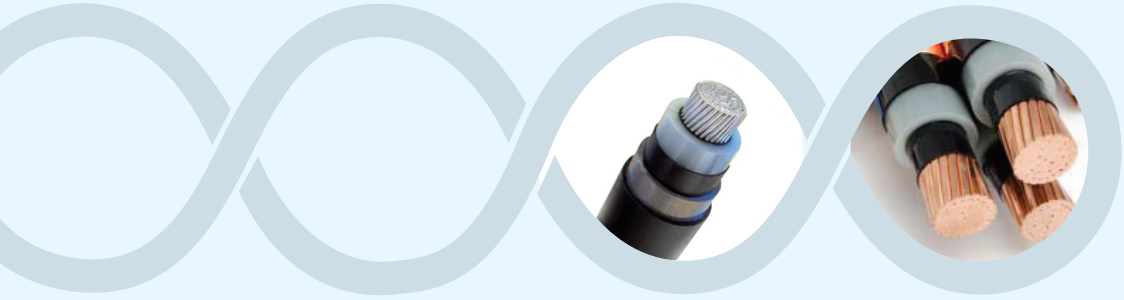
KEC INTERNATIONAL LIMITED

HIGH VOLTAGE
cables



RPG CABLES
(A Division of KEC International Limited)

RPG CABLES MANUFACTURES A RANGE OF HIGH VOLTAGE AND EXTRA HIGH VOLTAGE CABLES AT ITS FACILITY AT VADODARA

The newly commissioned state-of-the-art facility at Vadodara has the capacity to manufacture 3500 kms per annum of cables upto 220 kV and boasts of several 'Firsts' including:

1. Best in class plant and machinery from top manufacturers across the world.
2. Unique High Performance Teams that ensure highest level of productivity through a 'Learn and Earn' program
3. Platinum Certification from the Indian Green Buildings Council for its environmental commitment
4. World Class Quality and IT systems

CONTENTS

RPG CABLES
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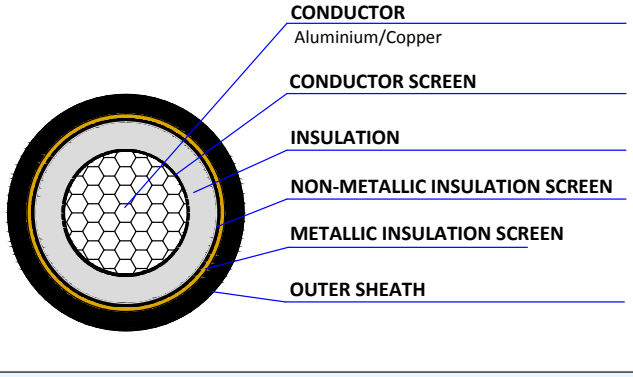
COMPONENTS OF HV CABLES

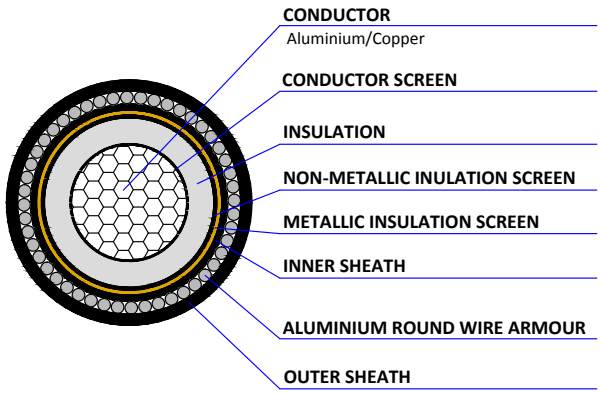
Element	Construction / Purpose	Material	Standards
Conductor	Stranded compacted circular conductors to carry continous load and short circuit current.	Compacted stranded - Class 2, Annealed / Plain Copper / Aluminium	IS:8130 / IEC: 60228 / BS EN 60228
Conductor Screen / Shield	Conductors for cables rated above 3.3 kV are screened with an extruded layer of semiconducting compound . This eliminates the chance of electrical discharge at the interface between conductor and insulation.	Extruded Semiconducting Compound	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835
Insulation	The insulation is of natural, Cross Linked Polyethylene with high di-electric strength is extruded over semiconducting conductor screening. Thickness of insulation is as per the relevant tables.	XLPE	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835
Non-metallic Insulation screen	Cables rated above 3.3 kV will have a screening consisting of non metallic part, in combination with a metallic part over the insulation. The non-metallic part of the screening consists of either a semiconducting tape applied helically or a layer of extruded semi-conducting compound or both. The conductor screening, XLPE insulation and the non-metallic part of insulation screening are all extruded in one operation by TRIPLE EXTRUSION which eliminates the formation of micro voids during the extrusion and curing resulting in longer life of cables.	Extruded Semiconducting Compound	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835
Metallic Insulation screen	Bare annealed copper tape / copper wire are applied over insulation screen to carry fault current.	Copper Tape / Wire	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835
Laying up	Insulated cores are laid up together, interstices filled up with non hygroscopic fillers to make the cable circular. The phase identifi cation of three core cable is done either by coloured strips / numbered applied on the cores.	Non Hygroscopic PVC / Polypropylene Fiber	
Inner Sheath	The cable cores are provided with a common covering of extruded PVC/PE sheath or wrapped plastic tapes as per the requirement of the customer.	PVC / Polyethylene / Halogen Free	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835
Armour	GI Round wire / Flat wire (Strip) / Double steel tape armouring is applied over the inner sheath in case of three core cables. The direction of lay of armouring is left hand side of final layer. For single core cables non magnetic armouring is applied over the inner sheath.	GI / Aluminium – Round wire / Flat strip / Double steel tape / Double Aluminium tape	IS:7098-Part 2 / IS:3975 IEC: 60502- Part 2 / BS:6622 / BS:7835
Outer sheath	The cables are provided with an extruded PVC / PE / LSZH / FR / FRLS outer sheath over the armour. For Single core unarmoured cables the outer sheath is extruded over the non magnetic metallic part of insulation screening. Outer sheath is generally of Black colour, but any other colour as per customer requirement can be provided.	PVC / FR PVC / FRLS PVC / Polyethylene / Halogen Free	IS:7098-Part 2 / IEC: 60502- Part 2 / BS:6622 / BS:7835

TYPICAL CROSS SECTIONAL VIEW OF SINGLE CORE & THREE CORE CABLES

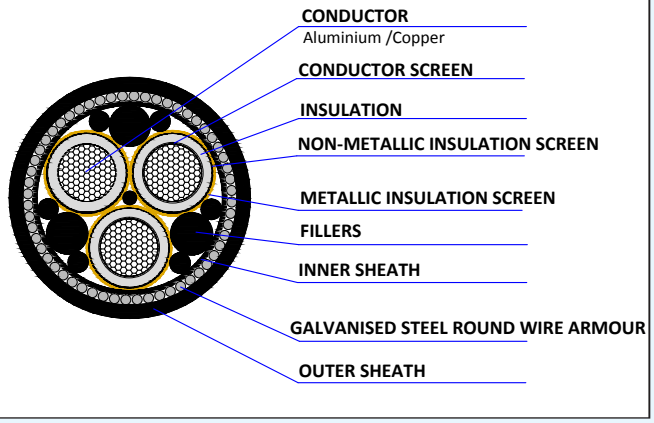
TYPICAL CROSS-SECTION OF SINGLE CORE XLPE UNARMOURED CABLE,
(Applicable For Table- 3,4,5,6 & 7)



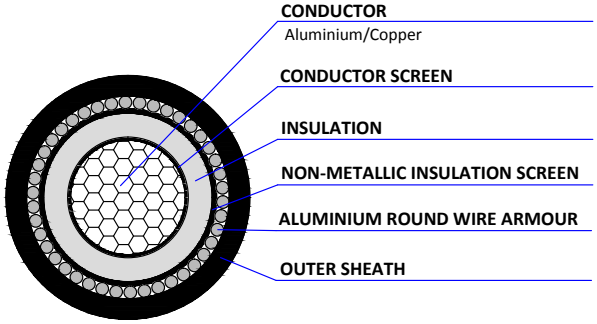
TYPICAL CROSS-SECTION OF SINGLE CORE XLPE ARMOURED CABLE WITH INNER SHEATH
(Applicable for Table 14,15,16,17 & 18)



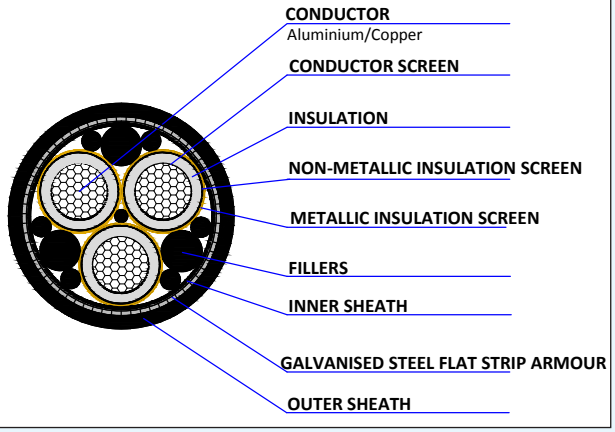
TYPICAL CROSS-SECTION OF THREE CORE XLPE ROUND WIRE ARMOURED CABLE
(Applicable For Table-26,27,28,29 & 30)



TYPICAL CROSS-SECTION OF SINGLE CORE XLPE ARMOURED CABLE WITHOUT INNER SHEATH
(Applicable For Table- 9,10,11,12 & 13)



TYPICAL CROSS-SECTION OF THREE CORE XLPE FLAT STRIP ARMOURED CABLE
(Applicable For Table-20,21,22,23 & 24)



RPG CABLES
(A Division of KEC International Limited)

QUALITY ASSURANCE AND TESTING

RPG Cables, a division of KEC international Ltd. manufactures HV cables with latest state of the art machinery and testing facilities. The experienced technical staff ensures high quality standards at all the levels of processing of the cables from raw material stage till final testing. The cables are tested in accordance with IS:7098 (Part 2) / IEC / BS / Customer Specifications and internal Company Standards.

Following Routine test are carried out on each of the cable before offering cables for inspection –

i. Conductor Resistance Test ii. Partial Discharge Test iii. High Voltage Test

The cables are subjected to following Type Tests as per IS 7098 (Part 2) / IEC / BS / Customer specifications.

i. Electrical Type tests ii. Non Electrical Type Tests iii. Special Tests

At RPG Cables our testing labs are of the highest standards, well equipped with latest equipments for accurate results and quality control. Following In house tests can be carried out –

1. Oxygen Index and Temperature Index tests as per ASTM-D-2863 / IS -10810, part-58
2. Flammability Characteristics of cable as per IEC-332(Part-I), IEC-332(part-III) and IEEE-383/IS -10810, part-53
3. Flammability Characteristics of Cable as per Swedish standard SS4241475 Class F3
4. Determination of amount of halogen acid gas evolved during combustion of outer sheath as per IEC-754(Part-I)/ IS-10810, part-59
5. Determination of smoke generation of outer sheath under fire as per ASTM-D-2843

MINIMUM BENDING RADII OF HV XLPE CABLES AS PER IS 1255

	1 core cable	Multicore Cable
6.6 kV to 11kV (E)	15 x D	15 x D
Above11 kV (E)	20 x D	15 x D

Where D is Overall diameter of Cable

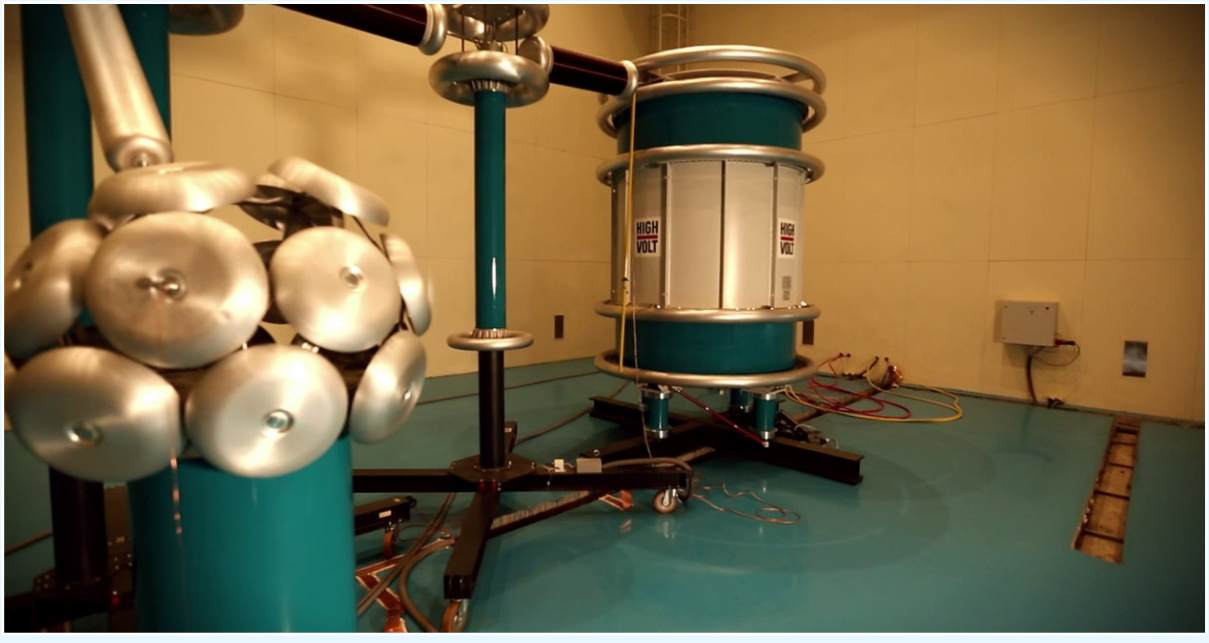


TABLE 1: COMMON PARAMETERS AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Aluminium Conductor			Copper Conductor			Nominal Thickness of Insulation						
	Minimum No. of wires	Max. D.C. Resistance at 20° C	Short ckt rating	Minimum No. of wires	Max. D.C. Resistance at 20° C	Short ckt rating	1.9/3.3 and 3.3/3.3 kV		3.8/6.6 kV	6.35/11 kV	11/11 kV	12.7/22 kV	19/33 kV
(sq.mm)	(Nos.)	(Ohm/km)	(kA/sec.)	(Nos.)	(Ohm/km)	(kA/sec.)	Single Core armoured cable (mm)	Single Core unarmoured and 3 core cable (mm)	(mm)	(mm)	(mm)	(mm)	(mm)
35	6	0.8680	3.29	6	0.5240	5.01	2.5	2.2	2.8	3.6	5.5	6.0	-
50	6	0.6410	4.70	6	0.3870	7.15	2.5	2.2	2.8	3.6	5.5	6.0	8.8
70	12	0.4430	6.58	12	0.2680	10.01	2.5	2.2	2.8	3.6	5.5	6.0	8.8
95	15	0.3200	8.93	15	0.1930	13.59	2.5	2.2	2.8	3.6	5.5	6.0	8.8
120	15	0.2530	11.30	18	0.1530	17.16	2.5	2.2	2.8	3.6	5.5	6.0	8.8
150	15	0.2060	14.10	18	0.1240	21.45	2.5	2.2	2.8	3.6	5.5	6.0	8.8
185	30	0.1640	17.40	30	0.0991	26.46	2.5	2.2	2.8	3.6	5.5	6.0	8.8
240	30	0.1250	22.60	34	0.0754	34.32	2.5	2.2	2.8	3.6	5.5	6.0	8.8
300	30	0.1000	28.20	34	0.0601	42.90	2.5	2.2	3.0	3.6	5.5	6.0	8.8
400	53	0.0778	37.60	53	0.0470	57.20	2.6	2.2	3.3	3.6	5.5	6.0	8.8
500	53	0.0605	47.00	53	0.0366	71.50	2.8	2.4	3.5	3.6	5.5	6.0	8.8
630	53	0.0469	59.22	53	0.0283	90.09	3.0	2.6	3.5	3.6	5.5	6.0	8.8
800	53	0.0367	75.20	53	0.0221	114.40	3.3	2.8	3.5	3.6	5.5	6.0	8.8
1000	53	0.0291	94.00	53	0.0176	143.00	3.5	3.0	3.6	3.6	5.5	6.0	8.8

CERTIFICATE

This is to certify that

KEC International Ltd.
Village: Godampura (Samlaya)
Ta. Savli, Vadodara – 391 520
Gujarat
INDIA

has implemented and maintains a **Quality Management System**.

Scope:
Design & Manufacture of Power Cables.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2008

Certificate registration no. 20006674 QM08
Date of certification 2014-02-13
Valid until 2017-02-12

UL DQS Inc.

Ganesh Rao
Managing Director

Accredited Body: UL DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
Administrative Office: UL Management Systems Solutions India Pvt. Ltd., 5th Floor, Anjaneya Techno Park, 147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India

CERTIFICATE

This is to certify that

KEC International Ltd.
Village: Godampura (Samlaya)
Ta. Savli, Vadodara – 391 520
Gujarat
INDIA

has implemented and maintains an **Environmental Management System**.

Scope:
Environment activities and supporting processes associated with Design & Manufacture of Power Cables.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 14001 : 2004

Certificate registration no. 20006674 UM
Date of certification 2014-02-13
Valid until 2017-02-12

UL DQS Inc.

Ganesh Rao
Managing Director

Accredited Body: UL DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
Administrative Office: UL Management Systems Solutions India Pvt. Ltd., 5th Floor, Anjaneya Techno Park, 147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India

Confederation of Indian Industry

Indian Green Building Council (IGBC)

hereby certifies that

KEC - RPG Cables Greenfield Facility
Vadodara

has successfully achieved the Green Building Standards required for the following level of certification under the IGBC Green Factory Building Rating System

IGBC Green Factory Building Platinum
April 2013

Pradeep Bhargava
Chairman, IGBC Green Factory Building Rating System

Dr Prem C Jain
Chairman, IGBC

S Raghupathy
Executive Director, CII-Godrej GBC

RPG CABLES
(A Division of KEC International Limited)

TABLE 2: 1.9/3.3 kV OR 3.3/3.3 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, UNSCREENED UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
35	1.8	16	260	1.1131	0.1140	0.285	100	115	125	16	480	0.6684	0.1140	0.285	130	150	160
50	1.8	17	310	0.8221	0.1091	0.320	120	135	150	17	600	0.4938	0.1087	0.323	155	175	195
70	1.8	19	390	0.5684	0.1005	0.375	145	165	190	19	810	0.3423	0.1005	0.375	190	215	245
95	2.0	21	500	0.4108	0.0973	0.429	175	195	235	21	1080	0.2469	0.0973	0.429	225	255	300
120	2.0	22	580	0.3251	0.0944	0.470	200	225	275	23	1320	0.1962	0.0938	0.480	255	290	350
150	2.0	24	680	0.2650	0.0918	0.515	220	250	310	24	1580	0.1595	0.0915	0.519	285	320	400
185	2.0	25	800	0.2114	0.0883	0.569	250	285	360	26	1930	0.1282	0.0880	0.575	320	365	460
240	2.0	28	970	0.1618	0.0856	0.637	285	330	425	28	2420	0.0987	0.0853	0.643	370	420	550
300	2.0	29	1160	0.1302	0.0836	0.695	325	370	495	30	3030	0.0799	0.0831	0.713	410	470	630
400	2.2	33	1460	0.1024	0.0810	0.803	370	420	580	33	3840	0.0641	0.0810	0.806	465	530	740
500	2.2	37	1810	0.0810	0.0796	0.831	420	480	690	37	4870	0.0520	0.0795	0.834	520	600	860
630	2.2	40	2250	0.0646	0.0783	0.858	470	540	800	41	6220	0.0428	0.0782	0.866	580	670	980
800	2.4	45	2840	0.0526	0.0776	0.901	530	610	930	-	-	-	-	-	-	-	-
1000	2.6	50	3540	0.0440	0.0768	0.943	580	680	1060	-	-	-	-	-	-	-	-

TABLE 3: 3.8/6.6 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, SCREENED, UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
35	2.0	19	378	1.1131	0.127	0.254	100	115	135	19	584	0.668	0.126	0.259	130	150	175
50	2.0	20	433	0.8221	0.1236	0.290	120	135	160	20	710	0.4937	0.1228	0.292	155	175	205
70	2.0	22	523	0.5683	0.1118	0.332	145	165	200	22	921	0.3422	0.1118	0.332	190	215	260
95	2.0	23	618	0.4107	0.1072	0.375	175	200	245	24	1171	0.2468	0.1072	0.375	225	255	315
120	2.0	25	715	0.3250	0.1030	0.408	195	225	285	25	1413	0.1960	0.1040	0.415	255	290	365
150	2.0	26	812	0.2648	0.1013	0.443	220	250	320	26	1686	0.1593	0.1007	0.447	285	325	415
185	2.0	28	942	0.2112	0.0957	0.485	250	285	370	28	2018	0.1279	0.0971	0.490	320	365	480
240	2.2	30	1155	0.1616	0.0941	0.539	285	330	440	31	2571	0.0983	0.0934	0.544	370	420	560
300	2.2	33	1372	0.1299	0.0919	0.550	325	370	510	33	3148	0.0793	0.0921	0.563	415	475	650
400	2.2	36	1699	0.1020	0.0888	0.578	370	425	600	37	3987	0.0635	0.0885	0.580	465	540	760
500	2.4	40	2108	0.0804	0.0889	0.620	420	485	700	41	5033	0.0511	0.0886	0.622	520	610	880
630	2.4	44	2561	0.0639	0.0860	0.689	475	550	810	44	6335	0.0418	0.0854	0.695	590	680	1010
800	2.6	48	3160	0.0520	0.0834	0.769	530	620	940	49	8000	0.0353	0.0867	0.765	640	750	1140
1000	2.8	53	3860	0.0433	0.0821	0.830	590	690	1070	54	9830	0.0304	0.0821	0.819	700	820	1270

TABLE 4: 6.35/11 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, SCREENED, UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
35	2.0	2.1	422	1.113	0.1346	0.208	100	115	135	21	629	0.6683	0.1327	0.212	130	150	175
50	2.0	22	479	0.8221	0.1265	0.238	120	135	160	22	757	0.4937	0.1257	0.240	155	175	205
70	2.0	23	573	0.5683	0.1172	0.272	145	165	200	24	971	0.3421	0.1172	0.272	190	215	260
95	2.0	25	670	0.4107	0.1122	0.305	175	200	245	25	1224	0.2467	0.1122	0.305	225	255	315
120	2.0	26	770	0.3249	0.1079	0.331	195	225	285	27	1468	0.1959	0.1064	0.337	255	290	365
150	2.0	28	869	0.2648	0.1036	0.358	220	250	320	28	1723	0.1592	0.1030	0.361	285	325	415
185	2.2	30	1031	0.2112	0.1000	0.391	250	285	370	30	2108	0.1278	0.1013	0.395	320	365	480
240	2.2	32	1221	0.1615	0.0961	0.433	285	330	440	32	2637	0.0981	0.0974	0.437	370	420	560
300	2.2	34	1422	0.1298	0.0938	0.469	325	370	510	34	3198	0.0792	0.0939	0.480	415	475	650
400	2.2	37	1719	0.1019	0.0904	0.535	370	425	600	37	3987	0.0634	0.0902	0.537	465	540	760
500	2.4	40	2106	0.0804	0.0889	0.605	420	485	700	41	5031	0.0511	0.0886	0.607	520	610	880
630	2.4	44	2560	0.0639	0.0860	0.672	475	550	810	44	6333	0.0417	0.0868	0.678	590	680	1010
800	2.6	48	3158	0.0518	0.0847	0.749	530	620	940	49	7998	0.0353	0.0827	0.728	640	750	1140
1000	2.8	52	3842	0.0433	0.0821	0.830	590	690	1070	53	9811	0.0306	0.0809	0.817	700	820	1270

TABLE 5 : 11/11 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, SCREENED, UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
35	2.0	24	558	1.113	0.1430	0.155	100	115	135	25	765	0.6683	0.1437	0.158	130	150	175
50	2.0	25	620	0.8221	0.1370	0.175	120	135	160	26	899	0.4937	0.1362	0.177	155	175	205
70	2.0	27	724	0.5683	0.1269	0.198	145	165	200	27	1122	0.3421	0.1269	0.198	190	215	260
95	2.0	29	828	0.4107	0.1191	0.220	175	200	245	29	1384	0.2466	0.1191	0.220	225	255	315
120	2.2	31	966	0.3249	0.1165	0.237	195	225	285	31	1666	0.1958	0.1151	0.241	255	290	365
150	2.2	32	1073	0.2647	0.1120	0.255	220	250	320	32	1927	0.1591	0.1133	0.257	285	325	415
185	2.2	34	1217	0.2111	0.1079	0.277	250	285	370	34	2296	0.1276	0.1071	0.280	320	365	480
240	2.2	36	1418	0.1614	0.1035	0.305	285	330	440	36	2837	0.0979	0.1028	0.307	370	420	560
300	2.2	38	1630	0.1296	0.1008	0.328	325	370	510	38	3407	0.0789	0.1007	0.336	415	475	650
400	2.4	41	1982	0.1017	0.0967	0.372	370	425	600	41	4259	0.0630	0.0965	0.373	465	540	760
500	2.4	44	2351	0.0801	0.0946	0.418	420	485	700	45	5280	0.0506	0.0944	0.419	520	610	880
630	2.6	48	2869	0.0635	0.0914	0.462	475	550	810	49	6646	0.0411	0.0920	0.466	590	680	1010
800	2.8	52	3496	0.0514	0.0895	0.513	530	620	940	53	8345	0.0346	0.0876	0.509	640	750	1140
1000	2.8	56	4135	0.0428	0.0866	0.566	590	690	1070	57	10130	0.0299	0.0855	0.557	700	820	1270

TABLE 6: 12.7/22 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, SCREENED, UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
35	2.0	25	597	1.1131	0.1455	0.147	100	115	140	26	805	0.6683	0.1462	0.149	130	150	180
50	2.0	26	661	0.8221	0.1394	0.165	120	135	170	27	940	0.4937	0.1386	0.285	150	175	215
70	2.0	28	767	0.5683	0.1291	0.186	145	165	210	28	1166	0.3421	0.1291	0.323	185	210	270
95	2.2	30	901	0.4106	0.1233	0.206	170	195	255	30	1458	0.2466	0.1233	0.375	220	255	330
120	2.2	32	1014	0.3248	0.1185	0.222	195	225	295	32	1714	0.1958	0.1171	0.429	250	290	380
150	2.2	33	1123	0.2647	0.1139	0.239	215	250	330	33	1977	0.1590	0.1152	0.480	280	320	430
185	2.2	35	1070	0.2110	0.1097	0.259	245	280	380	35	2349	0.1276	0.1089	0.519	315	360	490
240	2.2	37	1474	0.1613	0.1052	0.284	280	325	450	37	2893	0.0979	0.1045	0.575	365	420	580
300	2.2	39	1689	0.1296	0.1024	0.306	320	370	520	39	3466	0.0789	0.1023	0.643	410	470	660
400	2.4	42	2046	0.1016	0.0982	0.346	360	420	610	42	4316	0.0629	0.0979	0.713	460	530	770
500	2.6	45	2461	0.0800	0.0959	0.388	410	480	710	46	5392	0.0505	0.0957	0.806	520	600	890
630	2.6	49	2943	0.0634	0.0926	0.429	470	550	820	50	6721	0.0410	0.0932	0.834	580	680	1020
800	2.8	53	3577	0.0513	0.0907	0.475	520	610	950	54	8425	0.0345	0.0888	0.472	640	750	1160
1000	3.0	58	4295	0.0427	0.0877	0.524	580	680	1080	59	10273	0.0309	0.0952	0.516	700	820	1290

TABLE 7: 19/33 kV, SINGLE CORE, XLPE INSULATED AND PVC SHEATHED, SCREENED, UNARMOURED CABLES. (A2XY / 2XY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Thickness of O/ Sheath	Aluminium (A2XY)								Copper (2XY)							
		Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
							In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/ km	Amps.	Amps.	Amps.
50	2.2	33	956	0.8221	0.1535	0.126	120	135	170	33	1238	0.4937	0.1520	0.128	150	175	215
70	2.2	34	1079	0.5682	0.8363	0.142	145	165	210	35	1479	0.4936	0.1409	0.143	185	210	270
95	2.2	36	1197	0.4106	0.1327	0.158	170	195	255	36	1756	0.2466	0.1327	0.158	220	255	330
120	2.2	37	1323	0.3248	0.1293	0.169	195	225	295	38	2026	0.1957	0.1279	0.171	250	290	380
150	2.2	39	1443	0.2646	0.1244	0.181	215	250	330	39	2297	0.1589	0.1238	0.182	280	320	430
185	2.4	41	1642	0.2109	0.1197	0.195	245	280	380	41	2725	0.1274	0.1189	0.196	315	360	490
240	2.4	43	1865	0.1612	0.1147	0.212	280	325	450	43	3288	0.0976	0.1154	0.214	365	420	580
300	2.6	45	2142	0.1294	0.1128	0.227	320	370	520	45	3920	0.0786	0.1111	0.232	410	470	660
400	2.6	48	2489	0.1014	0.1064	0.255	360	420	610	49	4769	0.0625	0.1061	0.256	460	530	770
500	2.8	52	2938	0.0797	0.1035	0.284	410	480	710	52	5877	0.0501	0.1033	0.285	520	600	890
630	2.8	55	3453	0.0630	0.0998	0.312	470	550	820	56	7237	0.0404	0.1002	0.314	580	680	1020
800	3.0	60	4130	0.0508	0.0972	0.344	520	610	950	61	8988	0.0337	0.0964	0.342	640	750	1160
1000	3.2	64	4896	0.0421	0.0938	0.377	580	680	1080	65	10876	0.0289	0.0938	0.373	700	820	1290

TABLE 8: 1.9/3.3 kV OR 3.3/3.3 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, UNSCREENED CABLES- (A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	1.4	1.24	18	390	1.1131	0.1229	0.258	105	115	135	18	600	0.6683	0.1229	0.258	135	150	170
50	1.4	1.40	20	460	0.8221	0.1182	0.292	120	140	160	20	750	0.4937	0.1182	0.292	155	175	205
70	1.6	1.40	22	580	0.5683	0.1104	0.337	150	170	200	22	1000	0.3422	0.1104	0.337	190	215	260
95	1.6	1.40	24	690	0.4107	0.1051	0.385	175	200	245	24	1270	0.2468	0.1051	0.385	225	255	315
120	1.6	1.40	25	790	0.3250	0.1011	0.430	200	225	285	25	1520	0.1960	0.1011	0.430	255	290	365
150	1.6	1.40	27	890	0.2649	0.0985	0.465	220	250	325	27	1800	0.1593	0.0985	0.465	285	325	415
185	1.6	1.40	28	1030	0.2113	0.0945	0.514	250	285	375	28	2160	0.1280	0.0945	0.514	315	360	475
240	1.6	1.56	31	1250	0.1616	0.0921	0.574	285	325	440	31	2740	0.0983	0.0921	0.574	360	415	560
300	1.6	1.56	33	1460	0.1300	0.0895	0.631	320	365	500	33	3330	0.0795	0.0893	0.635	400	460	640
400	2.0	1.56	37	1860	0.1021	0.0875	0.695	360	410	590	37	4240	0.0636	0.0875	0 .695	445	510	730
500	2.0	1.56	40	2250	0.0806	0.0853	0.727	400	465	680	40	5310	0.0514	0.0853	0.727	485	560	840
630	2.0	1.72	45	2790	0.0641	0.0840	0.762	445	520	780	45	6750	0.0420	0.0840	0.762	530	610	940
800	2.0	1.88	50	3440	0.0520	0.0828	0.783	485	560	880	53	8447	0.0346	0.0876	0.818	570	660	1040
1000	2.5	2.04	56	4380	0.0432	0.0827	0.825	510	600	970	58	10367	0.0299	0.0859	0.858	580	680	1100

TABLE 9: 3.8/6.6 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-(A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	1.6	1.4	21	477	1.1131	0.1346	0.254	105	115	140	22	682	0.6683	0.1357	0.259	135	150	180
50	1.6	140	22	539	0.8221	0.1265	0.290	120	140	165	23	816	0.4937	0.1257	0.292	155	175	215
70	1.6	1.40	24	639	0.5683	0.1172	0.332	145	170	210	24	1037	0.3421	0.1172	0.332	190	215	270
95	1.6	1.40	26	741	0.4107	0.1122	0.375	175	200	255	26	1299	0.2467	0.1122	0.375	225	255	325
120	1.6	1.40	27	849	0.3249	0.1079	0.408	195	225	295	27	1551	0.1959	0.1064	0.415	250	290	375
150	1.6	1.56	29	979	0.2648	0.1058	0.443	220	250	330	29	1833	0.1592	0.1052	0.447	280	320	425
185	1.6	1.56	31	1122	0.2112	0.1000	0.485	245	285	380	31	2192	0.1278	0.1013	0.490	315	360	485
240	2.0	1.56	33	1385	0.1615	0.0980	0.539	280	325	450	34	2801	0.0980	0.0992	0.544	355	410	570
300	2.0	1.56	36	1627	0.1297	0.0974	0.550	315	365	510	36	3403	0.0792	0.0957	0.563	395	455	640
400	2.0	1.72	40	2012	0.1018	0.0937	0.578	355	410	590	40	4278	0.0632	0.0934	0.580	435	510	730
500	2.0	1.72	43	2417	0.0802	0.0918	0.620	395	455	680	44	5341	0.0508	0.0916	0.622	475	550	830
630	2.0	1.88	47	2935	0.0636	0.0901	0.689	435	510	780	48	6716	0.0414	0.0894	0.695	520	600	930
800	2.5	2.04	52	3712	0.0515	0.0883	0.769	470	550	870	53	8562	0.0300	0.0881	0.775	540	640	1010
1000	2.5	2.20	57	4446	0.0428	0.0866	0.830	500	590	960	58	10426	0.0298	0.0861	0.836	570	670	1090

TABLE 10: 6.35/11 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES- (A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	1.6	1.4	23	527	1.1131	0.1403	0.208	105	115	140	23	739	0.6685	0.1385	0.212	135	150	180
50	1.6	1.40	24	591	0.8221	0.1320	0.238	120	140	165	24	874	0.4937	0.1312	0.240	155	175	215
70	1.6	1.40	26	701	0.5683	0.1223	0.272	145	170	210	26	1098	0.3421	0.1223	0.272	190	215	270
95	1.6	1.40	27	804	0.4107	0.1146	0.305	175	200	255	27	1358	0.2467	0.1146	0.305	225	255	325
120	1.6	1.56	29	932	0.3249	0.1123	0.331	195	225	295	29	1635	0.1959	0.1109	0.337	250	290	375
150	1.6	1.56	30	1044	0.2648	0.1080	0.358	220	250	330	30	1898	0.1591	0.1094	0.361	280	320	425
185	2.0	1.56	33	1254	0.2111	0.1060	0.391	245	285	380	33	2339	0.1277	0.1052	0.395	315	360	485
240	2.0	1.56	35	1463	0.1614	0.1017	0.433	280	325	450	35	2887	0.0980	0.1011	0.437	355	410	570
300	2.0	1.56	37	1682	0.1297	0.0991	0.469	315	365	510	37	3458	0.0791	0.0974	0.480	395	455	640
400	2.0	1.72	40	2031	0.1017	0.0952	0.535	355	410	590	40	4307	0.0631	0.0949	0.537	435	510	730
500	2.0	1.72	43	2415	0.0802	0.0918	0.605	395	455	680	44	5345	0.0508	0.0916	0.607	475	550	830
630	2.0	1.88	47	2933	0.0636	0.0901	0.672	435	510	780	48	6714	0.0414	0.0894	0.678	520	600	930
800	2.5	2.04	52	3708	0.0515	0.0883	0.749	470	550	870	53	8560	0.0345	0.0884	0.755	540	640	1010
1000	2.5	2.20	57	4428	0.0428	0.0866	0.830	500	590	960	58	10409	0.0298	0.0861	0.836	570	670	1090

TABLE 11: 11/11 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES- (A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	1.6	1.4	27	688	1.1131	0.1504	0.155	105	115	140	27	900	0.6683	0.1485	0.158	135	150	180
70	1.6	1.56	30	894	0.5683	0.1313	0.198	145	170	210	30	1098	0.3421	0.1313	0.198	190	215	270
95	1.6	1.56	31	1012	0.4106	0.1233	0.220	175	200	255	31	1567	0.2466	0.1233	0.220	225	255	325
120	2.0	1.56	34	1195	0.3248	0.1223	0.237	195	225	295	34	1902	0.1958	0.1209	0.241	250	290	375
150	2.0	1.56	35	1314	0.2647	0.1176	0.255	220	250	330	30	2168	0.1590	0.1170	0.257	280	320	425
185	2.0	1.56	37	1479	0.2110	0.1132	0.277	245	285	380	37	2557	0.1275	0.1124	0.280	315	360	485
240	2.0	1.72	39	1727	0.1613	0.1085	0.305	280	325	450	39	3144	0.0978	0.1079	0.307	355	410	570
300	2.0	1.72	41	1959	0.1295	0.1056	0.328	315	365	510	41	3735	0.0788	0.1054	0.336	395	455	640
400	2.0	1.88	44	2330	0.1015	0.1011	0.372	355	410	590	44	4499	0.0628	0.1008	0.373	435	510	730
500	2.0	1.88	47	2424	0.0800	0.0973	0.418	395	455	680	48	5659	0.0504	0.0970	0.419	475	550	830
630	2.5	2.04	52	3406	0.0632	0.0963	0.462	435	510	780	53	7195	0.0408	0.0957	0.466	520	600	930
800	2.5	2.20	57	4033	0.0511	0.0929	0.513	470	550	870	53	8941	0.0340	0.0930	0.516	540	640	1010
1000	2.5	2.20	60	4783	0.0423	0.0908	0.566	500	590	960	61	10768	0.0293	0.0901	0.570	570	670	1090

TABLE 12: 12.7/22 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES- (A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	1.6	1.40	28	734	1.1131	0.1506	0.147	100	115	140	23	942	0.6683	0.1492	0.149	130	150	185
50	1.6	1.56	29	828	0.8221	0.1439	0.165	120	135	170	29	1107	0.4937	0.1431	0.166	150	175	220
70	1.6	1.56	31	946	0.5682	0.1333	0.186	145	165	215	31	1344	0.3421	0.1333	0.186	185	215	275
95	2.0	1.56	33	1133	0.4106	0.1272	0.206	170	195	260	33	1688	0.2466	0.1272	0.206	220	250	335
120	2.0	1.56	35	1257	0.3248	0.1242	0.222	195	225	300	35	1956	0.1958	0.1227	0.226	245	285	385
150	2.0	1.56	36	1378	0.2647	0.1194	0.239	215	250	340	36	2232	0.1590	0.1187	0.240	275	315	430
185	2.0	1.56	38	1536	0.2110	0.1149	0.259	240	280	385	38	2623	0.1275	0.1141	0.261	305	355	490
240	2.0	1.72	40	1788	0.1613	0.1101	0.284	275	320	450	40	3215	0.0977	0.1094	0.287	350	400	570
300	2.0	1.72	42	2023	0.1295	0.1071	0.306	305	355	510	42	3799	0.0787	0.1068	0.313	380	445	650
400	2.0	1.88	45	2399	0.1015	0.1024	0.346	345	400	600	45	4678	0.0627	0.1022	0.347	425	495	740
500	2.5	2.04	50	2766	0.0798	0.1011	0.388	380	445	680	50	5908	0.0502	0.1008	0.389	460	540	830
630	2.5	2.04	53	3490	0.0631	0.0975	0.429	420	495	770	54	7280	0.0407	0.0968	0.432	500	580	920
800	2.5	2.20	58	4174	0.0510	0.0940	0.475	460	540	870	59	9032	0.0339	0.0941	0.479	530	630	1020
1000	2.5	2.36	62	4924	0.0422	0.0918	0.524	490	570	950	63	10926	0.0292	0.0915	0.528	550	650	1080

TABLE 13: 19/33 kV, SINGLE CORE, XLPE INSULATED, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES- (A2XWaY / 2XWaY) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium (A2XWaY)								Copper (2XWaY)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
50	2.0	1.56	36	1204	0.8220	0.1575	0.126	120	135	170	36	1493	0.4936	0.1563	0.128	150	175	220
70	2.0	1.56	37	1346	0.5682	0.1450	0.142	145	165	210	38	1745	0.3420	0.1445	0.143	185	215	275
95	2.0	1.72	39	1505	0.4106	0.1377	0.158	170	195	260	39	2063	0.2465	0.1377	0.158	220	250	335
120	2.0	1.72	41	1644	0.3248	0.1341	0.169	195	225	300	41	2355	0.1957	0.1326	0.171	245	285	385
150	2.0	1.72	42	1777	0.2646	0.1291	0.181	215	250	340	42	2631	0.1589	0.1284	0.182	275	315	430
185	2.0	1.72	44	1959	0.2109	0.1241	0.195	240	280	385	44	3040	0.1274	0.1233	0.196	305	355	490
240	2.0	1.88	46	2227	0.1611	0.1189	0.212	275	320	450	46	3658	0.0976	0.1182	0.214	350	400	570
300	2.5	2.04	49	2650	0.1293	0.1168	0.227	305	355	510	50	4428	0.0784	0.1163	0.232	380	445	650
400	2.5	2.04	52	3026	0.1013	0.1113	0.255	345	400	600	53	5312	0.0624	0.1111	0.256	425	495	740
500	2.5	2.20	56	3514	0.0796	0.1081	0.284	380	445	680	56	6464	0.0498	0.1078	0.285	460	540	830
630	2.5	2.20	59	4071	0.0628	0.1041	0.312	420	495	770	60	7866	0.0402	0.1035	0.314	500	580	920
800	2.5	2.36	64	4792	0.0506	0.1002	0.344	460	540	870	65	9660	0.0333	0.1002	0.346	530	630	1020
1000	3.15	2.52	69	5840	0.0417	0.0984	0.377	490	570	950	70	11845	0.0285	0.0983	0.380	550	650	1080

TABLE 14: 3.8/6.6 kV, SINGLE CORE, XLPE INSULATED, PVC INNER SHEATH, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-A2XWaY(P)/2XWaY(P) AS PER IS 7098 (PART 2)

Nominal area of conductor	Minimum thickness of Inner Sheath	Nominal Dia of armour wire	Minimum Thickness of o/ Sheath	Aluminium- A2XWaY(P)								Copper -2XWaY(P)							
				Approx. overall dia. Of cable	Approx. weigth of cable	Approx. AC resistance at 90°C	Approx. Reactance at 50 Hz	Approx capacitance per phase	Continues current rating			Approx. overall dia. Of cable	Approx. weight of cable	Approx. A.C resistance at 90°C	Approx. Reactance at 50 Hz	Approx. capacitance per phase	Continues current rating		
									In Duct at 30°C	In ground at 30°C	In Air at 40°C						In Duct at 30°C	In ground at 30°C	In Air at 40°C
mm2	mm	mm	mm	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/Km	Amps.	Amps.	Amps.	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/ Km	Amps.	Amps.	Amps.
35	0.3	1.6	1.4	22.0	539	1.1131	0.1364	0.254	105	115	140	22.0	745	0.6683	0.1352	0.259	135	150	180
50	0.3	1.6	1.4	23.0	604	0.8221	0.1301	0.282	120	140	165	23.0	882	0.4937	0.1291	0.287	155	175	215
70	0.3	1.6	1.4	25.0	711	0.5683	0.1192	0.327	145	170	210	25.0	1115	0.3421	0.1189	0.330	190	215	270
95	0.3	1.6	1.4	26.0	823	0.4107	0.1146	0.360	175	200	255	27.0	1376	0.2467	0.1138	0.366	225	255	325
120	0.3	1.6	1.4	28.0	936	0.3249	0.1098	0.400	195	225	295	28.0	1633	0.1959	0.1090	0.408	250	290	375
150	0.3	1.6	1.56	30.0	1066	0.2648	0.1073	0.433	220	250	330	30.0	1920	0.1591	0.1073	0.433	280	320	425
185	0.3	1.6	1.56	31.0	1214	0.2111	0.1028	0.475	245	285	380	32.0	2297	0.1277	0.1022	0.483	315	360	485
240	0.4	2.0	1.56	34.0	1488	0.1614	0.1007	0.525	280	325	450	35.0	2912	0.0980	0.1000	0.536	355	410	570
300	0.4	2.0	1.56	37.0	1739	0.1297	0.0981	0.543	315	365	510	37.0	3515	0.0790	0.0980	0.546	395	455	640
400	0.4	2.0	1.72	40.0	2138	0.1017	0.0954	0.561	355	410	590	41.0	4406	0.0631	0.0950	0.567	435	510	730
500	0.5	2.0	1.88	44.0	2608	0.0802	0.0935	0.593	395	455	680	45.0	5542	0.0507	0.0927	0.608	475	550	830
630	0.5	2.0	1.88	48.0	3107	0.0636	0.0907	0.665	435	510	780	49.0	6901	0.0413	0.0903	0.677	520	600	930
800	0.5	2.5	2.04	53.0	3904	0.0514	0.0892	0.745	470	550	870	54.0	8771	0.0345	0.0887	0.765	540	640	1010
1000	0.6	2.5	2.2	58.0	4681	0.0427	0.0876	0.799	500	590	960	59.0	10692	0.0297	0.0871	0.819	570	670	1090

TABLE 15: 6.35/11 kV, SINGLE CORE, XLPE INSULATED, PVC INNER SHEATH, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-A2XWaY(P)/2XWaY(P) AS PER IS 7098 (PART 2)

Nominal area of conductor	Minimum thickness of Inner Sheath	Nominal Dia of armour wire	Minimum Thickness of o/ Sheath	Aluminium- A2XWaY(P)								Copper -2XWaY(P)							
				Approx. overall dia. Of cable	Approx. weigth of cable	Approx. AC resistance at 90°C	Approx. Reactance at 50 Hz	Approx capacitance per phase	Continues current rating			Approx. overall dia. Of cable	Approx. weight of cable	Approx. A.C resistance at 90°C	Approx. Reactance at 50 Hz	Approx. capacitance per phase	Continues current rating		
									In Duct at 30°C	In ground at 30°C	In Air at 40°C						In Duct at 30°C	In ground at 30°C	In Air at 40°C
mm2	mm	mm	mm	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/Km	Amps.	Amps.	Amps.	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/ Km	Amps.	Amps.	Amps.
35	0.3	1.6	1.40	24.0	599	1.1131	0.1404	0.208	105	115	140	24.0	806	0.6683	0.1391	0.212	135	150	180
50	0.3	1.6	1.40	25.0	667	0.8221	0.1339	0.230	120	140	165	25.0	945	0.4937	0.1328	0.234	155	175	215
70	0.3	1.6	1.40	26.0	777	0.5683	0.1227	0.266	145	170	210	27.0	1175	0.3421	0.1223	0.268	190	215	270
95	0.3	1.6	1.40	28.0	886	0.4107	0.1179	0.292	175	200	255	28.0	1445	0.2467	0.1171	0.296	225	255	325
120	0.3	1.6	1.56	30.0	1025	0.3249	0.1137	0.323	195	225	295	30.0	1729	0.1959	0.1129	0.329	250	290	375
150	0.3	1.6	1.56	31.0	1136	0.2647	0.1103	0.348	220	250	330	31.0	1990	0.1591	0.1103	0.348	280	320	425
185	0.4	2.0	1.56	33.0	1355	0.2111	0.1072	0.382	245	285	380	34.0	2441	0.1277	0.1065	0.387	315	360	485
240	0.4	2.0	1.56	35.0	1571	0.1614	0.1033	0.421	280	325	450	36.0	2996	0.0979	0.1025	0.429	355	410	570
300	0.4	2.0	1.56	38.0	1797	0.1297	0.0999	0.461	315	365	510	38.0	3573	0.0790	0.0997	0.463	395	455	640
400	0.4	2.0	1.72	41.0	2158	0.1017	0.0960	0.518	355	410	590	41.0	4436	0.0630	0.0957	0.524	435	510	730
500	0.5	2.0	1.88	44.0	2606	0.0802	0.0935	0.576	395	455	680	45.0	5540	0.0507	0.0927	0.591	475	550	830
630	0.5	2.0	1.88	48.0	3105	0.0636	0.0907	0.647	435	510	780	49.0	6899	0.0413	0.0903	0.658	520	600	930
800	0.5	2.5	2.04	53.0	3902	0.0514	0.0892	0.724	470	550	870	54.0	8769	0.0345	0.0887	0.743	540	640	1010
1000	0.6	2.5	2.20	58.0	4662	0.0427	0.0873	0.798	500	590	960	59.0	10674	0.0297	0.0869	0.817	570	670	1090

TABLE 16: 11/11 kV, SINGLE CORE, XLPE INSULATED, PVC INNER SHEATH, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-A2XWaY(P)/2XWaY(P) AS PER IS 7098 (PART 2)

Nominal area of conductor	Minimum thickness of Inner Sheath	Nominal Dia of armour wire	Minimum Thickness of o/ Sheath	Aluminium- A2XWaY(P)								Copper -2XWaY(P)							
				Approx. overall dia. Of cable	Approx. weigth of cable	Approx. AC resistance at 90°C	Approx. Reactance at 50 Hz	Approx capacitance per phase	Continues current rating			Approx. overall dia. Of cable	Approx. weight of cable	Approx. A.C resistance at 90°C	Approx. Reactance at 50 Hz	Approx. capacitance per phase	Continues current rating		
									In Duct at 30°C	In ground at 30°C	In Air at 40°C						In Duct at 30°C	In ground at 30°C	In Air at 40°C
mm2	mm	mm	mm	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/Km	Amps.	Amps.	Amps.	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/ Km	Amps.	Amps.	Amps.
35	0.3	1.6	1.40	27.0	767	1.1131	0.1500	0.155	105	115	140	28.0	981	0.6683	0.1486	0.158	135	150	180
50	0.3	1.6	1.56	29.0	863	0.8221	0.1438	0.170	120	140	165	29.0	1148	0.4937	0.1427	0.173	155	175	215
70	0.3	1.6	1.56	31.0	990	0.5683	0.1320	0.194	145	170	210	31.0	1389	0.3421	0.1316	0.195	190	215	270
95	0.3	2.0	1.56	33.0	1171	0.4106	0.1284	0.211	175	200	255	33.0	1736	0.2466	0.1275	0.214	225	255	325
120	0.4	2.0	1.56	34.0	1299	0.3248	0.1229	0.232	195	225	295	35.0	2007	0.1958	0.1220	0.236	250	290	375
150	0.4	2.0	1.56	36.0	1423	0.2647	0.1191	0.249	220	250	330	36.0	2277	0.1590	0.1191	0.249	280	320	425
185	0.4	2.0	1.56	37.0	1593	0.2110	0.1140	0.271	245	285	380	38.0	2672	0.1275	0.1133	0.274	315	360	485
240	0.4	2.0	1.72	40.0	1849	0.1612	0.1103	0.296	280	325	450	40.0	3267	0.0977	0.1094	0.302	355	410	570
300	0.4	2.0	1.72	42.0	2088	0.1295	0.1065	0.323	315	365	510	42.0	3865	0.0787	0.1063	0.325	395	455	640
400	0.5	2.0	1.88	45.0	2491	0.1015	0.1025	0.360	355	410	590	45.0	4770	0.0627	0.1020	0.364	435	510	730
500	0.5	2.5	2.04	49.0	3066	0.0798	0.1004	0.399	395	455	680	50.0	6010	0.0503	0.0995	0.409	475	550	830
630	0.5	2.5	2.04	53.0	3599	0.0632	0.0971	0.445	435	510	780	54.0	7402	0.0407	0.0967	0.453	520	600	930
800	0.6	2.5	2.20	58.0	4317	0.0510	0.0942	0.496	470	550	870	59.0	9205	0.0339	0.0935	0.509	540	640	1010
1000	0.6	2.5	2.36	62.0	5093	0.0422	0.0917	0.544	500	590	960	63.0	11097	0.0292	0.0912	0.557	570	670	1090

TABLE 17: 12.7/22 kV, SINGLE CORE, XLPE INSULATED, PVC INNERSHEATH, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-A2XWaY(P)/2XWaY(P) AS PER IS 7098 (PART 2)

Nominal area of conductor	Minimum thickness of Inner Sheath	Nominal Dia of armour wire	Minimum Thickness of o/ Sheath	Aluminium- A2XWaY(P)								Copper -2XWaY(P)							
				Approx. overall dia. Of cable	Approx. weigth of cable	Approx. AC resistance at 90°C	Approx. Reactance at 50 Hz	Approx capacitance per phase	Continues current rating			Approx. overall dia. Of cable	Approx. weight of cable	Approx. A.C resistance at 90°C	Approx. Reactance at 50 Hz	Approx. capacitance per phase	Continues current rating		
									In Duct at 30°C	In ground at 30°C	In Air at 40°C						In Duct at 30°C	In ground at 30°C	In Air at 40°C
mm2	mm	mm	mm	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/Km	Amps.	Amps.	Amps.	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/ Km	Amps.	Amps.	Amps.
35	0.3	1.6	1.56	29.0	840	1.1131	0.1530	0.147	100	115	145	29.0	1053	0.6683	0.1516	0.149	130	150	185
50	0.3	1.6	1.56	30.0	916	0.8221	0.1460	0.160	120	135	170	30.0	1201	0.4937	0.1449	0.163	150	175	220
70	0.3	1.6	1.56	32.0	1045	0.5682	0.1341	0.182	145	165	215	32.0	1444	0.3421	0.1337	0.183	185	215	275
95	0.4	2.0	1.56	34.0	1235	0.4106	0.1303	0.198	170	195	260	34.0	1790	0.2466	0.1294	0.201	220	250	335
120	0.4	2.0	1.56	35.0	1364	0.3248	0.1247	0.217	195	225	300	36.0	2064	0.1958	0.1238	0.221	245	285	385
150	0.4	2.0	1.56	37.0	1490	0.2647	0.1209	0.233	215	250	340	37.0	2344	0.1590	0.1209	0.233	275	315	430
185	0.4	2.0	1.72	39.0	1682	0.2110	0.1162	0.253	240	280	385	39.0	2770	0.1275	0.1155	0.256	305	355	490
240	0.4	2.0	1.72	41.0	1913	0.1612	0.1119	0.277	275	320	450	41.0	3342	0.0977	0.1110	0.282	350	400	570
300	0.4	2.0	1.72	43.0	2155	0.1295	0.1080	0.301	305	355	510	43.0	3932	0.0787	0.1078	0.303	380	445	650
400	0.5	2.0	1.88	46.0	2573	0.1014	0.1038	0.336	345	400	600	46.0	4843	0.0627	0.1034	0.339	425	495	740
500	0.5	2.5	2.04	50.0	3149	0.0798	0.1017	0.371	380	445	680	51.0	6094	0.0502	0.1008	0.380	460	540	830
630	0.5	2.5	2.04	54.0	3701	0.0631	0.0983	0.413	420	495	770	55.0	7491	0.0406	0.0978	0.420	500	580	920
800	0.6	2.5	2.20	59.0	4412	0.0509	0.0953	0.460	460	540	870	60.0	9302	0.0338	0.0946	0.472	530	630	1020
1000	0.6	2.5	2.36	63.0	5194	0.0422	0.0927	0.504	490	570	950	64.0	11200	0.0291	0.0922	0.516	550	650	1080

TABLE 18: 19/33 kV, SINGLE CORE, XLPE INSULATED, PVC INNERSHEATH, ALUMINIUM ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES-A2XWaY(P)/2XWaY(P) AS PER IS 7098 (PART 2)

Nominal area of conductor	Minimum thickness of Inner Sheath	Nominal Dia of armour wire	Minimum Thickness of o/ Sheath	Aluminium- A2XWaY(P)								Copper -2XWaY(P)							
				Approx. overall dia. Of cable	Approx. weigth of cable	Approx. AC resistance at 90°C	Approx. Reactance at 50 Hz	Approx capacitance per phase	Continues current rating			Approx. overall dia. Of cable	Approx. weight of cable	Approx. A.C resistance at 90°C	Approx. Reactance at 50 Hz	Approx. capacitance per phase	Continues current rating		
									In Duct at 30°C	In ground at 30°C	In Air at 40°C						In Duct at 30°C	In ground at 30°C	In Air at 40°C
mm2	mm	mm	mm	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/Km	Amps.	Amps.	Amps.	mm	Kg/km	Ohm/Km	Ohm/Km	Micro Farad/ Km	Amps.	Amps.	Amps.
50	0.4	2.0	1.56	36.0	1324	0.8220	0.1588	0.126	120	135	170	37.0	1605	0.4936	0.1572	0.127	150	175	220
70	0.4	2.0	1.56	38.0	1463	0.5682	0.1462	0.142	145	165	215	38.0	1863	0.3420	0.1454	0.142	185	215	275
95	0.4	2.0	1.72	40.0	1628	0.4106	0.1409	0.153	170	195	260	40.0	2186	0.2465	0.1396	0.154	220	250	335
120	0.4	2.0	1.72	41.0	1772	0.3248	0.1349	0.166	195	225	300	42.0	2483	0.1957	0.1336	0.168	245	285	385
150	0.4	2.0	1.72	43.0	1909	0.2646	0.1307	0.177	215	250	340	43.0	2763	0.1589	0.1304	0.176	275	315	430
185	0.5	2.0	1.88	45.0	2151	0.2109	0.1259	0.191	240	280	385	45.0	3233	0.1274	0.1248	0.193	305	355	490
240	0.5	2.0	1.88	47.0	2401	0.1611	0.1211	0.208	275	320	450	47.0	3825	0.0975	0.1198	0.211	350	400	570
300	0.5	2.5	2.04	50.0	2829	0.1293	0.1185	0.225	305	355	510	50.0	4607	0.0784	0.1180	0.225	380	445	650
400	0.5	2.5	2.04	53.0	3233	0.1012	0.1130	0.248	345	400	600	54.0	5507	0.0623	0.1122	0.250	425	495	740
500	0.6	2.5	2.20	57.0	3744	0.0795	0.1092	0.273	380	445	680	58.0	6697	0.0498	0.1079	0.278	460	540	830
630	0.6	2.5	2.36	61.0	4362	0.0628	0.1057	0.302	420	495	770	61.0	8174	0.0401	0.1049	0.306	500	580	920
800	0.6	2.5	2.36	65.0	5057	0.0505	0.1016	0.334	460	540	870	66.0	9944	0.0333	0.1006	0.341	530	630	1020
1000	0.7	3.15	2.52	70.0	6160	0.0416	0.1000	0.365	490	570	950	72.0	12186	0.0284	0.0991	0.372	550	650	1080

TABLE 19: 1.9/3.3 kV OR 3.3/3.3 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED,UNSCREENED CABLES A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of Inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.3	1.56	31	1179	1.1132	0.0965	0.263	94	115	120	31	1811	0.6684	0.0965	0.263	120	145	155
50	0.4	1.56	33	1349	0.8222	0.0926	0.296	110	135	145	33	2205	0.4938	0.0926	0.296	145	170	190
70	0.4	1.56	36	1628	0.5684	0.0859	0.341	140	165	185	36	2864	0.3423	0.0859	0.341	175	210	235
95	0.4	1.72	40	2008	0.4108	0.0829	0.389	165	195	225	40	3726	0.2469	0.0829	0.389	210	250	290
120	0.5	1.72	42	2306	0.3251	0.0808	0.427	185	220	255	42	4474	0.1962	0.0808	0.427	240	285	330
150	0.5	1.88	45	2664	0.2650	0.0792	0.466	210	245	295	45	5340	0.1595	0.0792	0.466	270	315	375
185	0.5	2.04	48	3119	0.2114	0.0768	0.512	235	280	340	48	6463	0.1282	0.0768	0.512	300	355	435
240	0.6	2.20	53	3827	0.1618	0.0750	0.574	270	320	400	53	8229	0.0986	0.0750	0.574	350	410	510
300	0.6	2.20	57	4475	0.1302	0.0736	0.635	305	360	460	57	10004	0.0798	0.0736	0.635	390	460	590
400	0.7	2.52	63	5445	0.1023	0.0719	0.704	350	410	535	63	12500	0.0640	0.0719	0.704	440	520	670
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 20: 3.8/6.6 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.4	1.72	38	1763	1.1131	0.1126	0.254	97	115	125	38	2434	0.6684	0.1117	0.259	125	145	165
50	0.5	1.72	41	2013	0.8221	0.1079	0.290	115	130	150	41	2901	0.4938	0.1075	0.292	150	170	195
70	0.5	1.88	45	2472	0.5684	0.0994	0.332	140	160	190	45	3671	0.3423	0.0994	0.332	180	210	240
95	0.5	1.88	48	2833	0.4108	0.0951	0.375	165	190	230	48	4568	0.2470	0.0951	0.375	215	250	295
120	0.6	2.04	52	3358	0.3251	0.0924	0.408	190	220	260	52	5460	0.1962	0.0918	0.415	240	280	335
150	0.6	2.20	55	3787	0.2650	0.0900	0.443	210	245	295	55	6362	0.1596	0.0897	0.447	270	310	380
185	0.6	2.20	58	4380	0.2115	0.0867	0.485	240	275	335	59	7629	0.1283	0.0864	0.490	305	350	430
240	0.7	2.36	63	5217	0.1619	0.0841	0.539	275	315	395	64	9518	0.0988	0.0839	0.544	350	400	500
300	0.7	2.52	69	6171	0.1303	0.0833	0.550	310	355	450	69	11532	0.0800	0.0827	0.563	390	445	570
400	0.7	2.84	77	7613	0.1025	0.0812	0.578	350	400	520	78	14589	0.0643	0.0812	0.580	440	500	650
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 21: 6.35/11 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.5	1.72	41	2031	1.1131	0.1186	0.208	97	115	125	42	2656	0.6684	0.1176	0.212	125	145	165
50	0.5	1.88	44	2316	0.8221	0.1140	0.238	115	130	150	44	3178	0.4938	0.1136	0.240	150	170	195
70	0.5	1.88	48	2696	0.5684	0.1050	0.272	140	160	190	48	3962	0.3422	0.1050	0.272	180	210	240
95	0.6	2.04	51	3198	0.4108	0.1002	0.305	165	190	230	52	4893	0.2469	0.1002	0.305	215	250	295
120	0.6	2.20	55	3687	0.3250	0.0972	0.331	190	220	260	56	5831	0.1961	0.0966	0.337	240	280	335
150	0.6	2.20	58	4077	0.2650	0.0945	0.358	210	245	295	58	6652	0.1595	0.0942	0.361	270	310	380
185	0.7	2.36	62	4728	0.2114	0.0909	0.391	240	275	335	63	8004	0.1282	0.0906	0.395	305	350	430
240	0.7	2.52	67	5568	0.1618	0.0880	0.433	275	315	395	68	9868	0.0986	0.0878	0.437	350	400	500
300	0.7	2.68	71	6451	0.1302	0.0859	0.469	310	355	450	72	11812	0.0798	0.0854	0.480	390	445	570
400	0.7	2.84	78	7813	0.1024	0.0824	0.535	350	400	520	79	14654	0.0642	0.0824	0.537	440	500	650
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 22: 11/11 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.5	2.04	50	2778	1.1131	0.1325	0.155	97	115	125	50	3463	0.6683	0.1313	0.158	125	145	165
50	0.6	2.20	53	3113	0.8221	0.1267	0.175	115	130	150	53	4052	0.4937	0.1262	0.177	150	170	195
70	0.6	2.20	57	3616	0.5683	0.1166	0.198	140	160	190	57	4817	0.3421	0.1166	0.198	180	210	240
95	0.6	2.36	60	4105	0.4107	0.1109	0.220	165	190	230	60	5824	0.2467	0.1109	0.220	215	250	295
120	0.7	2.36	64	4646	0.3249	0.1074	0.237	190	220	260	64	6784	0.1960	0.1066	0.241	240	280	335
150	0.7	2.52	67	5121	0.2648	0.1041	0.255	210	245	295	67	7695	0.1592	0.1038	0.257	270	310	380
185	0.7	2.68	71	5832	0.2112	0.0999	0.277	240	275	335	71	9090	0.1279	0.0995	0.280	305	350	430
240	0.7	2.84	75	6742	0.1616	0.0963	0.305	275	315	395	76	11051	0.0982	0.0960	0.307	350	400	500
300	0.7	3.00	80	7701	0.1299	0.0938	0.328	310	355	450	80	13065	0.0794	0.0931	0.336	390	445	570
400	0.7	3.00	87	8949	0.1020	0.0895	0.372	350	400	520	87	15946	0.0636	0.0894	0.373	440	500	650
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 23: 12.7/22 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED, SCREENED CABLES. A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.6	2.04	52	3000	1.1131	0.1357	0.147	98	110	130	53	3627	0.6683	0.1345	0.149	125	145	165
50	0.6	2.20	55	3358	0.8221	0.1296	0.165	115	130	155	56	4240	0.4937	0.1291	0.166	150	170	200
70	0.6	2.36	59	3896	0.5683	0.1193	0.186	140	160	190	60	5122	0.3421	0.1193	0.186	180	205	245
95	0.7	2.36	62	4362	0.4107	0.1135	0.206	170	190	230	63	6128	0.2467	0.1135	0.206	215	245	300
120	0.7	2.52	66	4943	0.3249	0.1098	0.222	190	215	265	67	7055	0.1959	0.1090	0.226	245	275	340
150	0.7	2.68	69	5469	0.2648	0.1064	0.239	215	240	300	69	8044	0.1592	0.1061	0.240	275	305	385
185	0.7	2.68	73	6128	0.2112	0.1021	0.259	240	270	340	74	9411	0.1278	0.1017	0.261	305	345	435
240	0.7	2.84	78	7051	0.1615	0.0984	0.284	275	310	400	79	11361	0.0982	0.0980	0.287	350	395	510
300	0.7	3.00	82	8028	0.1298	0.0957	0.306	310	350	455	83	13416	0.0793	0.0950	0.313	390	440	580
400	0.7	3.00	89	9320	0.1020	0.0912	0.346	355	395	530	89	16233	0.0635	0.0911	0.347	440	495	660
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 24: 19/33 kV, THREE CORE, XLPE INSULATED, FLAT STRIP ARMOURED AND PVC SHEATHED, SCREENED CABLES. A2XFY(P) / 2XFY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Minimum Thickness of O/ Sheath	Aluminium - A2XFY(P)								Copper - 2XFY(P)							
			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
								In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
50	0.7	2.52	68	4916	0.8221	0.1447	0.119	115	130	155	69	5765	0.4937	0.1436	0.128	150	170	200
70	0.7	2.68	73	5553	0.5683	0.1328	0.134	140	160	190	73	6758	0.3421	0.1324	0.143	180	205	245
95	0.7	2.84	76	6076	0.4106	0.1262	0.158	170	190	230	76	7784	0.2466	0.1262	0.158	215	245	300
120	0.7	2.84	79	6655	0.3248	0.1219	0.169	190	215	265	80	8833	0.1958	0.1210	0.171	245	275	340
150	0.7	3.00	82	7285	0.2647	0.1180	0.181	215	240	300	82	9860	0.1590	0.1176	0.182	275	305	385
185	0.7	3.00	86	7918	0.2110	0.1130	0.195	240	270	340	87	11320	0.1276	0.1126	0.196	305	345	435
240	0.7	3.00	90	8870	0.1613	0.1086	0.212	275	310	400	91	13327	0.0978	0.1083	0.214	350	395	510
300	0.7	3.00	95	9870	0.1296	0.1055	0.227	310	350	455	95	15237	0.0789	0.1046	0.232	390	440	580
400	0.7	3.00	101	11390	0.1016	0.1002	0.255	355	395	530	102	18268	0.0629	0.1001	0.256	440	495	660
500		Please Refer to our Technical department for further information.																
630		Please Refer to our Technical department for further information.																

TABLE 25: 1.9/3.3 kV OR 3.3/3.3 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, UNSCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of Inner sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.3	1.6	1.56	32	1540	1.1132	0.0965	0.263	94	115	120	32	2170	0.6684	0.0881	0.263	120	145	155
50	0.4	2.0	1.56	35	1980	0.8222	0.0926	0.296	110	135	145	35	2840	0.4939	0.0837	0.296	145	170	190
70	0.4	2.0	1.56	38	2320	0.5684	0.0859	0.341	140	165	185	38	3560	0.3424	0.0764	0.341	175	210	235
95	0.4	2.0	1.72	42	2760	0.4109	0.0829	0.389	165	195	225	42	4480	0.2471	0.0728	0.389	210	250	290
120	0.5	2.0	1.88	44	3150	0.3252	0.0808	0.427	185	220	255	44	5320	0.1966	0.0682	0.427	240	285	330
150	0.5	2.5	2.04	48	3920	0.2651	0.0792	0.466	210	245	295	48	6600	0.1600	0.0662	0.466	270	315	375
185	0.5	2.5	2.04	51	4450	0.2116	0.0768	0.512	235	280	340	51	7800	0.1289	0.0634	0.512	300	355	435
240	0.6	2.5	2.20	56	5300	0.1620	0.0750	0.574	270	320	400	56	9700	0.0996	0.0612	0.574	350	410	510
300	0.6	2.5	2.36	61	6130	0.1305	0.0736	0.635	305	360	460	61	11660	0.0811	0.0595	0.635	390	460	590
400	0.7	3.15	2.68	68	8000	0.1028	0.0719	0.704	350	410	535	68	15060	0.0657	0.0574	0.704	440	520	670
500	Please Refer to our Technical department for further information.																		
630	Please Refer to our Technical department for further information.																		

TABLE 26: 3.8/6.6 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.4	2.0	1.72	40	2419	1.1131	0.1126	0.254	97	115	125	41	3091	0.6684	0.1117	0.259	125	145	165
50	0.5	2.0	1.88	43	2756	0.8221	0.1079	0.290	115	130	150	44	3645	0.4938	0.1075	0.292	150	170	195
70	0.5	2.0	1.88	47	3263	0.5684	0.0994	0.332	140	160	190	47	4462	0.3423	0.0994	0.332	180	210	240
95	0.5	2.5	2.04	51	4075	0.4108	0.0951	0.375	165	190	230	52	5850	0.2470	0.0951	0.375	215	250	295
120	0.6	2.5	2.20	55	4694	0.3251	0.0924	0.408	190	220	260	56	6836	0.1962	0.0918	0.415	240	280	335
150	0.6	2.5	2.20	58	5217	0.2650	0.0900	0.443	210	245	295	58	7792	0.1596	0.0897	0.447	270	310	380
185	0.6	2.5	2.36	62	5942	0.2115	0.0867	0.485	240	275	335	63	9231	0.1283	0.0864	0.490	305	350	430
240	0.7	3.15	2.52	68	7577	0.1619	0.0841	0.539	275	315	395	69	11918	0.0988	0.0839	0.544	350	400	500
300	0.7	3.15	2.68	74	8754	0.1303	0.0833	0.550	310	355	450	74	14115	0.0800	0.0827	0.563	390	445	570
400	0.7	4.0	3.00	84	11520	0.1025	0.0812	0.578	350	400	520	84	18573	0.0643	0.0812	0.580	440	500	650
500		Please Refer to our Technical department for further information.																	
630		Please Refer to our Technical department for further information.																	

TABLE 27: 6.35/11 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.4	2 .0	1.88	44	2776	1.1131	0.1186	0.208	97	115	125	44	3426	0.6684	0.1176	0.212	125	145	165
50	0.5	2.5	2.04	47	3469	0.8221	0.1140	0.238	115	130	150	48	4306	0.4938	0.1136	0.240	150	170	195
70	0.5	2.5	2.04	51	3939	0.5684	0.1050	0.272	140	160	190	52	5243	0.3422	0.1050	0.272	180	210	240
95	0.6	2.5	2.20	55	4558	0.4108	0.1002	0.305	165	190	230	55	6229	0.2469	0.1002	0.305	215	250	295
120	0.6	2.5	2.20	58	5094	0.3250	0.0972	0.331	190	220	260	59	7277	0.1961	0.0966	0.337	240	280	335
150	0.6	2.5	2.36	61	5600	0.2650	0.0945	0.358	210	245	295	61	8175	0.1595	0.0942	0.361	270	310	380
185	0.7	3.15	2.52	67	7048	0.2114	0.0909	0.391	240	275	335	67	10301	0.1282	0.0906	0.395	305	350	430
240	0.7	3.15	2.68	71	8010	0.1618	0.0880	0.433	275	315	395	72	12349	0.0986	0.0878	0.437	350	400	500
300	0.7	3.15	2.84	76	9145	0.1302	0.0859	0.469	310	355	450	77	14506	0.0798	0.0854	0.480	390	445	570
400	0.7	4.0	3.00	85	11798	0.1024	0.0824	0.535	350	400	520	85	18639	0.0642	0.0824	0.537	440	500	650
500		Please Refer to our Technical department for further information.																	
630		Please Refer to our Technical department for further information.																	

TABLE 28: 11/11 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.5	2.5	2.2	54	4121	1.1131	0.1325	0.155	97	115	125	54	4783	0.6683	0.1313	0.158	125	145	165
50	0.6	2.5	2.20	56	4488	0.8221	0.1267	0.175	115	130	150	57	5403	0.4937	0.1262	0.177	150	170	195
70	0.6	2.5	2.36	60	5122	0.5683	0.1166	0.198	140	160	190	61	6323	0.3421	0.1166	0.198	180	210	240
95	0.6	3.15	2.52	65	6322	0.4107	0.1109	0.220	165	190	230	65	8041	0.2467	0.1109	0.220	215	250	295
120	0.7	3.15	2.52	69	7006	0.3249	0.1074	0.237	190	220	260	69	9184	0.1960	0.1066	0.241	240	280	335
150	0.7	3.15	2.68	72	7624	0.2648	0.1041	0.255	210	245	295	72	10199	0.1592	0.1038	0.257	270	310	380
185	0.7	3.15	2.84	76	8463	0.2112	0.0999	0.277	240	275	335	76	11784	0.1279	0.0995	0.280	305	350	430
240	0.7	3.15	3.00	80	9556	0.1616	0.0963	0.305	275	315	395	81	13904	0.0982	0.0960	0.307	350	400	500
300	0.7	4.0	3.00	87	11705	0.1299	0.0938	0.328	310	355	450	87	17068	0.0794	0.0931	0.336	390	445	570
400	0.7	4.0	3.00	93	13363	0.1020	0.0895	0.372	350	400	520	93	20336	0.0636	0.0894	0.373	440	500	650
500		Please Refer to our Technical department for further information.																	
630		Please Refer to our Technical department for further information.																	

TABLE 29: 12.7/22 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
35	0.6	2.5	2.20	56	4377	1.1131	0.1357	0.147	98	110	130	56	5043	0.6683	0.1345	0.149	125	145	165
50	0.6	2.5	2.36	59	4897	0.8221	0.1296	0.165	115	130	155	59	5729	0.4937	0.1291	0.166	150	170	200
70	0.6	2.5	2.36	63	5455	0.5683	0.1193	0.186	140	160	190	63	6656	0.3421	0.1193	0.186	180	205	245
95	0.7	3.15	2.52	67	6658	0.4107	0.1135	0.206	170	190	230	68	8425	0.2467	0.1135	0.206	215	245	300
120	0.7	3.15	2.68	71	7383	0.3249	0.1098	0.222	190	215	265	72	9558	0.1959	0.1090	0.226	245	275	340
150	0.7	3.15	2.68	74	8002	0.2648	0.1064	0.239	215	240	300	74	10577	0.1592	0.1061	0.240	275	305	385
185	0.7	3.15	2.84	78	8862	0.2112	0.1021	0.259	240	270	340	78	12185	0.1278	0.1017	0.261	305	345	435
240	0.7	4.0	3.00	84	10958	0.1615	0.0984	0.284	275	310	400	85	15346	0.0982	0.0980	0.287	350	395	510
300	0.7	4.0	3.00	89	12210	0.1298	0.0957	0.306	310	350	455	89	17574	0.0793	0.0950	0.313	390	440	580
400	0.7	4.0	3.00	95	13787	0.1020	0.0912	0.346	355	395	530	96	20801	0.0635	0.0911	0.347	440	495	660
500		Please Refer to our Technical department for further information.																	
630		Please Refer to our Technical department for further information.																	

TABLE 30: 19/33 kV, THREE CORE, XLPE INSULATED, ROUND WIRE ARMOURED AND PVC SHEATHED, SCREENED CABLES A2XWY(P) / 2XWY(P) AS PER IS 7098 (PART 2)

Nominal Area of Conductor	Minimum Thickness of inner Sheath	Nominal Dia. Of Armour Wire	Minimum Thickness of O/ Sheath	Aluminium - A2XWY(P)								Copper - 2XWY(P)							
				Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating			Approx. overall dia. of cable	Approx. weight of cable	Approx. A.C. Resistance at 90°C	Approx. Reactance at 50 Hz	Approx. Capacitance per phase	Continuous Current Rating		
									In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C						In Duct at 30 °C	In Ground at 30 °C	In Air at 40 °C
mm²	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.	mm	kg/km	ohm/km	ohm/km	Micro Farad/km	Amps.	Amps.	Amps.
50	0.7	3.15	2.68	73	7436	1.1131	0.1447	0.126	115	130	155	74	8348	0.6683	0.1436	0.128	150	170	200
70	0.7	3.15	2.84	78	8286	0.8221	0.1356	0.142	140	160	190	78	9491	0.4937	0.1352	0.143	180	205	245
95	0.7	3.15	3.00	81	8890	0.4106	0.1262	0.158	170	190	230	81	10637	0.2466	0.1262	0.158	215	245	300
120	0.7	4.0	3.00	86	10717	0.3248	0.1219	0.169	190	215	265	87	12896	0.1958	0.1210	0.171	245	275	340
150	0.7	4.0	3.00	89	11468	0.2647	0.1180	0.181	215	240	300	89	14042	0.1590	0.1176	0.182	275	305	385
185	0.7	4.0	3.00	92	12231	0.2110	0.1130	0.195	240	270	340	93	15734	0.1276	0.1126	0.196	305	345	435
240	0.7	4.0	3.00	97	13516	0.1613	0.1086	0.212	275	310	400	98	17950	0.0978	0.1083	0.214	350	395	510
300	0.7	4.0	3.00	101	14749	0.1296	0.1055	0.227	310	350	455	101	20115	0.0789	0.1046	0.232	390	440	580
400	0.7	4.0	3.00	107	16578	0.1016	0.1002	0.255	355	395	530	108	23533	0.0629	0.1001	0.256	440	495	660
500	Please Refer to our Technical department for further information.																		
630	Please Refer to our Technical department for further information.																		

1. CONTINUOUS CURRENT CARRYING CAPACITY

Continuous current carrying capacity is an important factor for the selection of the optimum size of conductor in a cable. The current ratings given in Tables 2 to 30 are on the following standard installation conditions:

1. Maximum Conductor Temprature	90°C
2. Thermal Resistivity of Soil	1.5 K.m/W
3. Ground Temprature	30°C
4. Ambient Air Temprature	40°C
5. Depth of Laying - to the highest point of cables laid direct or to top surface of ducts, is taken to be as follows:	
a) 3.3, 6.6 and 11 kV cables	900 mm
b) 22 and 33 kV cables	1050 mm
6. Method of Installation :	
a) Single core cables:	Three single core cables in trefoil touching
b) Three core cables	Installed single

2. SHORT CIRCUIT RATING

The conductor size in a cable for an installation is also governed by its ability to carry short circuit current of the system.

Short circuit rating are based on the assumption that the duration of short circuit is so small and apparently there is no transmission of heat, produced during short circuit, through the insulation and the whole of it is absorbed by the conductor.

The short circuit current ratings (r.m.s. values) of XLPE insulated cables with aluminium / copper conductors for one second duration are given in table 1. These ratings have been calculated on the following assumptions.

Parametres	Aluminium	Copper
1. Conductor temprature prior to short circuit	90°C	90°C
2. Maximum permissible conductor temprature during short circuit	250°C	250°C
3. Specific gravity of aluminium	2.703	8.89
4. Resistivity of aluminium at 20 °C (ohm/km/mm²)	28.264	17.24
5. Temprature coefficient of resistance at 20 °	0.00403/°C	0.0039/°C

With the above assumptions, the maximum short circuit current is calculated with the following formula.

$$Ish = \frac{k \times A}{\sqrt{t}} \text{ (kA)}$$

Where Ish = r.m.s. value of short circuit current (kA)
k = a constant (Aluminium-0.094, Copper-0.143)
A = nominal area of conductor (mm²)
t = duration of short circuit (sec)

3. COMBINATIONS OF DUCT AND CABLE DIMENSIONS ASSUMED ARE SHOWN BELOW.

Duct Dimesions corresponding to cable diametre

Overall Cable Diameter	Inside Duct Diameter	Outside Duct Diameter
mm	mm	mm
Up to and including 65	100	130
Above 65 and including 90	125	160
Above 90 and including 115	150	190

4. RATING FACTORS

In actual practice, conditions of installation may be different from the standard installation conditions given above. Hence to determine the continuous current rating for the actual conditions, the tabulated current ratings should be multiplied by the appropriate ratings factors or factors given in Tables 31 to 37.

a) Cable Laid Direct in the Ground	Refer Table No.
i) For Depth of laying	31
ii) For variation in ground temprature	32
iii) For variation in thermal resistivity of soil	33
iv) For group rating factors	34

b) Cables Installed in Ducts	Refer Table No.
i) For Depth of laying	31
ii) For variation in ground temprature	32
iii) For variation in thermal resistivity of soil	33
iv) For group rating factors	34

c) Cables Installed in Air	Refer Table No.
i) For variation in ambient air temprature	32

d) Group Rating	Refer Table No.
i) Group Rating factors for cables laid in Trays/ Racks (1core & 3 core)	36 & 37

TABLE 31: RATING FACTORS FOR DEPTH OF LAYING

Depth of Laying (mm)	For cables laid direct in the ground		For single or three core cables in single way ducts.	
	3.3,6.6 And 11 kV Cables	22 And 33 kV Cables	3.3,6.6 And 11 kV Cables	22 And 33 kV Cables
900	1	-	1	-
1050	0.99	1	0.99	1
1200	0.97	0.99	0.98	0.99
1500	0.95	0.97	0.96	0.98
1800	0.94	0.95	0.95	0.96
2000	0.93	0.94	0.94	0.95
2500	0.91	0.92	0.93	0.94
3000 or More	0.9	0.91	0.92	0.93

TABLE 32

Rating factors for variation in ground temperature (maximum conductor temperature 90°C)										
Ground Temperature (°C)	15	20	25	30	35	40	45	50	55	60
For cables laid direct in the ground	1.12	1.08	1.04	1	0.96	0.91	0.87	0.82	-	-
For cables laid in duct	1.12	1.08	1.04	1	0.96	0.91	0.87	0.82	0.76	0.71
Rating factors for variation in ambient air temperature (maximum conductor temperature 90°C)										
Air Temperature (°C)	25	30	35	40	45	50	55	60	65	70
Rating factors	1.16	1.11	1.06	1.00	0.94	0.88	0.81	0.74	0.71	0.63

TABLE 33

Rating factors for variation in thermal resistivity of soil for three single core cables												
Nominal Area of Conductor mm²	Laid directly in ground						Laid in ducts					
	Value of Thermal Resistivity of Soil K.m / W						Value of Thermal Resistivity of Soil K.m / W					
	1	1.2	1.5	2	2.5	3	1	1.2	1.5	2	2.5	3
25	1.16	1.08	1	0.9	0.82	0.75	1.07	1.04	1	0.93	0.89	0.84
35	1.16	1.08	1	0.9	0.81	0.75	1.07	1.04	1	0.93	0.88	0.83
50	1.16	1.08	1	0.89	0.81	0.75	1.07	1.04	1	0.93	0.88	0.83
70	1.16	1.09	1	0.89	0.81	0.75	1.08	1.04	1	0.93	0.88	0.83
95	1.16	1.09	1	0.89	0.81	0.75	1.08	1.05	1	0.93	0.87	0.83
120	1.16	1.09	1	0.89	0.81	0.75	1.09	1.05	1	0.93	0.87	0.83
150	1.16	1.09	1	0.89	0.81	0.75	1.09	1.05	1	0.93	0.87	0.83
185	1.16	1.09	1	0.89	0.81	0.75	1.09	1.05	1	0.93	0.87	0.82
240	1.17	1.09	1	0.89	0.81	0.75	1.09	1.05	1	0.93	0.87	0.82
300	1.17	1.09	1	0.89	0.81	0.75	1.09	1.05	1	0.92	0.87	0.82
400	1.17	1.09	1	0.89	0.81	0.75	1.1	1.06	1	0.92	0.87	0.82
500	1.17	1.09	1	0.89	0.81	0.74	1.1	1.06	1	0.92	0.86	0.81

TABLE 34

Group rating factors for three Single core cables in trefoil formation										
Number of Cables In Group	Laid directly in ground					Laid in single way ducts				
	Spacing Between Trefoil Group Centres, mm					Spacing Between Trefoil Group Centres, mm				
	TOUCHING	200	400	600	800	TOUCHING	200	400	600	800
2	0.76	0.83	0.87	0.9	0.92	0.81	0.85	0.89	0.91	0.93
3	0.64	0.72	0.79	0.83	0.86	0.69	0.75	0.81	0.84	0.87
4	0.58	0.67	0.75	0.8	0.84	0.64	0.69	0.77	0.82	0.85
5	0.53	0.63	0.71	0.77	0.81	0.59	0.65	0.74	0.79	0.83
6	0.5	0.6	0.69	0.76	0.8	0.56	0.63	0.72	0.78	0.82
7	0.47	0.58	0.67	0.74	0.79	0.53	0.6	0.7	0.77	0.81
8	0.45	0.56	0.66	0.73	-	0.51	0.59	0.69	0.76	-
9	0.43	0.55	0.65	0.73	-	0.49	0.57	0.68	0.75	-
10	0.42	0.54	0.64	-	-	0.48	0.56	0.67	-	-
11	0.41	0.53	0.64	-	-	0.47	0.55	0.66	-	-
12	0.40	0.52	0.63	-	-	0.46	0.54	0.66	-	-

TABLE 35

Group rating factors for three core cables in horizontal formation										
Number of Cables In Group	Laid direct in the ground					Laid in single way ducts				
	Spacing Between Group Centers, mm					Spacing Between Group Centers, mm				
	TOUCHING	200	400	600	800	TOUCHING	200	400	600	800
2	0.79	0.86	0.9	0.92	0.94	0.85	0.89	0.92	0.94	0.95
3	0.67	0.77	0.82	0.86	0.89	0.75	0.81	0.86	0.89	0.91
4	0.61	0.72	0.79	0.83	0.87	0.7	0.76	0.83	0.87	0.89
5	0.56	0.68	0.76	0.81	0.85	0.65	0.73	0.8	0.85	0.88
6	0.53	0.65	0.74	0.8	0.84	0.62	0.7	0.78	0.84	0.87
7	0.5	0.63	0.72	0.78	0.83	0.59	0.68	0.77	0.82	0.86
8	0.48	0.61	0.71	0.78	-	0.57	0.67	0.76	0.82	-
9	0.46	0.6	0.7	0.77	-	0.55	0.65	0.75	0.81	-
10	0.44	0.59	0.69	-	-	0.54	0.64	0.74	-	-
11	0.43	0.58	0.69	-	-	0.52	0.63	0.74	-	-
12	0.42	0.57	0.68	-	-	0.51	0.62	0.73	-	-

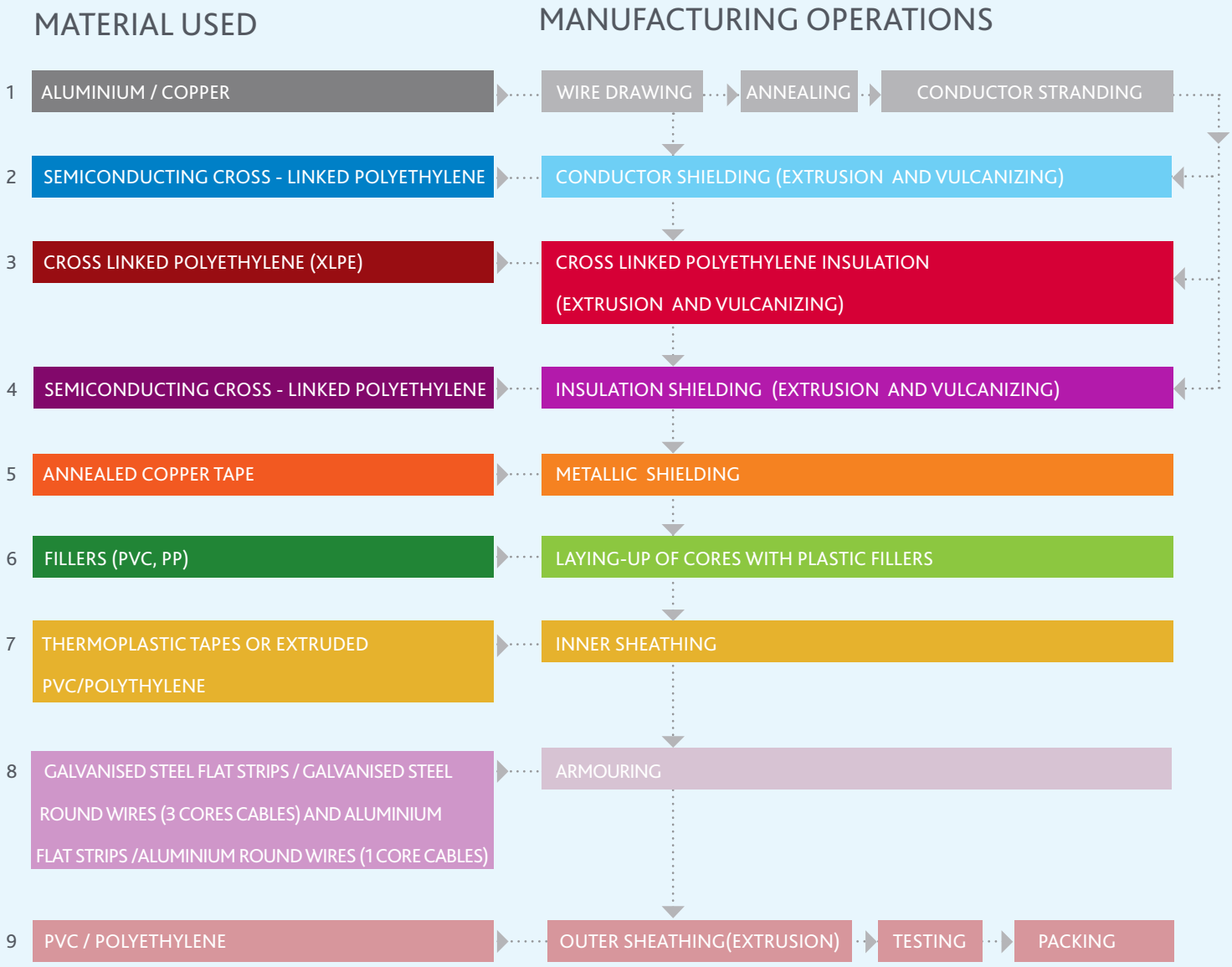
TABLE 36

Group rating factors for single core cables laid on racks/trays , trefoils are seperated by two cable dia horizontally and the trays are in tiers with 30 cm. Gap between them.						
Number of Cable	in covered trench with removable covers where air circulation is restricted			in open air trench without covers where air circulation is not restricted		
Trays in tier	No. of Trefoils			No. of Trefoils		
	1	2	3	1	2	3
1	0.95	0.9	0.88	1	0.98	0.96
2	0.9	0.85	0.83	1	0.95	0.93
3	0.88	0.83	0.81	1	0.94	0.92
6	0.86	0.81	0.79	1	0.93	0.9

TABLE 37

Number of Cables Trays In Tier	Group rating factors for three - core cables and trays spaced in tiers by 300 mm. The clearance between the wall and the cable 25 mm.														
	Laid inside concrete trench with removable covers, on cable trays where air circulation is restricted.the cable spaced by one cable diameter					Laid on cable trays exposed to air the cable spaced by one cable diameter					Laid on cable trays exposed to air, the cables touching				
	No. of Cables					No. of Cables					No. of Cables				
	1	2	3	6	9	1	2	3	6	9	1	2	3	6	9
1	0.95	0.9	0.88	0.85	0.84	1	0.98	0.96	0.93	0.92	1	0.84	0.8	0.75	0.73
2	0.9	0.85	0.83	0.81	0.8	1	0.95	0.93	0.9	0.89	1	0.8	0.76	0.71	0.69
3	0.88	0.83	0.81	0.79	0.78	1	0.94	0.92	0.89	0.88	1	0.78	0.74	0.7	0.68
6	0.86	0.81	0.79	0.77	0.76	1	0.93	0.9	0.87	0.86	1	0.76	0.72	0.68	0.66

MANUFACTURING PROCESS FLOW CHART



NOTE: For 3 Core 3.3 kV grade unscreened cables, activities 2,4,5 will not be applicable

DRUM HANDLING

In order to prevent damage to cable drums during transportation, observe the following six instructions:

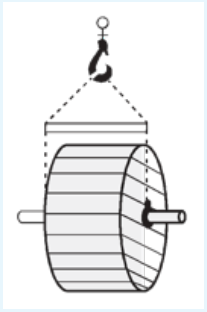
1. Always stand upright

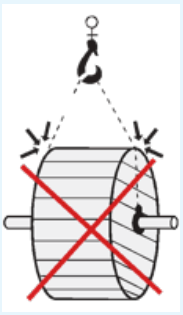
Otherwise the cable might be damaged or the cable layers tangled making it impossible to pull out and use the cable.

2. Crane handling

Always use yoke to avoid damage to the drum flanges and cable.

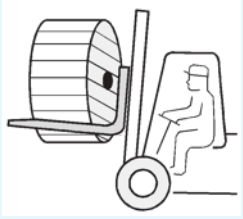
Always use lifting bar to avoid damage to the centre hole



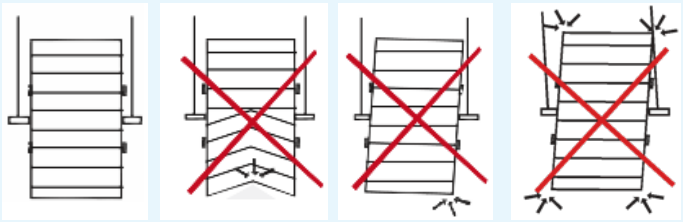


3. Fork lift truck handling

The forks must cover the drum entirely. Otherwise the lagging will be destroyed and the cable will get damaged.

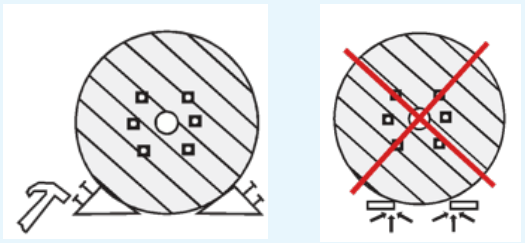


4. Lower gently on to a level surface



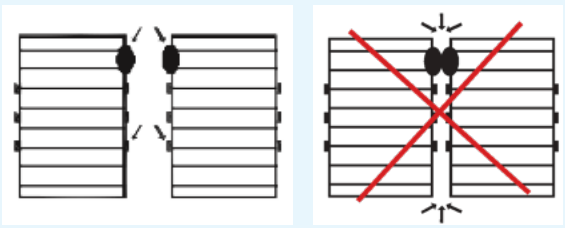
5. Use blocks during unloading

Nail the blocks to the floor



6. Leave space between drums during unloading

Enough space should be left to prevent damage to cable end and drum flange



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