6.3 12/20 (24) KV THREE CORE XLPE INSULATED BUNDLED OVERHEAD CONDUCTORS (TORSADE) OUR TYPES: M5A2T - M5A3T - M5A4T

1. SCOPE

This specification covers three core overhead insulated cables, rated 12/20 (24) KV generally conforming to IEC 60502-2.

2. CONSTRUCTION

2.1 Conductor

Aluminium, circular stranded and compacted conforming to IEC 60228 - Class 2.

2.2 Conductor Screening

Extruded thermosetting semi-conductor layer, conforming to IEC 60502-2.

2.3 Insulation

XLPE thermosetting material conforming to IEC 60502-2.

2.4 Insulation Screening

2.4.1 Semi conducting screen:

Extruded thermosetting semi-conducting layer, applied under a swellable semi-conducting tape for watertightness.

2.4.1 Metal screen:

Plain soft copper wire and / or copper tape applied helically, or aluminium tape applied longitudinally bonded to the outer PE sheath.

2.5 Outer sheath

Extruded black PE sheath, or PVC upon specific customer requirements, conforming to IEC 60502-2.

2.7 Steel Messenger

50 or 70 mm^2 steel stranded wires, covered with black PE, or PVC upon specific customer requirements.

3. TESTS

All tests required by the IEC 60502-2, either on raw materials or on finished products.

12/20 (24) KV - THREE CORE, XLPE INSULATED, BUNDLED OVERHEAD CONDUCTORS (TORSADE)
Type M5A4T
Conforming to IEC 60502-2

DIMENSIONAL CHARACTERISTICS

Nominal cross section	Radial Thickness of		Nominal Diameters				Approximative net weight		Length on drum
	Insulation	Outer Sheath	Conductor	Suspension Strand	Over Jacket	Over bunched Conductors	Conductor	Cable	
mm^2	mm	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	m
3x50 / 16	5.5	1.8	8.1	50	28	67	374	2820	500
3x70 / 16	5.5	1.9	10.3	50	30	72	541	3200	500
3x95 / 16	5.5	1.9	12.0	50	32	75	743	3550	500
3x120 / 16	5.5	2.0	13.0	50	33	78	954	3890	500
3x150 / 25	5.5	2.0	14.6	50	35	81	1124	4470	500
3x185 / 25	5.5	2.1	16.2	50	37	85	1460	4960	250
3x240 / 25	5.5	2.2	18.8	50	40	90	1863	5650	250

ELECTRICAL CHARACTERISTICS

Nominal cross section	DC Resistance at 20˚C*	Nominal inductance	Nominal capacity	Current carrying capacity **
	Alu			Cables in air
mm^2	Ω/Km	mH/Km	µF/Km	Amp
50	0.641	0.436	0.175	176
70	0.443	0.405	0.204	220
95	0.320	0.385	0.227	269
120	0.253	0.376	0.240	310
150	0.206	0.363	0.260	352
185	0.164	0.352	0.281	405
240	0.125	0.337	0.314	480

* At different operating T(˚C) : R = R20˚C {1+ α (T˚C - 20)}
α : Temperature coefficient at 20˚C = 0.00393 for copper & 0.00403 for aluminium

** Laying conditions : - Underground : Temperature of the soil 20˚C - Thermal resistivity 100˚C cm/w
- In air : Ambient temperature 30˚C

*** Greater sizes are also available