

Master Tec®

Wire & Cable

Strive to Power Up Everyone's Life

Medium Voltage Power Cable



www.mastertec-wirecable.com





COMPANY INTRODUCTION

MASTER TEC WIRE & CABLE

Founded in 2005, with a decade of wires and cables manufacturing experience. Our current factory located at Rembia Industrial Park, Alor Gajah Melaka. Currently we have 4 manufacturing plants in Melaka. We principally involved in the manufacturing and distribution of power cables, control cables, instrumentation cables, trading of power cables, fibre optic cables, and other related products.

We have extensive experience in wires & cables since 2006. We have established a reputable MASTER TEC brand and track record for our LV power cables, control cables and instrumentation cables. Through our brand, customers recognize our products and they have given the assurance and confidence of our product's quality, performance, safety and durability.



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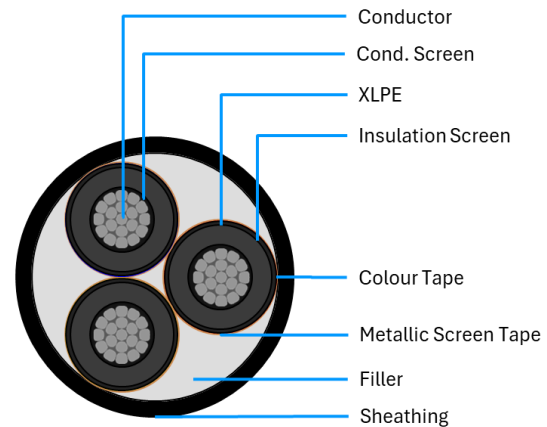
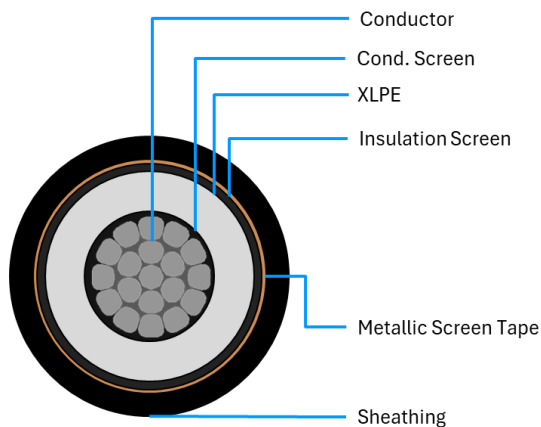
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***Disclaimer**

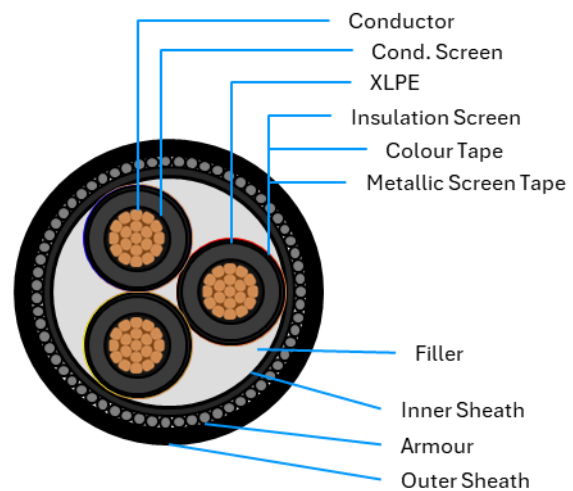
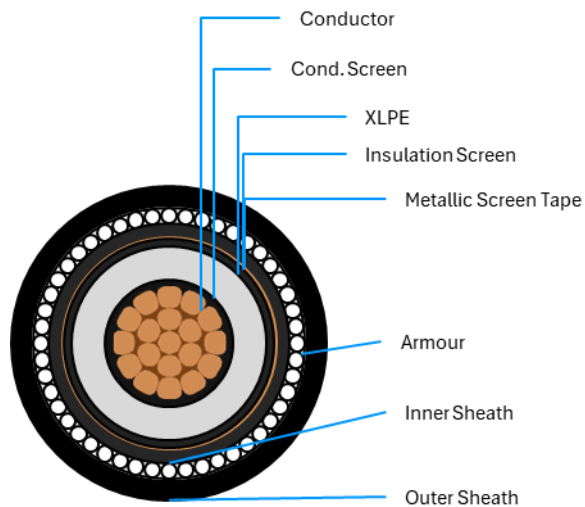
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MV CABLES DESIGN

Non-armoured Cable



Armoured Cable



MV CABLES CONSTRUCTION

Construction	Description
Conductor	Plain circular compacted stranded copper (CU) or aluminium (AL) conductor conform to class 2 in IEC 60228.
Conductor Wrapping	A layer of helically wrap semi-conductive tape with overlap laid over stranded conductor is applied to conductor size reach 300mm ² and above.
Cond. Screen	An extruded thin layer of semi-conductive compound as a 1st layer by triple extrusion process.
Insulation	An extruded layer of cross-linked polyethylene(XLPE) compound as a 2nd layer by triple extrusion process.
Insulation Screen	An extruded thin layer of semi-conductive compound as a 3rd layer by triple extrusion process.
Colour of core Identification (3 Cores only)	Colour tape of red, yellow and blue shall be applied over insulation screen.
Metallic Screen Tape	1 or 2 layer(s) of Copper tape(CTS) helically wrap with overlap laid over insulation screen. An equalising copper tape with open helically wrap and metallic screen (CWS) construction based on customer's earth fault current requirement are available upon request.
Lay Up Cores (3 Cores only) -Filler-	Three screened cores are laid up together with non hygroscopic material.
Inner Sheath	Extruded layer made from black PVC or MDPE compound.
Armour	Aluminium Wires (1C) or Galvanised Steel Wires (3C) shall be applied helically over the separation sheath.
Non-conductive Binder Tape	A layer of non-conductive tape helically wrap with overlap laid over armour when necessary.
Outer Sheath	Extruded layer made from black PVC or MDPE compound. Additive like Anti-termite repellent, anti-rodent or different outer sheath colour are available upon request.

CU/XLPE/CTS/PVC | CU/XLPE/CTS/PE (11KV)

1 CORE : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm±10%	kg/km	kV/5min	mm
50	3.4	1.8	22.4	853	22.0	269
70	3.4	1.8	23.9	1068	22.0	287
95	3.4	1.8	25.8	1347	22.0	310
120	3.4	1.8	26.7	1585	22.0	321
150	3.4	1.8	28.4	1878	22.0	341
185	3.4	1.9	30.2	2246	22.0	363
240	3.4	2.0	32.9	2841	22.0	395
300	3.4	2.1	36.2	3513	22.0	435
400	3.4	2.2	39.0	4346	22.0	468
500	3.4	2.3	42.3	5391	22.0	508
630	3.4	2.4	46.1	6777	22.0	553

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.3870	0.494	235	0.88
70	0.2680	0.342	285	0.62
95	0.1930	0.247	360	0.46
120	0.1530	0.196	415	0.38
150	0.1240	0.159	470	0.32
185	0.0991	0.128	540	0.27
240	0.0754	0.098	640	0.23
300	0.0601	0.079	740	0.20
400	0.0470	0.063	840	0.18
500	0.0366	0.051	990	0.17
630	0.0283	0.042	1110	0.15

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

CU/XLPE/CTS/PVC | CU/XLPE/CTS/PE (33KV)

1 CORE : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm ± 10%	kg/km	kV/5min	mm
50	8.0	1.9	31.8	1287	66.5	382
70	8.0	2.0	33.5	1538	66.5	402
95	8.0	2.0	35.4	1844	66.5	425
120	8.0	2.1	36.5	2112	66.5	438
150	8.0	2.1	38.2	2429	66.5	459
185	8.0	2.2	40.0	2826	66.5	480
240	8.0	2.3	42.7	3462	66.5	513
300	8.0	2.4	46.0	4184	66.5	552
400	8.0	2.5	48.8	5059	66.5	586
500	8.0	2.6	52.1	6155	66.5	625
630	8.0	2.7	55.9	7599	66.5	671

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20° C	Max. Conductor AC Resistance at 90° C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.3870	0.494	245	0.89
70	0.2680	0.342	300	0.63
95	0.1930	0.247	360	0.48
120	0.1530	0.196	425	0.40
150	0.1240	0.159	485	0.34
185	0.0991	0.127	550	0.29
240	0.0754	0.098	650	0.25
300	0.0601	0.079	740	0.22
400	0.0470	0.062	850	0.20
500	0.0366	0.050	980	0.19
630	0.0283	0.040	1130	0.17

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

CU/XLPE/CTS/PVC | CU/XLPE/CTS/PE (11KV)

3 CORES : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm ± 10%	kg/km	kV/5min	mm
50	3.4	2.3	44.1	2710	22.0	530
70	3.4	2.5	48.1	3443	22.0	577
95	3.4	2.6	52.4	4360	22.0	629
120	3.4	2.7	54.6	5130	22.0	655
150	3.4	2.8	58.4	6096	22.0	701
185	3.4	2.9	62.1	7249	22.0	745
240	3.4	3.1	67.9	9155	22.0	814
300	3.4	3.3	74.9	11331	22.0	899
400	3.4	3.5	80.9	13983	22.0	972

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20° C	Max. Conductor AC Resistance at 90° C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.3870	0.494	220	0.88
70	0.2680	0.342	270	0.62
95	0.1930	0.246	330	0.46
120	0.1530	0.196	375	0.38
150	0.1240	0.159	430	0.32
185	0.0991	0.127	490	0.27
240	0.0754	0.097	570	0.23
300	0.0601	0.078	650	0.22
400	0.0470	0.062	740	0.20

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19



CU/XLPE/CTS/PVC | CU/XLPE/CTS/PE (33KV)

3 CORES : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm ± 10%	kg/km	kV/5min	mm
50	8.0	3.0	65.2	4427	66.5	782
70	8.0	3.2	69.4	5291	66.5	832
95	8.0	3.3	73.6	6334	66.5	884
120	8.0	3.4	75.8	7166	66.5	909
150	8.0	3.5	79.6	8243	66.5	956
185	8.0	3.6	83.3	9504	66.5	999
240	8.0	3.8	89.1	11578	66.5	1069
300	8.0	4.0	96.2	13961	66.5	1154
400	8.0	4.2	102.2	16788	66.5	1226

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20° C	Max. Conductor AC Resistance at 90° C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.3870	0.494	225	0.89
70	0.2680	0.342	275	0.63
95	0.1930	0.246	330	0.48
120	0.1530	0.196	380	0.40
150	0.1240	0.159	430	0.34
185	0.0991	0.127	490	0.29
240	0.0754	0.097	570	0.25
300	0.0601	0.078	650	0.22
400	0.0470	0.062	740	0.20

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

CU/XLPE/CTS/PVC/AWA/PVC | CU/XLPE/CTS/PE/AWA/PE (11KV)

1 CORE : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, ALUMINIUM WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor mm ²	Nominal Thickness of Insulation mm	Nominal Thickness of Inner Sheath mm	Nominal Thickness of Outer Sheath mm	Approximate Overall Diameter mm±10%	Approximate Cable Weight kg/km	Ac Test Voltage kV/5min	Min. Bending Radius mm
50	3.4	1.0	1.8	28.3	1225	22.0	424
70	3.4	1.0	1.9	30.0	1478	22.0	449
95	3.4	1.0	1.9	31.9	1785	22.0	478
120	3.4	1.0	2.0	33.0	2054	22.0	494
150	3.4	1.0	2.1	35.7	2466	22.0	535
185	3.4	1.2	2.1	37.7	2888	22.0	565
240	3.4	1.2	2.2	40.4	3539	22.0	605
300	3.4	1.2	2.3	43.7	4270	22.0	655
400	3.4	1.2	2.4	47.5	5288	22.0	712
500	3.4	1.4	2.6	51.4	6479	22.0	770
630	3.4	1.4	2.7	55.2	7954	22.0	827

ELECTRICAL DATA

Nominal Area of Conductor mm ²	Max. Conductor DC Resistance at 20°C Ohm/km	Max. Conductor AC Resistance at 90°C Ohm/km	Current Rating in Air (Trefoil) A	Current Rating Buried Direct in Ground A	Voltage Drop mV/A/m
50	0.3870	0.494	235	220	0.88
70	0.2680	0.342	285	270	0.62
95	0.1930	0.247	360	320	0.46
120	0.1530	0.196	415	360	0.38
150	0.1240	0.159	470	410	0.32
185	0.0991	0.128	540	460	0.27
240	0.0754	0.098	640	530	0.23
300	0.0601	0.079	740	600	0.20
400	0.0470	0.063	840	680	0.18
500	0.0366	0.050	990	750	0.17
630	0.0283	0.041	1110	830	0.15

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19



CU/XLPE/CTS/PVC/AWA/PVC | CU/XLPE/CTS/PE/AWA/PE (33KV)

1 CORE : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, ALUMINIUM WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor mm ²	Nominal Thickness of Insulation mm	Nominal Thickness of Inner Sheath mm	Nominal Thickness of Outer Sheath mm	Approximate Overall Diameter mm±10%	Approximate Cable Weight kg/km	Ac Test Voltage kV/5min	Min. Bending Radius mm
50	8.0	1.2	2.2	39.5	1976	66.5	592
70	8.0	1.2	2.2	41.0	2248	66.5	614
95	8.0	1.2	2.3	43.1	2605	66.5	646
120	8.0	1.2	2.3	44.0	2880	66.5	659
150	8.0	1.2	2.4	46.9	3385	66.5	703
185	8.0	1.2	2.5	48.7	3811	66.5	730
240	8.0	1.4	2.6	51.8	4567	66.5	776
300	8.0	1.4	2.7	55.1	5360	66.5	826
400	8.0	1.4	2.8	57.9	6302	66.5	868
500	8.0	1.6	2.9	61.6	7534	66.5	923
630	8.0	1.6	3.0	65.4	9069	66.5	980

ELECTRICAL DATA

Nominal Area of Conductor mm ²	Max. Conductor DC Resistance at 20°C Ohm/km	Max. Conductor AC Resistance at 90°C Ohm/km	Current Rating in Air (Trefoil) A	Current Rating Buried Direct in Ground A	Voltage Drop mV/A/m
50	0.3870	0.494	245	220	0.89
70	0.2680	0.342	300	270	0.63
95	0.1930	0.247	360	320	0.48
120	0.1530	0.196	425	360	0.40
150	0.1240	0.159	485	410	0.34
185	0.0991	0.127	550	460	0.29
240	0.0754	0.097	650	530	0.25
300	0.0601	0.078	740	600	0.22
400	0.0470	0.062	850	690	0.20
500	0.0366	0.050	980	760	0.19
630	0.0283	0.040	1130	850	0.17

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19

CU/XLPE/CTS/PVC/SWA/PVC | CU/XLPE/CTS/PE/SWA/PE (11KV)

3 CORES : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, GALVANISED STEEL WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor mm ²	Nominal Thickness of Insulation mm	Nominal Thickness of Inner Sheath mm	Nominal Thickness of Outer Sheath mm	Approximate Overall Diameter mm±10%	Approximate Cable Weight kg/km	Ac Test Voltage kV/5min	Min. Bending Radius mm
50	3.4	1.4	2.6	53.2	5090	22.0	797
70	3.4	1.4	2.8	57.2	6017	22.0	857
95	3.4	1.6	2.9	61.9	7218	22.0	928
120	3.4	1.6	3.0	64.0	8120	22.0	959
150	3.4	1.6	3.1	67.9	9284	22.0	1018
185	3.4	1.6	3.2	71.5	10620	22.0	1072
240	3.4	1.8	3.5	79.2	13742	22.0	1187
300	3.4	1.8	3.7	86.3	16370	22.0	1294
400	3.4	1.8	3.9	92.3	19396	22.0	1384

ELECTRICAL DATA

Nominal Area of Conductor mm ²	Max. Conductor DC Resistance at 20°C Ohm/km	Max. Conductor AC Resistance at 90°C Ohm/km	Current Rating in Air (Trefoil) A	Current Rating Buried Direct in Ground A	Voltage Drop mV/A/m
50	0.3870	0.494	220	210	0.88
70	0.2680	0.342	270	255	0.62
95	0.1930	0.246	330	300	0.46
120	0.1530	0.196	375	340	0.38
150	0.1240	0.159	430	380	0.32
185	0.0991	0.127	490	430	0.27
240	0.0754	0.097	570	490	0.23
300	0.0601	0.078	650	540	0.20
400	0.0470	0.062	740	600	0.18

Conditions For Current Rating	
Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19



CU/XLPE/CTS/PVC/SWA/PVC | CU/XLPE/CTS/PE/SWA/PE (33KV)

3 CORES : COPPER CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, GALVANISED STEEL WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor mm ²	Nominal Thickness of Insulation mm	Nominal Thickness of Inner Sheath mm	Nominal Thickness of Outer Sheath mm	Approximate Overall Diameter mm±10%	Approximate Cable Weight kg/km	Ac Test Voltage kV/5min	Min. Bending Radius mm
50	8.0	1.6	3.4	76.1	8734	66.5	1141
70	8.0	1.8	3.5	80.5	9922	66.5	1207
95	8.0	1.8	3.7	85.0	11296	66.5	1274
120	8.0	1.8	3.7	86.9	12167	66.5	1303
150	8.0	1.8	3.9	91.0	13580	66.5	1364
185	8.0	1.8	4.0	94.6	15057	66.5	1418
240	8.0	2.0	4.2	100.8	17594	66.5	1511
300	8.0	2.0	4.4	107.9	20435	66.5	1618

ELECTRICAL DATA

Nominal Area of Conductor mm ²	Max. Conductor DC Resistance at 20°C Ohm/km	Max. Conductor AC Resistance at 90°C Ohm/km	Current Rating in Air (Trefoil) A	Current Rating Buried Direct in Ground A	Voltage Drop mV/A/m
50	0.3870	0.494	225	210	0.89
70	0.2680	0.342	275	255	0.63
95	0.1930	0.246	330	295	0.48
120	0.1530	0.196	380	335	0.40
150	0.1240	0.159	430	375	0.34
185	0.0991	0.127	490	420	0.29
240	0.0754	0.097	570	480	0.25
300	0.0601	0.078	650	530	0.22

Conditions For Current Rating	
Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC | AL/XLPE/CTS/PE (IEC SPEC) (11KV)

1 CORE : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm±10%	kg/km	kV/5min	mm
50	3.4	1.8	22.4	574	22.0	269
70	3.4	1.8	23.7	661	22.0	285
95	3.4	1.8	25.4	774	22.0	305
120	3.4	1.8	26.7	883	22.0	321
150	3.4	1.8	28.3	996	22.0	340
185	3.4	1.9	30.2	1153	22.0	363
240	3.4	2.0	32.7	1398	22.0	393
300	3.4	2.1	36.2	1720	22.0	435
400	3.4	2.2	39.0	2058	22.0	468
500	3.4	2.3	42.2	2465	22.0	507
630	3.4	2.4	46.0	3032	22.0	552

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.6410	0.822	180	1.44
70	0.4430	0.568	225	1.00
95	0.3200	0.411	280	0.73
120	0.2530	0.325	320	0.59
150	0.2060	0.265	365	0.49
185	0.1640	0.211	425	0.40
240	0.1250	0.161	500	0.32
300	0.1000	0.130	580	0.27
400	0.0778	0.102	670	0.23
500	0.0605	0.080	790	0.20
630	0.0469	0.064	910	0.18

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC | AL/XLPE/CTS/PE (IEC SPEC) (33KV)

1 CORE : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm±10%	kg/km	kV/5min	mm
50	8.0	1.9	31.8	1008	66.5	382
70	8.0	2.0	33.3	1128	66.5	400
95	8.0	2.0	35.0	1265	66.5	420
120	8.0	2.1	36.5	1409	66.5	438
150	8.0	2.1	38.1	1546	66.5	457
185	8.0	2.2	40.0	1732	66.5	480
240	8.0	2.3	42.5	2016	66.5	510
300	8.0	2.4	46.0	2391	66.5	552
400	8.0	2.5	48.8	2772	66.5	586
500	8.0	2.6	52.0	3227	66.5	624
630	8.0	2.7	55.8	3852	66.5	670

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.6410	0.822	190	1.44
70	0.4430	0.568	235	1.01
95	0.3200	0.411	280	0.74
120	0.2530	0.325	330	0.60
150	0.2060	0.265	375	0.50
185	0.1640	0.211	430	0.41
240	0.1250	0.161	510	0.33
300	0.1000	0.129	580	0.29
400	0.0778	0.101	680	0.25
500	0.0605	0.080	790	0.22
630	0.0469	0.063	920	0.19

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC | AL/XLPE/CTS/PE (IEC SPEC) (11KV)

3 CORES : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm±10%	kg/km	kV/5min	mm
50	3.4	2.3	44.1	1870	22.0	530
70	3.4	2.4	47.5	2189	22.0	570
95	3.4	2.6	51.6	2626	22.0	619
120	3.4	2.7	54.6	3017	22.0	655
150	3.4	2.8	58.2	3441	22.0	698
185	3.4	2.9	62.1	3960	22.0	745
240	3.4	3.1	67.4	4808	22.0	809
300	3.4	3.3	74.9	5938	22.0	899
400	3.4	3.5	80.9	7102	22.0	972

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.6410	0.822	170	1.44
70	0.4430	0.568	210	1.00
95	0.3200	0.411	250	0.73
120	0.2530	0.325	295	0.59
150	0.2060	0.265	330	0.49
185	0.1640	0.211	385	0.40
240	0.1250	0.161	450	0.32
300	0.1000	0.129	510	0.27
400	0.0470	0.062	590	0.23

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC | AL/XLPE/CTS/PE (IEC SPEC) (33KV)

3 CORES : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm±10%	kg/km	kV/5min	mm
50	8.0	3.0	65.2	3588	66.5	782
70	8.0	3.1	68.7	4018	66.5	825
95	8.0	3.3	72.8	4574	66.5	873
120	8.0	3.4	75.8	5053	66.5	909
150	8.0	3.5	79.4	5584	66.5	953
185	8.0	3.6	83.3	6215	66.5	999
240	8.0	3.8	88.7	7218	66.5	1064
300	8.0	4.0	96.2	8567	66.5	1154

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	mV/A/m
50	0.6410	0.822	179	1.44
70	0.4430	0.568	221	1.01
95	0.3200	0.410	266	0.74
120	0.2530	0.325	306	0.60
150	0.2060	0.264	343	0.50
185	0.1640	0.211	394	0.41
240	0.1250	0.161	456	0.33
300	0.1000	0.129	527	0.29

Conditions For Current Rating	°C
Maximum Conductor Temperature	90
Ambient Air Temperature	25

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC/AWA/PVC | AL/XLPE/CTS/PE/AWA/PE (11KV)

1 CORE : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, ALUMINIUM WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm	mm±10%	kg/km	kV/5min	mm
50	3.4	1.0	1.8	28.3	946	22.0	424
70	3.4	1.0	1.9	29.8	1070	22.0	446
95	3.4	1.0	1.9	31.5	1209	22.0	472
120	3.4	1.0	2.0	33.0	1352	22.0	494
150	3.4	1.0	2.0	35.4	1568	22.0	530
185	3.4	1.2	2.1	37.7	1795	22.0	565
240	3.4	1.2	2.2	40.2	2086	22.0	602
300	3.4	1.2	2.3	43.7	2477	22.0	655
400	3.4	1.2	2.4	47.5	3000	22.0	712
500	3.4	1.4	2.6	51.3	3552	22.0	769
630	3.4	1.4	2.7	55.1	4208	22.0	826

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Current Rating Buried Direct in Ground	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	A	mV/A/m
50	0.6410	0.822	180	170	1.44
70	0.4430	0.568	225	210	1.00
95	0.3200	0.411	280	250	0.73
120	0.2530	0.325	320	280	0.59
150	0.2060	0.265	365	320	0.49
185	0.1640	0.211	425	360	0.40
240	0.1250	0.161	500	415	0.32
300	0.1000	0.129	580	475	0.27
400	0.0778	0.101	670	540	0.23
500	0.0605	0.080	790	610	0.20
630	0.0469	0.063	910	680	0.18

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19



AL/XLPE/CTS/PVC/AWA/PVC | AL/XLPE/CTS/PE/AWA/PE (33KV)

1 CORE : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, ALUMINIUM WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm	mm±10%	kg/km	kV/5min	mm
50	8.0	1.2	2.2	39.5	1696	66.5	592
70	8.0	1.2	2.2	40.8	1828	66.5	611
95	8.0	1.2	2.3	42.7	2023	66.5	640
120	8.0	1.2	2.3	44.0	2177	66.5	659
150	8.0	1.2	2.4	46.8	2488	66.5	701
185	8.0	1.2	2.5	48.7	2718	66.5	730
240	8.0	1.4	2.6	51.6	3106	66.5	773
300	8.0	1.4	2.7	55.1	3567	66.5	826
400	8.0	1.4	2.8	57.9	4014	66.5	868
500	8.0	1.6	2.9	61.5	4605	66.5	922
630	8.0	1.6	3.0	65.3	5321	66.5	979

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Current Rating Buried Direct in Ground	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	A	mV/A/m
50	0.6410	0.822	190	170	1.44
70	0.4430	0.568	235	210	1.01
95	0.3200	0.411	280	250	0.74
120	0.2530	0.325	330	280	0.60
150	0.2060	0.265	375	320	0.50
185	0.1640	0.211	430	360	0.41
240	0.1250	0.161	510	415	0.33
300	0.1000	0.129	580	475	0.29
400	0.0778	0.101	680	550	0.24
500	0.0605	0.079	790	610	0.21
630	0.0469	0.063	920	690	0.19

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19

AL/XLPE/CTS/PVC/SWA/PVC | AL/XLPE/CTS/PE/SWA/PE (11KV)

3 CORES : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, GALVANISED STEEL WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm	mm±10%	kg/km	kV/5min	mm
50	3.4	1.4	2.6	53.2	4250	22.0	797
70	3.4	1.4	2.7	56.5	4747	22.0	847
95	3.4	1.6	2.9	61.0	5432	22.0	914
120	3.4	1.6	3.0	64.0	6007	22.0	959
150	3.4	1.6	3.1	67.7	6630	22.0	1015
185	3.4	1.6	3.2	71.5	7331	22.0	1072
240	3.4	1.8	3.5	78.8	9395	22.0	1181
300	3.4	1.8	3.7	86.3	10976	22.0	1294
400	3.4	1.8	3.9	92.3	12515	22.0	1384

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Current Rating Buried Direct in Ground	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	A	mV/A/m
50	0.6410	0.822	170	160	1.44
70	0.4430	0.568	210	195	1.00
95	0.3200	0.411	250	230	0.73
120	0.2530	0.325	295	265	0.59
150	0.2060	0.264	330	300	0.49
185	0.1640	0.211	380	335	0.40
240	0.1250	0.161	450	380	0.32
300	0.1000	0.129	510	435	0.27
400	0.0778	0.101	590	490	0.23

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

Note: For short circuit current rating and graph please refer to page 19



AL/XLPE/CTS/PVC/SWA/PVC | AL/XLPE/CTS/PE/SWA/PE (33KV)

3 CORES : ALUMINIUM CONDUCTOR, XLPE INSULATED, COPPER TAPE SCREENED, PVC OR PE BEDDING, GALVANISED STEEL WIRE ARMoured, PVC OR PE SHEATHED

DIMENSIONAL & MECHANICAL DATA

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Inner Sheath	Nominal Thickness of Outer Sheath	Approximate Overall Diameter	Approximate Cable Weight	Ac Test Voltage	Min. Bending Radius
mm ²	mm	mm	mm	mm±10%	kg/km	kV/5min	mm
50	8.0	1.6	3.4	76.1	7895	66.5	1141
70	8.0	1.8	3.5	80.1	8684	66.5	1201
95	8.0	1.8	3.6	83.9	9420	66.5	1258
120	8.0	1.8	3.7	86.9	10054	66.5	1303
150	8.0	1.8	3.9	90.8	10921	66.5	1361
185	8.0	1.8	4.0	94.6	11768	66.5	1418
240	8.0	2.0	4.2	100.4	13235	66.5	1505
300	8.0	2.0	4.4	107.9	15042	66.5	1618

ELECTRICAL DATA

Nominal Area of Conductor	Max. Conductor DC Resistance at 20°C	Max. Conductor AC Resistance at 90°C	Current Rating in Air (Trefoil)	Current Rating Buried Direct in Ground	Voltage Drop
mm ²	Ohm/km	Ohm/km	A	A	mV/A/m
50	0.6410	0.822	175	160	1.44
70	0.4430	0.568	215	195	1.01
95	0.3200	0.410	260	230	0.74
120	0.2530	0.325	300	260	0.60
150	0.2060	0.264	335	290	0.50
185	0.1640	0.211	390	330	0.41
240	0.1250	0.161	460	380	0.33
300	0.1000	0.129	520	425	0.29

Conditions For Current Rating

Maximum Conductor Temperature (°C)	90
Ambient Air Temperature (°C)	25
Ground Temperature (°C)	15
Depth of laying (m)	0.8
Thermal Resistivity of Soil (Km/W)	1.2

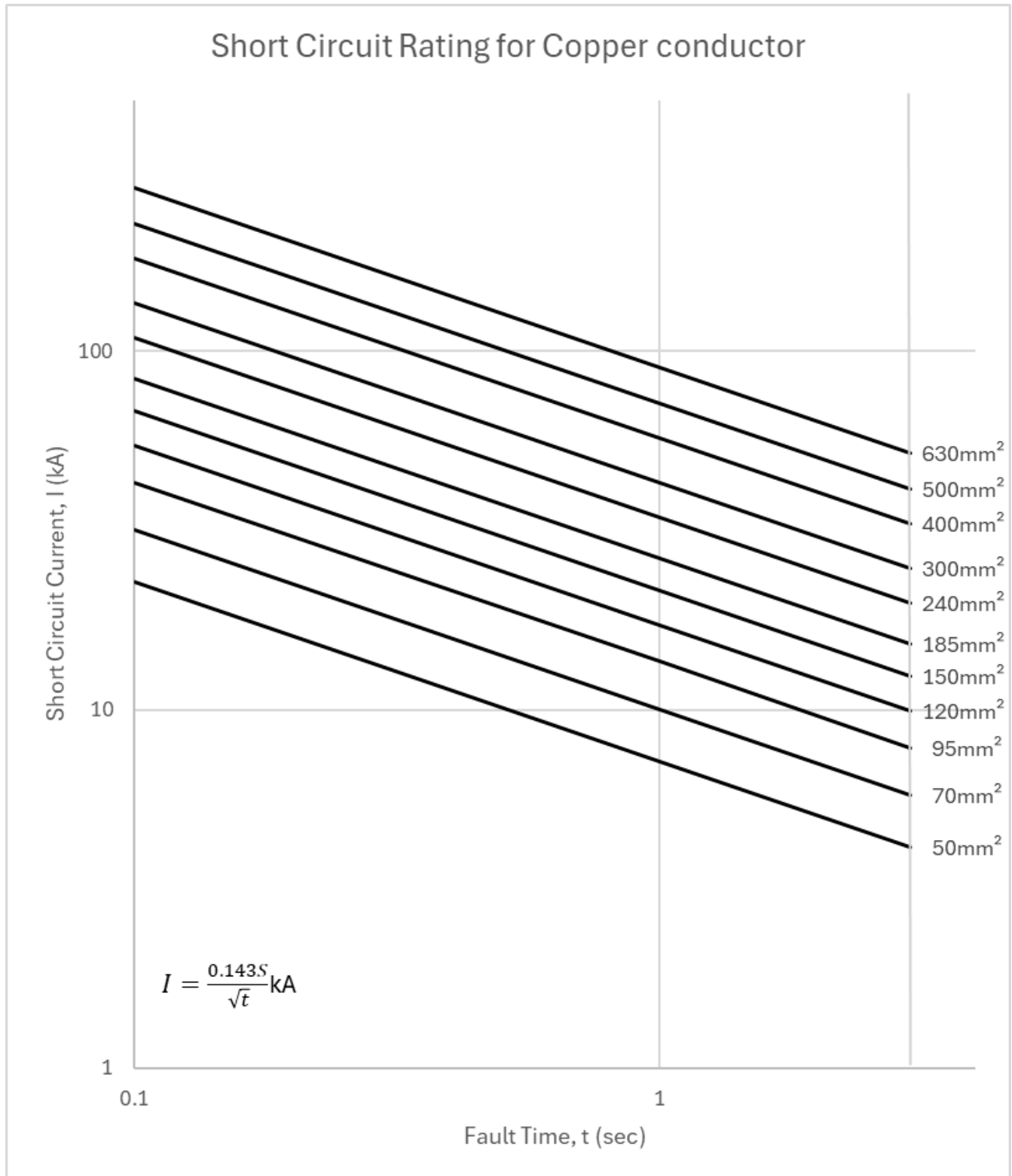
Note: For short circuit current rating and graph please refer to page 19

SHORT CIRCUIT CURRENT RATING

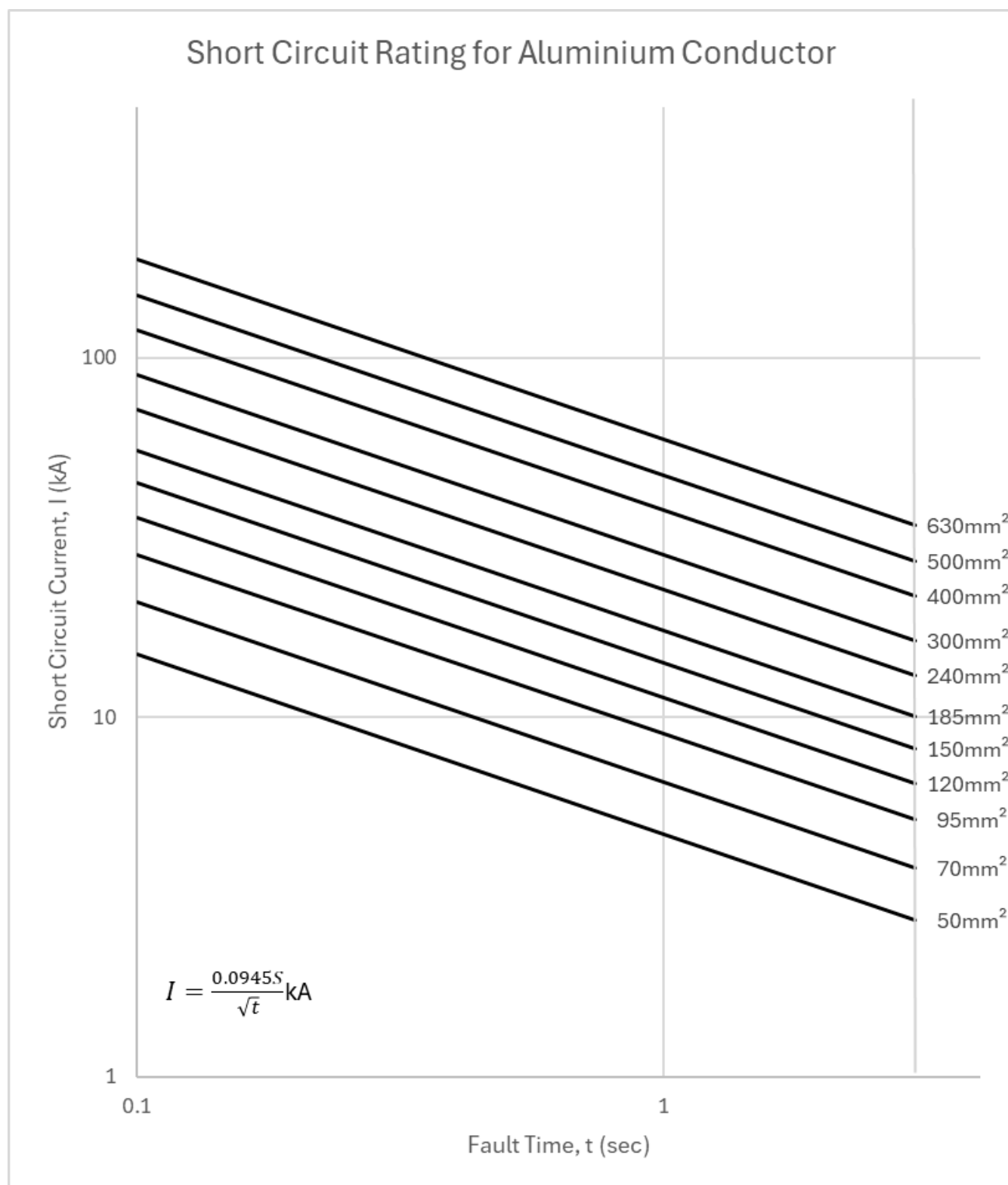
Nominal Area of Conductor	Short Circuit Current Rating			
	Copper Conductor K = 0.143 Initial Temp. : 90°C Final Temp. : 250°C		Aluminium Conductor K = 0.0945 Initial Temp. : 90°C Final Temp. : 250°C	
	1 second	3 second	1 second	3 second
mm ²	kA	kA	kA	kA
50	7.15	4.13	4.73	2.73
70	10.01	5.78	6.62	3.82
95	13.59	7.84	8.98	5.18
120	17.16	9.91	11.34	6.55
150	21.45	12.38	14.18	8.18
185	26.46	15.27	17.48	10.09
240	34.32	19.81	22.68	13.09
300	42.90	24.77	28.35	16.37
400	57.20	33.02	37.80	21.82
500	71.50	41.28	47.25	27.28
630	90.09	52.01	59.54	34.37

Formula:-	$I = \frac{K \times S}{\sqrt{t}}$
I	: current rating in ampere (kA)
K	: constant value of the conductive material at reference temperature
S	: cross sectional area of conductor (mm ²)
t	: short circuit duration in second

SHORT CIRCUIT CURRENT RATING



SHORT CIRCUIT CURRENT RATING



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