



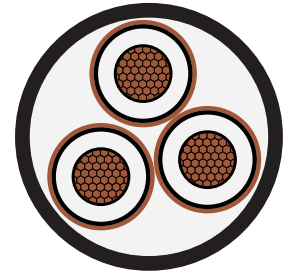
## MEDIUM VOLTAGE UNARMOURED CABLES: IEC 60502-2

### 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 :  $-15^{\circ}\text{C}$  (XLPE INSULATION)  
Maximum Conductor Operating Temperature:  $90^{\circ}\text{C}$  (XLPE INSULATION)  
Short Circuit Temperature:  $250^{\circ}\text{C}$  (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 - 12/20KV, 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
NMV20CT*2XY3C0350	35	5.5	2.6	51
NMV20CT*2XY3C0500	50	5.5	2.7	55
NMV20CT*2XY3C0700	70	5.5	2.8	58
NMV20CT*2XY3C0950	95	5.5	2.9	62
NMV20CT*2XY3C1200	120	5.5	3.0	65
NMV20CT*2XY3C1500	150	5.5	3.1	68
NMV20CT*2XY3C1850	185	5.5	3.2	72
NMV20CT*2XY3C2400	240	5.5	3.4	77
NMV20CT*2XY3C3000	300	5.5	3.5	83
NMV20CT*2XY3C4000	400	5.5	3.8	89

**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
35	0.524	0.868	5.0	3.3	168	0.67	0.7	129	410
50	0.387	0.641	7.15	4.72	183	0.73	0.8	122	390
70	0.268	0.443	10.01	6.61	207	0.83	0.8	115	370
95	0.193	0.32	13.58	8.97	229	0.92	0.9	110	350
120	0.153	0.253	17.16	11.33	249	1.00	0.9	105	340
150	0.124	0.206	21.45	14.16	268	1.08	1.0	103	330
185	0.0991	0.164	26.45	17.46	289	1.16	1.0	100	320
240	0.0754	0.125	34.32	22.66	318	1.027	1.1	95	300
300	0.0601	0.100	42.9	28.32	348	1.39	1.2	93	290
400	0.0470	0.0778	57.2	37.76	388	1.53	1.3	87	280