



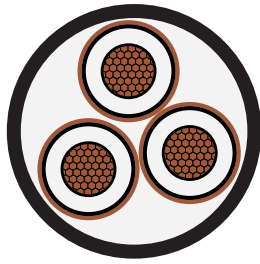
MEDIUM VOLTAGE UNARMOURED CABLES: IEC 60502-2

Application

These Medium Voltage Single Core & Three Core Cables are Designed for Electricity Power Distribution, Suitable for Installation in Power Supply Stations, Commercial, Industrial and Urban Residential Networks, Indoors and in Cable Ducts as well as for Installation on Cable Trays for industries, Switchboards and the power Stations with Nominal Voltage U_0/U Ranging from 3.6/6 kV to 18/30 kV.

Construction

- Conductor** : Annealed Plain Copper or Aluminium Compacted Round Stranded Conductors to carry Current and withstand Pulling Stresses During Cable Laying. Conductors Complying with IEC 60228.
- Inner Semi-Conducting Screen** : Extruded Layer of Semi-Conducting Screen over Conductor to Smooth the Electric Field at the Conductor and Firmly Bonded to the Insulation to exclude all air voids ,and Prevent Concentration of electric field of the interface between the Insulation and the Inner Semi-Conductor. Semi-Conducting Compound Complying with IEC 60502-2
- Insulation** : The Insulation of XLPE (Cross-Linked Polyethylene) Rated Voltage, Lightning Overvoltage, Switching Overvoltage, and Withstand the Various Voltage Field Stress During the Cable Service Life as per IEC 60502-2
- Core Semi-Conducting Screen** : Extruded Layer of Semi-Conducting Screen over the Insulation . The Screen is Tightly Fitted to the Insulation to Exclude all air Voids, Prevent Concentration of electric field of the interface between the Insulation and the Semi-Conductor. Semi-Conducting Compound Complying with IEC 60502-2
- Metallic Screen** : The Metallic Screen Shall Consist of Copper Tape. The Metallic Layer may be applied over the Individual Cores. Metallic Screen Provide no Electric Field outer side of the Cable.
- Filler (Optional)** : Non Hygroscopic filler
- Outer Sheath** : The Outer-sheath Comprises a layer of Extruded as per Requirement PVC or LSZH. Outer sheath Compound Complying with IEC 60502-2
- Temperature Range** : Minimum Conductor Operating Temperature : -15°C (XLPE INSULATION)
Maximum Conductor Operating Temperature: 90°C (XLPE INSULATION)
Short Circuit Temperature: 250°C (5 Seconds Maximum Duration)(XLPE INSULATION)
- Bending Radius** : Single Core Unarmoured: 20D
Three Core Unarmoured: 15D
D is Nominal Diameter of Cable



3 Core Cables - 18/30KV, CU Or AL Conductor, XLPE Insulation, Metallic Screen: Copper Tape, PVC Sheathed

DIMENSIONAL DATA

Catalogue Number	Nominal Cross Section Area	Nominal Insulation Thickness	Nominal Overall Sheath Thickness	Approx Overall Dia
	SQ.MM	MM	MM	MM
NMV30CT*2XY3C0500	50	8	3.1	66
NMV30CT*2XY3C0700	70	8	3.2	69
NMV30CT*2XY3C0950	95	8	3.3	73
NMV30CT*2XY3C1200	120	8	3.4	77
NMV30CT*2XY3C1500	150	8	3.5	80
NMV30CT*2XY3C1850	185	8	3.6	84
NMV30CT*2XY3C2400	240	8	3.8	89
NMV30CT*2XY3C3000	300	8	3.9	94
NMV30CT*2XY3C4000	400	8	4.2	101

Notes: *V(*) ADD "A" for Aluminium cable & "C" for Copper cable

The above data is indicative & may be changed without prior information.

ELECTRICAL DATA

Nominal Cross Section Area	D.C Resistance		Short Circuit Rating of Conductor 1 sec.		Capacitance	Charging Current	Short Circuit Rating of Copper Tape Screen 1 Sec.	Reactance	Inductance
	CU	AL	CU	AL					
Sq.mm	Ω/km	Ω/km	kA	kA	pF/m	mA/m	kA	μΩ/m	μΩ/m
50	0.387	0.641	7.15	4.72	142	0.85	1.0	134	430
70	0.268	0.443	10.01	6.61	159	0.95	1.0	127	400
95	0.193	0.32	13.58	8.97	175	1.05	1.1	121	390
120	0.153	0.253	17.16	11.33	189	1.13	1.1	117	370
150	0.124	0.206	21.45	14.16	201	1.21	1.2	113	360
185	0.0991	0.164	26.45	17.46	217	1.3	1.3	109	350
240	0.0754	0.125	34.32	22.66	237	1.42	1.4	104	330
300	0.0601	0.100	42.9	28.32	258	1.55	1.5	101	320
400	0.0470	0.0778	57.2	37.76	282	1.69	1.6	96	290

Current Rating For Single Core Cables With XLPE Insulation

RATED VOLTAGE 6/3.6 kV TO 30/18 kV

Nominal Cross Section Area	Buried Direct in the Ground				In Single-way Ducts				In Air					
	Trefoil		Flat Spaced		Trefoil		Flat Touching Ducts		Trefoil		Flat Touching		Flat Spaced	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
	A	A	A	A	A	A	A	A	A	A	A	A	A	A
25	140	108	144	112	132	102	133	103	163	127	167	130	196	153
35	166	129	172	134	157	122	159	123	198	154	203	157	238	185
50	196	152	203	157	186	144	188	146	238	184	243	189	286	222
70	239	186	246	192	227	176	229	178	298	230	303	236	356	278
95	285	221	293	229	271	210	274	213	361	280	369	287	434	338
120	323	252	332	260	308	240	311	242	417	324	426	332	500	391
150	361	281	366	288	343	267	347	271	473	368	481	376	559	440
185	406	317	410	324	387	303	391	307	543	424	550	432	637	504
240	469	367	470	373	447	351	453	356	641	502	647	511	745	593
300	526	414	524	419	504	397	510	402	735	577	739	586	846	677
400	590	470	572	466	564	451	571	457	845	673	837	676	938	769
500	650	530	672	546	604	504	661	537	935	773	938	776	1118	919
630	700	600	882	646	654	554	771	617	1045	883	1048	886	1318	1089

Maximum Conductor Temperature	90°C
Ambient Air Temperature	30°C
Ground Temperature	20°C
Depth Of Laying	0.8 m
Thermal Resistivity of Soil	1.5 K m ² /W
Thermal Resistivity of Earthenware Ducts	1.2 K m ² /W

Current Rating For Three Core Cables With XLPE Insulation

RATED VOLTAGE 3.6/6 kV TO 18/30 kV

Nominal Cross Section Area	Unarmoured						Armoured											
	Buried Direct in Ground			In a Buried Duct			In Air			Buried Direct in Ground			In a Buried Duct			In Air		
	CU	AL	A	CU	AL	A	CU	AL	A	CU	AL	A	CU	AL	A	CU	AL	A
	Sq.mm																	
25	129	100	112	87	142	110	129	100	112	87	143	111	129	100	112	87	143	111
35	153	119	133	103	170	132	154	119	134	104	172	133	154	119	134	104	172	133
50	181	140	158	122	204	158	181	140	158	123	205	159	181	140	158	123	205	159
70	221	171	193	150	253	196	220	171	194	150	253	196	220	171	194	150	253	196
95	262	203	231	179	304	236	263	204	232	180	307	238	263	204	232	180	307	238
120	298	232	264	205	351	273	298	232	264	206	352	274	298	232	264	206	352	274
150	334	260	297	231	398	309	332	259	296	231	397	309	332	259	296	231	397	309
185	377	294	336	262	455	355	374	293	335	262	453	354	374	293	335	262	453	354
240	434	340	390	305	531	415	431	338	387	304	529	415	431	338	387	304	529	415
300	489	384	441	346	606	475	482	380	435	343	599	472	482	380	435	343	599	472
400	553	438	501	398	696	552	541	432	492	393	683	545	541	432	492	393	683	545

Maximum Conductor Temperature	90°C
Ambient Air Temperature	30°C
Ground Temperature	20°C
Depth Of Laying	0.8 m
Thermal Resistivity of Soil	1.5 K m/W
Thermal Resistivity of Earthenware Ducts	1.2 K m/W