.192	1.15	87.2	17.39	0.33
240	0.1250	0.161	0.121	0.135	0.179	0.209	1.25	95.0	22.56	0.33
300	0.1000	0.129	0.118	0.133	0.176	0.226	1.35	102.4	28.20	0.33
400	0.0778	0.101	0.112	0.127	0.171	0.251	1.50	113.8	37.60	0.33
500	0.0605	0.080	0.108	0.123	0.166	0.280	1.67	127.0	47.00	0.33
630	0.0469	0.063	0.106	0.120	0.164	0.303	1.81	137.4	59.22	0.33
800	0.0367	0.051	0.101	0.116	0.159	0.337	2.01	153.0	75.20	0.33
1000	0.0291	0.042	0.100	0.114	0.158	0.369	2.20	167.5	94.00	0.33

Current Ratings in Amperes

Nominal conductor area mm 2	Buried direct in the ground		In single-way ducts In		In air	
	Trefoil	Flat spaced	Trefoil ducts	Flat touching ducts	Trefoil	Flat touching
						
95	198	200	172	167	262	264
120	224	225	195	188	302	303
150	249	249	217	207	339	340
185	280	279	243	231	389	387
240	321	316	278	261	455	449
300	355	343	307	282	515	501
400	400	380	345	312	594	571
500	447	417	384	340	678	641
630	496	453	424	367	770	715
800	543	486	475	402	866	789
1000	572	508	498	417	944	851

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

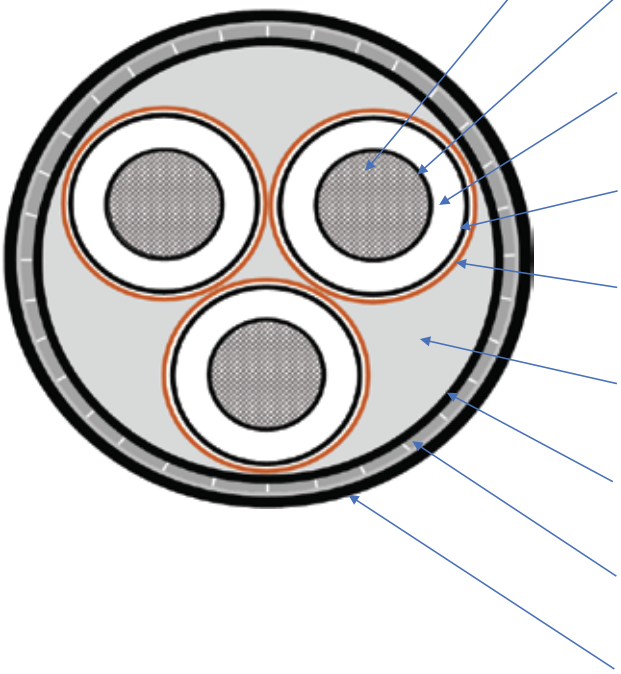
(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

THREE CORE FLAT STRIP ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(v) METALLIC SCREENING
Copper Tape

(vi) FILLERS
Non-Hygroscopic Fillers

(vii) SEPARATION SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Inner Sheath

(viii) ARMOURING
Galvanised Steel Flat Strip Armour

(ix) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - 2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	2.8	18.1	2.6	18.9	0.5	0.8	1.88	48.0	4.50	4.8	960	720	80
120	12.9	2.8	19.6	2.6	20.4	0.6	0.8	2.04	52.0	5.37	6.0	1040	780	80
150	14.2	2.8	20.9	2.6	21.7	0.6	0.8	2.20	55.0	6.31	7.5	1100	825	80
185	15.7	2.8	22.4	2.6	23.2	0.6	0.8	2.20	59.0	7.48	9.3	1180	885	100
240	17.8	2.8	24.5	2.6	25.3	0.7	0.8	2.36	64.0	9.34	12.0	1280	960	100
300	19.8	3.0	26.9	2.6	27.7	0.7	0.8	2.52	69.0	11.37	15.0	1380	1035	100
400	22.9	3.3	30.6	2.6	31.4	0.7	0.8	2.84	78.0	14.37	20.0	1560	1170	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.095	0.370	0.44	6.7	13.59	0.33
120	0.1530	0.196	0.092	0.408	0.49	7.4	17.16	0.33
150	0.1240	0.160	0.089	0.440	0.53	8.0	21.45	0.33
185	0.0991	0.128	0.086	0.478	0.57	8.7	26.46	0.33
240	0.0754	0.099	0.084	0.530	0.63	9.6	34.32	0.33
300	0.0601	0.080	0.083	0.546	0.65	9.9	42.90	0.33
400	0.0470	0.064	0.081	0.567	0.68	10.3	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	246	212	284
120	278	240	326
150	310	268	368
185	350	302	422
240	401	353	492
300	449	395	559
400	506	445	642

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - A2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	2.8	18.1	2.6	18.9	0.5	0.8	1.88	48.0	2.82	2.9	960	720	80
120	12.9	2.8	19.6	2.6	20.4	0.6	0.8	2.04	52.0	3.24	3.6	1040	780	80
150	14.2	2.8	20.9	2.6	21.7	0.6	0.8	2.20	55.0	3.68	4.5	1100	825	80
185	15.7	2.8	22.4	2.6	23.2	0.6	0.8	2.20	59.0	4.20	5.6	1180	885	100
240	17.8	2.8	24.5	2.6	25.3	0.7	0.8	2.36	64.0	5.01	7.2	1280	960	100
300	19.8	3.0	26.9	2.6	27.7	0.7	0.8	2.52	69.0	5.91	9.0	1380	1035	100
400	22.9	3.3	30.6	2.6	31.4	0.7	0.8	2.84	78.0	7.42	12.0	1560	1170	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.095	0.370	0.44	6.7	8.93	0.33
120	0.2530	0.325	0.092	0.408	0.49	7.4	11.28	0.33
150	0.2060	0.265	0.089	0.440	0.53	8.0	14.10	0.33
185	0.1640	0.211	0.086	0.478	0.57	8.7	17.39	0.33
240	0.1250	0.162	0.084	0.530	0.63	9.6	22.56	0.33
300	0.1000	0.130	0.083	0.546	0.65	9.9	28.20	0.33
400	0.0778	0.102	0.081	0.567	0.68	10.3	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	191	165	221
120	216	187	254
150	241	208	286
185	273	236	330
240	315	277	385
300	354	312	440
400	403	355	512

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - 2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	3.6	19.7	2.6	20.5	0.6	0.8	2.04	52.0	4.82	4.8	1040	780	80
120	12.9	3.6	21.2	2.6	22.0	0.6	0.8	2.20	56.0	5.73	6.0	1120	840	80
150	14.2	3.6	22.5	2.6	23.3	0.6	0.8	2.20	59.0	6.64	7.5	1180	885	100
185	15.7	3.6	24.0	2.6	24.8	0.7	0.8	2.36	63.0	7.88	9.3	1260	945	100
240	17.8	3.6	26.1	2.6	26.9	0.7	0.8	2.52	67.0	9.74	12.0	1340	1005	100
300	19.8	3.6	28.1	2.6	28.9	0.7	0.8	2.68	72.0	11.70	15.0	1440	1080	125
400	22.9	3.6	31.2	2.6	32.0	0.7	0.8	2.84	79.0	14.49	20.0	1580	1185	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.100	0.301	0.60	15.3	13.59	0.33
120	0.1530	0.196	0.096	0.331	0.66	16.8	17.16	0.33
150	0.1240	0.159	0.094	0.356	0.71	18.1	21.45	0.33
185	0.0991	0.128	0.091	0.385	0.77	19.5	26.46	0.33
240	0.0754	0.099	0.088	0.426	0.85	21.6	34.32	0.33
300	0.0601	0.080	0.086	0.465	0.93	23.6	42.90	0.33
400	0.0470	0.064	0.082	0.525	1.05	26.6	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	245	213	286
120	278	241	329
150	311	269	371
185	349	308	422
240	401	354	493
300	449	396	560
400	506	446	643

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - A2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	3.6	19.7	2.6	20.5	0.6	0.8	2.04	52.0	3.14	2.9	1040	780	80
120	12.9	3.6	21.2	2.6	22.0	0.6	0.8	2.20	56.0	3.61	3.6	1120	840	80
150	14.2	3.6	22.5	2.6	23.3	0.6	0.8	2.20	59.0	4.01	4.5	1180	885	100
185	15.7	3.6	24.0	2.6	24.8	0.7	0.8	2.36	63.0	4.59	5.6	1260	945	100
240	17.8	3.6	26.1	2.6	26.9	0.7	0.8	2.52	67.0	5.41	7.2	1340	1005	100
300	19.8	3.6	28.1	2.6	28.9	0.7	0.8	2.68	72.0	6.24	9.0	1440	1080	125
400	22.9	3.6	31.2	2.6	32.0	0.7	0.8	2.84	79.0	7.53	12.0	1580	1185	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.100	0.301	0.60	15.3	8.93	0.33
120	0.2530	0.325	0.096	0.331	0.66	16.8	11.28	0.33
150	0.2060	0.265	0.094	0.356	0.71	18.1	14.10	0.33
185	0.1640	0.211	0.091	0.385	0.77	19.5	17.39	0.33
240	0.1250	0.162	0.088	0.426	0.85	21.6	22.56	0.33
300	0.1000	0.130	0.086	0.465	0.93	23.6	28.20	0.33
400	0.0778	0.102	0.082	0.525	1.05	26.6	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	190	165	222
120	216	188	256
150	242	209	288
185	273	240	330
240	315	278	387
300	354	312	441
400	404	356	512

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 0.9 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - 2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.5	2.6	24.3	0.6	0.8	2.36	61.0	5.70	4.8	1220	915	100
120	12.9	5.5	25.0	2.6	25.8	0.7	0.8	2.36	65.0	6.62	6.0	1300	975	100
150	14.2	5.5	26.3	2.6	27.1	0.7	0.8	2.52	68.0	7.65	7.5	1360	1020	100
185	15.7	5.5	27.8	2.6	28.6	0.7	0.8	2.68	71.0	8.87	9.3	1420	1065	100
240	17.8	5.5	29.9	2.6	30.7	0.7	0.8	2.84	76.0	10.79	12.0	1520	1140	125
300	19.8	5.5	31.9	2.6	32.7	0.7	0.8	3.00	81.0	12.82	15.0	1620	1215	125
400	22.9	5.5	35.0	2.6	35.8	0.7	0.8	3.00	88.0	15.65	20.0	1760	1320	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.111	0.217	0.75	33.1	13.59	0.33
120	0.1530	0.196	0.107	0.237	0.82	36.0	17.16	0.33
150	0.1240	0.159	0.104	0.254	0.88	38.6	21.45	0.33
185	0.0991	0.128	0.100	0.273	0.94	41.5	26.46	0.33
240	0.0754	0.098	0.096	0.300	1.04	45.6	34.32	0.33
300	0.0601	0.079	0.093	0.326	1.13	49.6	42.90	0.33
400	0.0470	0.064	0.090	0.366	1.26	55.6	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	245	213	286
120	278	241	329
150	311	269	371
185	349	308	422
240	401	354	493
300	449	396	560
400	506	446	643

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - A2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.5	2.6	24.3	0.6	0.8	2.36	61.0	4.02	2.9	1220	915	100
120	12.9	5.5	25.0	2.6	25.8	0.7	0.8	2.36	65.0	4.49	3.6	1300	975	100
150	14.2	5.5	26.3	2.6	27.1	0.7	0.8	2.52	68.0	5.01	4.5	1360	1020	100
185	15.7	5.5	27.8	2.6	28.6	0.7	0.8	2.68	71.0	5.59	5.6	1420	1065	100
240	17.8	5.5	29.9	2.6	30.7	0.7	0.8	2.84	76.0	6.46	7.2	1520	1140	125
300	19.8	5.5	31.9	2.6	32.7	0.7	0.8	3.00	81.0	7.36	9.0	1620	1215	125
400	22.9	5.5	35.0	2.6	35.8	0.7	0.8	3.00	88.0	8.69	12.0	1760	1320	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.111	0.217	0.75	33.1	8.93	0.33
120	0.2530	0.325	0.107	0.237	0.82	36.0	11.28	0.33
150	0.2060	0.265	0.104	0.254	0.88	38.6	14.10	0.33
185	0.1640	0.211	0.100	0.273	0.94	41.5	17.39	0.33
240	0.1250	0.162	0.096	0.300	1.04	45.6	22.56	0.33
300	0.1000	0.130	0.093	0.326	1.13	49.6	28.20	0.33
400	0.0778	0.102	0.090	0.366	1.26	55.6	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	190	165	222
120	216	188	256
150	242	209	288
185	273	240	330
240	315	278	387
300	354	312	441
400	404	356	512

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 0.9 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - 2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	6.0	24.5	2.6	25.3	0.7	0.8	2.36	64.0	5.96	4.8	1280	960	100
120	12.9	6.0	26.0	2.6	26.8	0.7	0.8	2.52	67.0	6.90	6.0	1340	1005	100
150	14.2	6.0	27.3	2.6	28.1	0.7	0.8	2.68	70.0	7.94	7.5	1400	1050	100
185	15.7	6.0	28.8	2.6	29.6	0.7	0.8	2.68	74.0	9.15	9.3	1480	1110	125
240	17.8	6.0	30.9	2.6	31.7	0.7	0.8	2.84	78.0	11.09	12.0	1560	1170	125
300	19.8	6.0	32.9	2.6	33.7	0.7	0.8	3.00	83.0	13.13	15.0	1660	1245	125
400	22.9	6.0	36.0	2.6	36.8	0.7	0.8	3.00	90.0	15.94	20.0	1800	1350	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.113	0.204	0.81	41.3	13.59	0.33
120	0.1530	0.196	0.109	0.222	0.89	45.0	17.16	0.33
150	0.1240	0.159	0.106	0.237	0.95	48.1	21.45	0.33
185	0.0991	0.128	0.102	0.255	1.02	51.7	26.46	0.33
240	0.0754	0.098	0.098	0.280	1.12	56.8	34.32	0.33
300	0.0601	0.079	0.095	0.304	1.21	61.6	42.90	0.33
400	0.0470	0.063	0.091	0.340	1.36	69.0	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	243	217	293
120	276	246	336
150	307	275	378
185	346	313	431
240	398	360	503
300	446	403	571
400	503	453	655

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - A2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	6.0	24.5	2.6	25.3	0.7	0.8	2.36	64.0	4.28	2.9	1280	960	100
120	12.9	6.0	26.0	2.6	26.8	0.7	0.8	2.52	67.0	4.78	3.6	1340	1005	100
150	14.2	6.0	27.3	2.6	28.1	0.7	0.8	2.68	70.0	5.31	4.5	1400	1050	100
185	15.7	6.0	28.8	2.6	29.6	0.7	0.8	2.68	74.0	5.87	5.6	1480	1110	125
240	17.8	6.0	30.9	2.6	31.7	0.7	0.8	2.84	78.0	6.76	7.2	1560	1170	125
300	19.8	6.0	32.9	2.6	33.7	0.7	0.8	3.00	83.0	7.67	9.0	1660	1245	125
400	22.9	6.0	36.0	2.6	36.8	0.7	0.8	3.00	90.0	8.98	12.0	1800	1350	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.113	0.204	0.81	41.3	8.93	0.33
120	0.2530	0.325	0.109	0.222	0.89	45.0	11.28	0.33
150	0.2060	0.265	0.106	0.237	0.95	48.1	14.10	0.33
185	0.1640	0.211	0.102	0.255	1.02	51.7	17.39	0.33
240	0.1250	0.162	0.098	0.280	1.12	56.8	22.56	0.33
300	0.1000	0.130	0.095	0.304	1.21	61.6	28.20	0.33
400	0.0778	0.102	0.091	0.340	1.36	69.0	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	189	169	227
120	215	192	262
150	239	214	294
185	270	245	336
240	312	282	393
300	351	317	448
400	400	361	519

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - 2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	8.8	30.1	2.6	30.9	0.7	0.8	2.84	77.0	7.47	4.8	1540	1155	125
120	12.9	8.8	31.6	2.6	32.4	0.7	0.8	2.84	80.0	8.46	6.0	1600	1200	125
150	14.2	8.8	32.9	2.6	33.7	0.7	0.8	3.00	83.0	9.53	7.5	1660	1245	125
185	15.7	8.8	34.4	2.6	35.2	0.7	0.8	3.00	86.0	10.76	9.3	1720	1290	125
240	17.8	8.8	36.5	2.6	37.3	0.7	0.8	3.00	91.0	12.70	12.0	1820	1365	150
300	19.8	8.8	38.5	2.6	39.3	0.7	0.8	3.00	95.0	14.75	15.0	1900	1425	150
400	22.9	8.8	41.6	2.6	42.4	0.7	0.8	3.00	102.0	17.71	20.0	2040	1530	200

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.126	0.156	0.93	70.9	13.59	0.33
120	0.1530	0.196	0.121	0.169	1.01	76.6	17.16	0.33
150	0.1240	0.159	0.118	0.180	1.07	81.5	21.45	0.33
185	0.0991	0.128	0.113	0.192	1.15	87.2	26.46	0.33
240	0.0754	0.098	0.109	0.209	1.25	95.0	34.32	0.33
300	0.0601	0.079	0.105	0.226	1.35	102.4	42.90	0.33
400	0.0470	0.063	0.100	0.251	1.50	113.8	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	243	217	293
120	276	246	336
150	307	275	378
185	346	313	431
240	398	360	503
300	446	403	571
400	503	453	655

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 1.05 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL FLAT STRIP ARMOURED - A2XFY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal thickness of armour strip mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	8.8	30.1	2.6	30.9	0.7	0.8	2.84	77.0	5.79	2.9	1540	1155	125
120	12.9	8.8	31.6	2.6	32.4	0.7	0.8	2.84	80.0	6.33	3.6	1600	1200	125
150	14.2	8.8	32.9	2.6	33.7	0.7	0.8	3.00	83.0	6.89	4.5	1660	1245	125
185	15.7	8.8	34.4	2.6	35.2	0.7	0.8	3.00	86.0	7.47	5.6	1720	1290	125
240	17.8	8.8	36.5	2.6	37.3	0.7	0.8	3.00	91.0	8.38	7.2	1820	1365	150
300	19.8	8.8	38.5	2.6	39.3	0.7	0.8	3.00	95.0	9.30	9.0	1900	1425	150
400	22.9	8.8	41.6	2.6	42.4	0.7	0.8	3.00	102.0	10.75	12.0	2040	1530	200

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.126	0.156	0.93	70.9	8.93	0.33
120	0.2530	0.325	0.121	0.169	1.01	76.6	11.28	0.33
150	0.2060	0.265	0.118	0.180	1.07	81.5	14.10	0.33
185	0.1640	0.211	0.113	0.192	1.15	87.2	17.39	0.33
240	0.1250	0.161	0.109	0.209	1.25	95.0	22.56	0.33
300	0.1000	0.130	0.105	0.226	1.35	102.4	28.20	0.33
400	0.0778	0.102	0.100	0.251	1.50	113.8	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	189	169	227
120	215	192	262
150	239	214	294
185	270	245	336
240	312	282	393
300	351	317	448
400	400	361	519

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

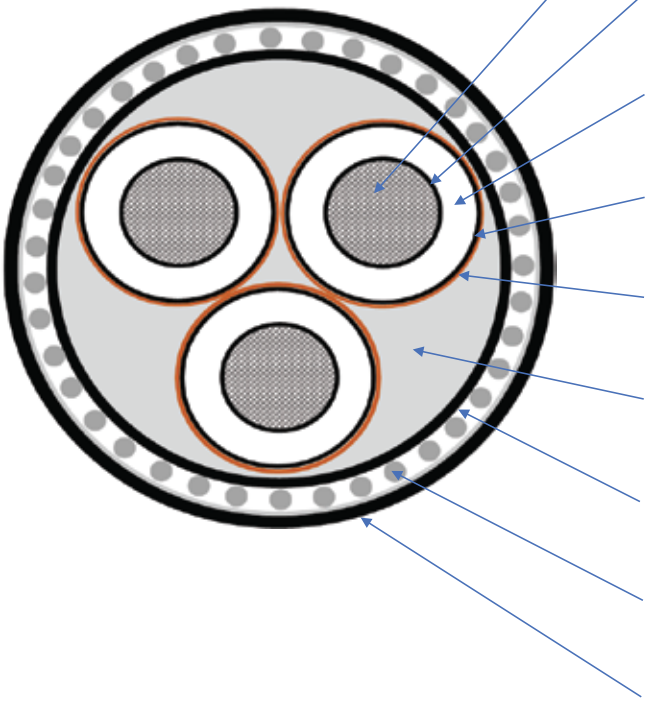
(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

THREE CORE ROUND WIRE ARMOURED CABLES

CABLE CONSTRUCTION:



(i) CONDUCTOR
Compacted Circular Stranded Copper or Aluminium Conductor

(ii) CONDUCTOR SCREENING
Extruded Semi-conductor

(iii) INSULATION
Cross-Linked Polyethylene (XLPE)

(iv) INSULATION SCREENING
Extruded Semi-conductor

(v) METALLIC SCREENING
Copper Tape

(vi) FILLERS
Non-Hygroscopic Fillers

(vii) SEPARATION SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Inner Sheath

(viii) ARMOURING
Galvanised Steel Round Wire Armour

(ix) OUTER SHEATH
Extruded Poly-Vinyl Chloride (PVC ST-2) Outer Jacket

APPLICABLE STANDARDS:

IS 7098-2

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 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - 2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	2.8	18.1	2.6	18.9	0.5	2.50	2.04	52.0	5.78	4.8	1040	780	80
120	12.9	2.8	19.6	2.6	20.4	0.6	2.50	2.20	56.0	6.77	6.0	1120	840	100
150	14.2	2.8	20.9	2.6	21.7	0.6	2.50	2.20	59.0	7.74	7.5	1180	885	100
185	15.7	2.8	22.4	2.6	23.2	0.6	2.50	2.36	62.0	9.07	9.3	1240	930	100
240	17.8	2.8	24.5	2.6	25.3	0.7	3.15	2.52	69.0	11.74	12.0	1380	1035	100
300	19.8	3.0	26.9	2.6	27.7	0.7	3.15	2.68	74.0	14.00	15.0	1480	1110	125
400	22.9	3.3	30.6	2.6	31.4	0.7	4.00	3.00	84.0	18.44	20.0	1680	1260	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.095	0.370	0.44	6.7	13.59	0.33
120	0.1530	0.196	0.092	0.408	0.49	7.4	17.16	0.33
150	0.1240	0.160	0.089	0.440	0.53	8.0	21.45	0.33
185	0.0991	0.128	0.086	0.478	0.57	8.7	26.46	0.33
240	0.0754	0.099	0.084	0.530	0.63	9.6	34.32	0.33
300	0.0601	0.080	0.083	0.546	0.65	9.9	42.90	0.33
400	0.0470	0.064	0.081	0.567	0.68	10.3	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	246	212	284
120	278	240	326
150	310	268	368
185	350	302	422
240	401	353	492
300	449	395	559
400	506	445	642

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

3.8/6.6 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - A2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	2.8	18.1	2.6	18.9	0.5	2.50	2.04	52.0	4.10	2.9	1040	780	80
120	12.9	2.8	19.6	2.6	20.4	0.6	2.50	2.20	56.0	4.65	3.6	1120	840	100
150	14.2	2.8	20.9	2.6	21.7	0.6	2.50	2.20	59.0	5.11	4.5	1180	885	100
185	15.7	2.8	22.4	2.6	23.2	0.6	2.50	2.36	62.0	5.79	5.6	1240	930	100
240	17.8	2.8	24.5	2.6	25.3	0.7	3.15	2.52	69.0	7.42	7.2	1380	1035	100
300	19.8	3.0	26.9	2.6	27.7	0.7	3.15	2.68	74.0	8.55	9.0	1480	1110	125
400	22.9	3.3	30.6	2.6	31.4	0.7	4.00	3.00	84.0	11.48	12.0	1680	1260	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.095	0.370	0.44	6.7	8.93	0.33
120	0.2530	0.325	0.092	0.408	0.49	7.4	11.28	0.33
150	0.2060	0.265	0.089	0.440	0.53	8.0	14.10	0.33
185	0.1640	0.211	0.086	0.478	0.57	8.7	17.39	0.33
240	0.1250	0.162	0.084	0.530	0.63	9.6	22.56	0.33
300	0.1000	0.130	0.083	0.546	0.65	9.9	28.20	0.33
400	0.0778	0.102	0.081	0.567	0.68	10.3	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	191	165	221
120	216	187	254
150	241	208	286
185	273	236	330
240	315	277	385
300	354	312	440
400	403	355	512

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - 2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	3.6	19.7	2.6	20.5	0.6	2.50	2.20	56.0	6.22	4.8	1120	840	100
120	12.9	3.6	21.2	2.6	22.0	0.6	2.50	2.20	59.0	7.21	6.0	1180	885	100
150	14.2	3.6	22.5	2.6	23.3	0.6	2.50	2.36	62.0	8.24	7.5	1240	930	100
185	15.7	3.6	24.0	2.6	24.8	0.7	3.15	2.52	67.0	10.22	9.3	1340	1005	100
240	17.8	3.6	26.1	2.6	26.9	0.7	3.15	2.68	72.0	12.27	12.0	1440	1080	125
300	19.8	3.6	28.1	2.6	28.9	0.7	3.15	2.84	77.0	14.42	15.0	1540	1155	125
400	22.9	3.6	31.2	2.6	32.0	0.7	4.00	3.00	86.0	18.66	20.0	1720	1290	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.100	0.301	0.60	15.3	13.59	0.33
120	0.1530	0.196	0.096	0.331	0.66	16.8	17.16	0.33
150	0.1240	0.159	0.094	0.356	0.71	18.1	21.45	0.33
185	0.0991	0.128	0.091	0.385	0.77	19.5	26.46	0.33
240	0.0754	0.099	0.088	0.426	0.85	21.6	34.32	0.33
300	0.0601	0.080	0.086	0.465	0.93	23.6	42.90	0.33
400	0.0470	0.064	0.082	0.525	1.05	26.6	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	245	213	286
120	278	241	329
150	311	269	371
185	349	308	422
240	401	354	493
300	449	396	560
400	506	446	643

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

6.35/11 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - A2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	3.6	19.7	2.6	20.5	0.6	2.50	2.20	56.0	4.54	2.9	1120	840	100
120	12.9	3.6	21.2	2.6	22.0	0.6	2.50	2.20	59.0	5.08	3.6	1180	885	100
150	14.2	3.6	22.5	2.6	23.3	0.6	2.50	2.36	62.0	5.61	4.5	1240	930	100
185	15.7	3.6	24.0	2.6	24.8	0.7	3.15	2.52	67.0	6.94	5.6	1340	1005	100
240	17.8	3.6	26.1	2.6	26.9	0.7	3.15	2.68	72.0	7.94	7.2	1440	1080	125
300	19.8	3.6	28.1	2.6	28.9	0.7	3.15	2.84	77.0	8.97	9.0	1540	1155	125
400	22.9	3.6	31.2	2.6	32.0	0.7	4.00	3.00	86.0	11.70	12.0	1720	1290	125

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.100	0.301	0.60	15.3	8.93	0.33
120	0.2530	0.325	0.096	0.331	0.66	16.8	11.28	0.33
150	0.2060	0.265	0.094	0.356	0.71	18.1	14.10	0.33
185	0.1640	0.211	0.091	0.385	0.77	19.5	17.39	0.33
240	0.1250	0.162	0.088	0.426	0.85	21.6	22.56	0.33
300	0.1000	0.130	0.086	0.465	0.93	23.6	28.20	0.33
400	0.0778	0.102	0.082	0.525	1.05	26.6	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
95	190	165	222
120	216	188	256
150	242	209	288
185	273	240	330
240	315	278	387
300	354	312	441
400	404	356	512

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - 2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	5.5	23.5	2.6	24.3	0.6	3.15	2.52	66.0	8.01	4.8	1320	990	100
120	12.9	5.5	25.0	2.6	25.8	0.7	3.15	2.52	70.0	9.07	6.0	1400	1050	100
150	14.2	5.5	26.3	2.6	27.1	0.7	3.15	2.68	73.0	10.24	7.5	1460	1095	125
185	15.7	5.5	27.8	2.6	28.6	0.7	3.15	2.84	76.0	11.62	9.3	1520	1140	125
240	17.8	5.5	29.9	2.6	30.7	0.7	3.15	3.00	81.0	13.73	12.0	1620	1215	125
300	19.8	5.5	31.9	2.6	32.7	0.7	4.00	3.00	87.0	17.01	15.0	1740	1305	125
400	22.9	5.5	35.0	2.6	35.8	0.7	4.00	3.00	94.0	20.24	20.0	1880	1410	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.111	0.217	0.75	33.1	13.59	0.33
120	0.1530	0.196	0.107	0.237	0.82	36.0	17.16	0.33
150	0.1240	0.159	0.104	0.254	0.88	38.6	21.45	0.33
185	0.0991	0.128	0.100	0.273	0.94	41.5	26.46	0.33
240	0.0754	0.098	0.096	0.300	1.04	45.6	34.32	0.33
300	0.0601	0.079	0.093	0.326	1.13	49.6	42.90	0.33
400	0.0470	0.064	0.090	0.366	1.26	55.6	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground 	In a Buried duct 	In Air 
95	245	213	286
120	278	241	329
150	311	269	371
185	349	308	422
240	401	354	493
300	449	396	560
400	506	446	643

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

11/11 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - A2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	5.5	23.5	2.6	24.3	0.6	3.15	2.52	66.0	6.33	2.9	1320	990	100
120	12.9	5.5	25.0	2.6	25.8	0.7	3.15	2.52	70.0	6.94	3.6	1400	1050	100
150	14.2	5.5	26.3	2.6	27.1	0.7	3.15	2.68	73.0	7.61	4.5	1460	1095	125
185	15.7	5.5	27.8	2.6	28.6	0.7	3.15	2.84	76.0	8.33	5.6	1520	1140	125
240	17.8	5.5	29.9	2.6	30.7	0.7	3.15	3.00	81.0	9.40	7.2	1620	1215	125
300	19.8	5.5	31.9	2.6	32.7	0.7	4.00	3.00	87.0	11.55	9.0	1740	1305	125
400	22.9	5.5	35.0	2.6	35.8	0.7	4.00	3.00	94.0	13.28	12.0	1880	1410	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.111	0.217	0.75	33.1	8.93	0.33
120	0.2530	0.325	0.107	0.237	0.82	36.0	11.28	0.33
150	0.2060	0.265	0.104	0.254	0.88	38.6	14.10	0.33
185	0.1640	0.211	0.100	0.273	0.94	41.5	17.39	0.33
240	0.1250	0.162	0.096	0.300	1.04	45.6	22.56	0.33
300	0.1000	0.130	0.093	0.326	1.13	49.6	28.20	0.33
400	0.0778	0.102	0.090	0.366	1.26	55.6	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	190	165	222
120	216	188	256
150	242	209	288
185	273	240	330
240	315	278	387
300	354	312	441
400	404	356	512

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 0.9 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV SINGLE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - 2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	 mm
95	11.4	6.0	24.5	2.6	25.3	0.7	3.15	2.52	69.0	8.37	4.8	1380	1035	100
120	12.9	6.0	26.0	2.6	26.8	0.7	3.15	2.68	72.0	9.43	6.0	1440	1080	125
150	14.2	6.0	27.3	2.6	28.1	0.7	3.15	2.68	75.0	10.56	7.5	1500	1125	125
185	15.7	6.0	28.8	2.6	29.6	0.7	3.15	2.84	78.0	11.98	9.3	1560	1170	125
240	17.8	6.0	30.9	2.6	31.7	0.7	4.00	3.00	85.0	15.15	12.0	1700	1275	125
300	19.8	6.0	32.9	2.6	33.7	0.7	4.00	3.00	89.0	17.37	15.0	1780	1335	150
400	22.9	6.0	36.0	2.6	36.8	0.7	4.00	3.00	96.0	20.58	20.0	1920	1440	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.113	0.204	0.81	41.3	13.59	0.33
120	0.1530	0.196	0.109	0.222	0.89	45.0	17.16	0.33
150	0.1240	0.159	0.106	0.237	0.95	48.1	21.45	0.33
185	0.0991	0.128	0.102	0.255	1.02	51.7	26.46	0.33
240	0.0754	0.098	0.098	0.280	1.12	56.8	34.32	0.33
300	0.0601	0.079	0.095	0.304	1.21	61.6	42.90	0.33
400	0.0470	0.063	0.091	0.340	1.36	69.0	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	243	217	293
120	276	246	336
150	307	275	378
185	346	313	431
240	398	360	503
300	446	403	571
400	503	453	655

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 1.05 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

12.7/22 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - A2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	6.0	24.5	2.6	25.3	0.7	3.15	2.52	69.0	6.68	2.9	1380	1035	100
120	12.9	6.0	26.0	2.6	26.8	0.7	3.15	2.68	72.0	7.31	3.6	1440	1080	125
150	14.2	6.0	27.3	2.6	28.1	0.7	3.15	2.68	75.0	7.93	4.5	1500	1125	125
185	15.7	6.0	28.8	2.6	29.6	0.7	3.15	2.84	78.0	8.70	5.6	1560	1170	125
240	17.8	6.0	30.9	2.6	31.7	0.7	4.00	3.00	85.0	10.83	7.2	1700	1275	125
300	19.8	6.0	32.9	2.6	33.7	0.7	4.00	3.00	89.0	11.92	9.0	1780	1335	150
400	22.9	6.0	36.0	2.6	36.8	0.7	4.00	3.00	96.0	13.62	12.0	1920	1440	150

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.113	0.204	0.81	41.3	8.93	0.33
120	0.2530	0.325	0.109	0.222	0.89	45.0	11.28	0.33
150	0.2060	0.265	0.106	0.237	0.95	48.1	14.10	0.33
185	0.1640	0.211	0.102	0.255	1.02	51.7	17.39	0.33
240	0.1250	0.162	0.098	0.280	1.12	56.8	22.56	0.33
300	0.1000	0.130	0.095	0.304	1.21	61.6	28.20	0.33
400	0.0778	0.102	0.091	0.340	1.36	69.0	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
95	189	169	227
120	215	192	262
150	239	214	294
185	270	245	336
240	312	282	393
300	351	317	448
400	400	361	519

Standard Laying Conditions for Current Ratings

Maximum Conductor Temperature : 90 °C
Ambient Air Temperature : 40 °C
Ground Temperature : 30 °C
Depth of Laying : 1.05 Metres
Thermal Resistivity of Soil : 1.5 K.m/W
Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV THREE CORE COPPER CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED 2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	8.8	30.1	2.6	30.9	0.7	3.15	3.00	82.0	10.38	4.8	1640	1230	125
120	12.9	8.8	31.6	2.6	32.4	0.7	4.00	3.00	87.0	12.61	6.0	1740	1305	125
150	14.2	8.8	32.9	2.6	33.7	0.7	4.00	3.00	89.0	13.77	7.5	1780	1335	150
185	15.7	8.8	34.4	2.6	35.2	0.7	4.00	3.00	93.0	15.26	9.3	1860	1395	150
240	17.8	8.8	36.5	2.6	37.3	0.7	4.00	3.00	97.0	17.44	12.0	1940	1455	150
300	19.8	8.8	38.5	2.6	39.3	0.7	4.00	3.00	101.0	19.73	15.0	2020	1515	200
400	22.9	8.8	41.6	2.6	42.4	0.7	4.00	3.00	108.0	23.09	20.0	2160	1620	200

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.1930	0.247	0.126	0.156	0.93	70.9	13.59	0.33
120	0.1530	0.196	0.121	0.169	1.01	76.6	17.16	0.33
150	0.1240	0.159	0.118	0.180	1.07	81.5	21.45	0.33
185	0.0991	0.128	0.113	0.192	1.15	87.2	26.46	0.33
240	0.0754	0.098	0.109	0.209	1.25	95.0	34.32	0.33
300	0.0601	0.079	0.105	0.226	1.35	102.4	42.90	0.33
400	0.0470	0.063	0.100	0.251	1.50	113.8	57.20	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	243	217	293
120	276	246	336
150	307	275	378
185	346	313	431
240	398	360	503
300	446	403	571
400	503	453	655

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

19/33 kV THREE CORE ALUMINIUM CONDUCTOR TAPE SCREENED GALVANISED STEEL ROUND WIRE ARMOURED - A2XWY

Dimensional Characteristics

Nominal conductor area mm²	Nominal conductor diameter mm	Nominal insulation thickness mm	Nominal diameter over insulation mm	Nominal screen area per core mm²	Nominal diameter over tape screen mm	Minimum thickness of separation sheath mm	Nominal diamter of armour wire mm	Minimum thickness of over sheath mm	Nominal overall diameter mm	Approx. mass Kg/m	Max. pulling tension per core kN	Min. bending radius		Nominal duct diameter
												During pulling mm	Set in position mm	mm
95	11.4	8.8	30.1	2.6	30.9	0.7	3.15	3.00	82.0	8.70	2.9	1640	1230	125
120	12.9	8.8	31.6	2.6	32.4	0.7	4.00	3.00	87.0	10.48	3.6	1740	1305	125
150	14.2	8.8	32.9	2.6	33.7	0.7	4.00	3.00	89.0	11.14	4.5	1780	1335	150
185	15.7	8.8	34.4	2.6	35.2	0.7	4.00	3.00	93.0	11.98	5.6	1860	1395	150
240	17.8	8.8	36.5	2.6	37.3	0.7	4.00	3.00	97.0	13.12	7.2	1940	1455	150
300	19.8	8.8	38.5	2.6	39.3	0.7	4.00	3.00	101.0	14.27	9.0	2020	1515	200
400	22.9	8.8	41.6	2.6	42.4	0.7	4.00	3.00	108.0	16.13	12.0	2160	1620	200

Electrical Characteristics

Nominal conductor area mm²	Maximum Conductor DC resistance at 20°C Ohm/km	Cond. AC resistance at 50 Hz and 90°C Ohm/km	Inductive reactance at 50 Hz and 90°C Ohm/km	Capacitance µF/km	Charging current per phase A/km	Dielectric loss per phase W/km	Fault current carrying capacity for 1 second per core	
							Cond. kA	Screen kA
95	0.3200	0.411	0.126	0.156	0.93	70.9	8.93	0.33
120	0.2530	0.325	0.121	0.169	1.01	76.6	11.28	0.33
150	0.2060	0.265	0.118	0.180	1.07	81.5	14.10	0.33
185	0.1640	0.211	0.113	0.192	1.15	87.2	17.39	0.33
240	0.1250	0.161	0.109	0.209	1.25	95.0	22.56	0.33
300	0.1000	0.130	0.105	0.226	1.35	102.4	28.20	0.33
400	0.0778	0.102	0.100	0.251	1.50	113.8	37.60	0.33

Current Ratings in Amperes

Nominal conductor area mm²	Buried direct in ground	In a Buried duct	In Air
			
95	189	169	227
120	215	192	262
150	239	214	294
185	270	245	336
240	312	282	393
300	351	317	448
400	400	361	519

Standard Laying Conditions for Current Ratings

- Maximum Conductor Temperature : 90 °C
- Ambient Air Temperature : 40 °C
- Ground Temperature : 30 °C
- Depth of Laying : 1.05 Metres
- Thermal Resistivity of Soil : 1.5 K.m/W
- Thermal Resistivity of Earthen Ducts : 1.2 K.m/W

Note:

(i) Smaller sizes can be offered as per the customer's request.

(ii) Water-tight construction can be offered as per the customer's request.

(iii) Cables can also be designed for higher fault current levels as per the customer's request.

(iv) Anti-termite protection (Nylon sheath, double brass/stainless steel tape or suitable additives) can be offered as per the customer's request.

⟹ EMERGENCY RATING:

The XLPE insulated cable shall operate under emergency conditions with maximum conductor temperature of 105 ºC 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 IS 16269 and are the currents which will cause the screen temperature to rise from the normal operating value of 80ºC to the maximum short circuit temperature.

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

Table A.1 Rating factors for variation in ambient air temperature for cables in free air

Maximum conductor temp. °C	Ambient air temperature °C							
	25	30	35	40	45	50	55	60
90	1.14	1.10	1.05	1.00	0.95	0.89	0.84	0.77

Table A.2 Rating factors for variation in ground temperature for direct buried cables

Maximum conductor temp. °C	Ground temperature °C							
	15	20	25	30	35	40	45	50
90	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Table A.3 Rating factors for variation in ground temperature for cables in ducts

Maximum conductor temp. °C	Ground temperature °C							
	15	20	25	30	35	40	45	50
90	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Table B.1 Rating factors for depths of laying for direct buried cables

Depth of laying mm	3.3 kV, 6.6 kV and 11 kV Cables			22 kV and 33 kV Cables		
	Single-core Nominal conductor size in mm 2		Three-core	Single-core Nominal conductor size in mm 2		Three-core
	<185 mm²	>185 mm²		>185 mm²	>185 mm²	
900	1.00	1.00	1.00	-	-	-
1050	0.99	0.98	0.98	1.00	1.00	1.00
1200	0.97	0.96	0.97	0.99	0.98	0.99
1500	0.95	0.94	0.95	0.97	0.96	0.97
1800	0.93	0.92	0.94	0.95	0.94	0.95
2000	0.92	0.91	0.93	0.94	0.93	0.94
2500	0.91	0.89	0.91	0.92	0.91	0.92
3000	0.89	0.87	0.90	0.90	0.89	0.91

Table B.2 Rating factors for depths of laying for cables in ducts

Depth of laying mm	3.3 kV, 6.6 kV and 11 kV Cables			22 kV and 33 kV Cables		
	Single-core Nominal conductor size in mm 2		Three-core	Single-core Nominal conductor size in mm 2		Three-core
	<185 mm²	>185 mm²		>185 mm²	>185 mm²	
900	1.00	1.00	1.00	-	-	-
1050	0.98	0.98	0.99	1.00	1.00	1.00
1200	0.97	0.97	0.98	0.99	0.98	0.99
1500	0.95	0.94	0.96	0.96	0.96	0.97
1800	0.93	0.92	0.95	0.95	0.94	0.96
2000	0.92	0.91	0.94	0.94	0.93	0.95
2500	0.90	0.89	0.93	0.92	0.90	0.94
3000	0.89	0.88	0.91	0.91	0.89	0.92

Table C.1 Rating factors for variations in soil thermal resistivities for single-core 3.3 kV, 6.6 kV and 11 kV cables laid direct in ground

Nominal area of conductor mm²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.19	1.10	1.00	0.88	0.79	0.73
120	1.19	1.10	1.00	0.88	0.79	0.73
150	1.19	1.10	1.00	0.88	0.79	0.73
185	1.19	1.11	1.00	0.88	0.79	0.73
240	1.19	1.11	1.00	0.88	0.79	0.73
300	1.20	1.11	1.00	0.88	0.79	0.72
400	1.20	1.11	1.00	0.87	0.79	0.72
500	1.20	1.11	1.00	0.87	0.79	0.72
630	1.20	1.11	1.00	0.87	0.79	0.72
800	1.20	1.11	1.00	0.87	0.78	0.72
1000	1.21	1.11	1.00	0.87	0.78	0.72

Table C.2 Rating factors for variations in soil thermal resistivities for single-core 3.3 kV, 6.6 kV and 11 kV cables laid in buried duct

Nominal area of conductor mm²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.11	1.07	1.00	0.91	0.85	0.79
120	1.12	1.07	1.00	0.91	0.84	0.79
150	1.12	1.07	1.00	0.91	0.84	0.79
185	1.12	1.07	1.00	0.91	0.84	0.78
240	1.13	1.07	1.00	0.91	0.84	0.78
300	1.13	1.07	1.00	0.91	0.83	0.78
400	1.13	1.07	1.00	0.90	0.83	0.77
500	1.14	1.08	1.00	0.90	0.83	0.77
630	1.14	1.08	1.00	0.90	0.83	0.77
800	1.14	1.08	1.00	0.90	0.82	0.76
1000	1.15	1.08	1.00	0.90	0.82	0.76

Table C.3 Rating factors for variations in soil thermal resistivities for single-core 22 kV and 33 kV cables laid direct in ground

Nominal area of conductor mm²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.17	1.09	1.00	0.89	0.80	0.74
120	1.18	1.10	1.00	0.89	0.80	0.74
150	1.18	1.10	1.00	0.88	0.80	0.74
185	1.18	1.10	1.00	0.88	0.80	0.74
240	1.18	1.10	1.00	0.88	0.80	0.73
300	1.19	1.10	1.00	0.88	0.79	0.73
400	1.19	1.10	1.00	0.88	0.79	0.73
500	1.19	1.10	1.00	0.88	0.79	0.73
630	1.19	1.10	1.00	0.88	0.79	0.73
800	1.20	1.10	1.00	0.88	0.79	0.72
1000	1.20	1.11	1.00	0.88	0.79	0.72

Table C.4 Rating factors for variations in soil thermal resistivities for single-core 22 kV and 33 kV cables laid in buried duct

Nominal area of conductor mm²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.12	1.06	1.00	0.91	0.84	0.79
120	1.12	1.07	1.00	0.91	0.84	0.79
150	1.12	1.07	1.00	0.91	0.84	0.79
185	1.13	1.07	1.00	0.91	0.84	0.78
240	1.13	1.07	1.00	0.91	0.83	0.78
300	1.13	1.07	1.00	0.90	0.83	0.77
400	1.14	1.08	1.00	0.90	0.83	0.77
500	1.14	1.08	1.00	0.90	0.83	0.77
630	1.14	1.08	1.00	0.90	0.82	0.77
800	1.14	1.08	1.00	0.90	0.82	0.77
1000	1.15	1.08	1.00	0.90	0.82	0.76

Table D.1 Rating factors for variations in soil thermal resistivities for threecore 3.3 kV, 6.6 kV and 11 kV cables laid direct in ground

Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.15	1.09	1.00	0.89	0.82	0.76
120	1.15	1.09	1.00	0.89	0.82	0.76
150	1.15	1.09	1.00	0.89	0.81	0.75
185	1.16	1.09	1.00	0.89	0.81	0.75
240	1.16	1.09	1.00	0.89	0.81	0.75
300	1.16	1.09	1.00	0.89	0.81	0.75
400	1.16	1.09	1.00	0.89	0.81	0.75
500	1.16	1.09	1.00	0.89	0.81	0.75

Table D.2 Rating factors for variations in soil thermal resistivities for threecore 3.3 kV, 6.6 kV and 11 kV cables laid in buried duct

Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.08	1.05	1.00	0.93	0.88	0.83
120	1.09	1.05	1.00	0.93	0.88	0.83
150	1.09	1.05	1.00	0.93	0.87	0.83
185	1.09	1.05	1.00	0.93	0.87	0.83
240	1.09	1.05	1.00	0.93	0.87	0.82
300	1.09	1.05	1.00	0.93	0.87	0.82
400	1.09	1.05	1.00	0.93	0.87	0.82
500	1.10	1.06	1.00	0.92	0.86	0.81

Table D.3 Rating factors for variations in soil thermal resistivities for threecore 22 kV and 33 kV cables laid direct in ground

Nominal area of conductor mm ²	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.14	1.08	1.00	0.90	0.83	0.77
120	1.14	1.08	1.00	0.90	0.82	0.76
150	1.15	1.08	1.00	0.90	0.82	0.76
185	1.15	1.08	1.00	0.90	0.82	0.76
240	1.15	1.08	1.00	0.90	0.82	0.76
300	1.15	1.08	1.00	0.90	0.82	0.76
400	1.16	1.09	1.00	0.89	0.82	0.76
500	1.16	1.09	1.00	0.89	0.82	0.75

Table D.4 Rating factors for variations in soil thermal resistivities for threecore 22 kV and 33 kV cables laid in buried duct

Nominal area of conductor mm 2	Values of soil thermal resistivity K.m/W					
	1.0	1.2	1.5	2.0	2.5	3.0
95	1.09	1.05	1.00	0.93	0.87	0.83
120	1.09	1.05	1.00	0.93	0.87	0.83
150	1.09	1.05	1.00	0.93	0.87	0.82
185	1.09	1.05	1.00	0.93	0.87	0.82
240	1.09	1.05	1.00	0.93	0.87	0.82
300	1.09	1.05	1.00	0.93	0.87	0.82
400	1.10	1.06	1.00	0.92	0.86	0.81
500	1.10	1.06	1.00	0.92	0.86	0.81

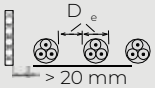
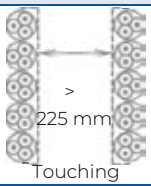
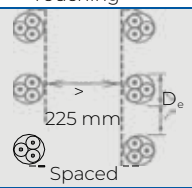
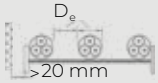
Table E.1 Group rating factors for circuits of three single-core cables laid direct in the ground					
Number of circuits	Spacing between group centres mm				
	Touching	200	400	600	800
2	0.73	0.83	0.88	0.90	0.92
3	0.60	0.73	0.79	0.83	0.86
4	0.54	0.68	0.75	0.80	0.84
5	0.49	0.63	0.72	0.78	0.82
6	0.46	0.61	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 E.2 Group rating factors for circuits of three single-core cables in single-way ducts					
Number of circuits	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	-	-

Table E.3 Group rating factors for three-core cables in horizontal formation laid direct in the ground					
Number of cables	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	-	-

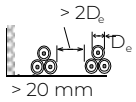
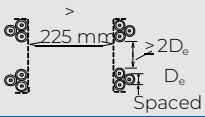
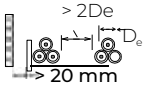
Table E.4 Group rating factors for three-core cables in single way ducts in horizontal formation					
Number of cables	Spacing between duct centres mm				
	Touching	200	400	600	800
2	0.85	0.88	0.92	0.94	0.95
3	0.75	0.80	0.85	0.88	0.91
4	0.69	0.75	0.82	0.86	0.89
5	0.65	0.72	0.79	0.84	0.87
6	0.62	0.69	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 F.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		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		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.

Table F.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 2 3	0.98 0.96 0.95	0.91 0.87 0.85	0.87 0.81 0.78	Three cables in horizontal formation
Ladder supports, cleats etc. (Note 3)	Touching 	1 2 3	1.00 0.98 0.97	0.97 0.93 0.90	0.96 0.89 0.86	Three cables in horizontal formation
Perforated trays (Note 3)		1 2 3	1.00 0.97 0.96	0.98 0.93 0.92	0.96 0.89 0.86	Three cables in trefoil formation
Vertical perforated trays (Note 4)		1 2	1.00 1.00	0.91 0.90	0.89 0.86	Three cables in trefoil formation
Ladder supports, cleats, etc. (Note 3)		1 2 3	1.00 0.97 0.96	1.00 0.95 0.94	1.00 0.93 0.90	Three cables in trefoil formation

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 th purpose of this table.

CABLE PACKING INFORMATION

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

STEEL DRUMS 3-D REPRESENTATION

Sterlite Power

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