



Working Temperature of Commonly used Elastomeric Insulating and Sheathing Materials

Material	Max. Cond. Temp. for continuous operations Deg C.	Max. Cond. Temp. for short circuit Deg C.	Min. Working Temp Deg C.
Ethylene Propylene Rubber (EPR)	90	250	-50
Polychloroprene (PCP)	70	200	-40
Chlorosupphonated Polyethylene (CSP)	90	200	-35
Silicone Rubber	150/180	350	55
Chloropropylene Ethylene (CPE)	90	250	-30
Styrene Butaolence Rubber	60	200	-55
NBR PVC	90	250	-30

AERIAL BUNCH CABLES

TORTEK LT AERIAL BUNCHED CABLES are used distribution of power to individual users from various electricity utilities and providers. These cables are lighter in weight and hence are easy to install on poles.

LT Aerial Bunch Cables are overhead power lines using several insulated phase conductors bundled tightly together, usually with a bare neutral conductor. XLPE/Black HDPE insulated aluminum conductors are laid together (twisted) around aluminum alloy/ ACSR conductor insulated or bare messenger wire to form the Aerial Bunched Cable.

Ridges provided on the insulation of Phase Conductors : 1 ridge for the 1st phase, 2 ridges for the 2nd Phase, 3 ridges for the 3rd phase. The neutral phase may have 4 ridges if required.

These cables are manufactured using Electrical grade aluminium of H2/H4 grade conductor conforming to IS: 8130 while the messenger conductor is made up of Aluminium, Silica and magnesium alloy with Xlpe insulation.

Cables are manufactured as per IS: 14255, IS: 398, IEC 228, BS: 60502, HD: 626, NFC: 33-209 and as per the customer requirement too.

Aerial Bunched Cable : 1.1 Kv grade Stranded & Compacted Aluminium Phase Conductor and Stranded Messenger Conductor with All Aluminium Alloy , Phase Conductor is insulated with XLPE Compound, Messenger is either insulated or bare. Referred specification IS : 14255-1995 upto the latest amendment.

S.No	Description and Type of Cable	Number of Wires		Thickness of XLPE Insulation		Approx.Overall Diameter	Approx Weight of Cable	Breaking Load of Messenger	Maximum DC Resistance Ohms/Km		AC Current Rating Amps
		Phase	Messenger	Phase	Messenger				Phase	Messenger	
	With Insulated messenger conductor										
1	1C X 16 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	20	165	7	1.91	1.38	72
2	3C X 16 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	22	301	7	1.91	1.38	64
3	1C X 25 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	22.4	195	7	1.2	1.38	99
4	3C X 25 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	25	390	7	1.2	1.38	84
5	1C X 35 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	27.3	227	7	0.868	1.38	120



6	3C X 35 sq mm + 25 sq mm (insulated)	7	7	1.2	1.2	27.4	486	7	0.868	1.38	105
7	1C X 35 sq mm + 35 sq mm (insulated)	7	7	1.2	1.2	28	259	10.1	0.868	0.986	120
8	3C X 35 sq mm + 35 sq mm (insulated)	7	7	1.2	1.2	28.4	518	10.1	0.868	0.986	105
9	1C X 50 sq mm + 35 sq mm (insulated)	7	7	1.5	1.2	29	317	10.1	0.641	0.986	150
10	3C X 50 sq mm + 35 sq mm (insulated)	7	7	1.5	1.2	32.3	692	10.1	0.641	0.986	130
11	3C X 70 sq mm + 50 sq mm (insulated)	7	7	1.5	1.5	37.5	939	14	0.443	0.689	155
12	3C X 70 sq mm + 70 sq mm (insulated)	7	7	1.5	1.5	39	1002	19.7	0.443	0.492	155
13	3C X 95 sq mm + 70 sq mm (insulated)	19	7	1.5	1.5	42.7	1237	19.7	0.32	0.492	190
14	3C X 120 sq mm + 70 sq mm (insulated)	19	7	1.6	1.5	46	1482	19.7	0.253	0.492	220
15	3C X 150 sq mm + 70 sq mm (insulated)	19	7	1.8	1.5	50	1791	19.7	0.206	0.492	250
With Bare messenger conductor											
1	1C X 16 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	18.5	137	7	1.91	1.38	72
2	3C X 16 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	19.3	272	7	1.91	1.38	64
3	1C X 25 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	19.5	167	7	1.2	1.38	99
4	3C X 25 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	20.5	362	7	1.2	1.38	84
5	1C X 35 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	22	199	7	0.868	1.38	120
6	3C X 35 sq mm + 25 sq mm (bare)	7	7	1.2	N.A	23.5	458	7	0.868	1.38	105
7	1C X 35 sq mm + 35 sq mm (bare)	7	7	1.2	N.A	24.6	226	10.1	0.868	0.986	120
8	3C X 35 sq mm + 35 sq mm (bare)	7	7	1.2	N.A	25	485	10.1	0.868	0.986	105
9	1C X 50 sq mm + 35 sq mm (bare)	7	7	1.5	N.A	26.6	284	10.1	0.641	0.986	150
10	3C X 50 sq mm + 35 sq mm (bare)	7	7	1.5	N.A	26.8	659	10.1	0.641	0.986	130
11	3C X 70 sq mm + 50 sq mm (bare)	7	7	1.5	N.A	31.2	890	14	0.443	0.689	155
12	3C X 70 sq mm + 70 sq mm (bare)	7	7	1.5	N.A	34.4	946	19.7	0.443	0.492	155
13	3C X 95 sq mm + 70 sq mm (bare)	19	7	1.5	N.A	36	1179	19.7	0.32	0.492	190
14	3C X 120 sq mm + 70 sq mm (bare)	19	7	1.6	N.A	38	1425	19.7	0.253	0.492	220
15	3C X 150 sq mm + 70 sq mm (bare)	19	7	1.8	N.A	40	1735	19.7	0.206	0.492	250

Aerial Bunched Cable : 1.1 Kv grade Stranded & Compacted Aluminium Phase Conductor and Stranded Messenger Conductor with All Aluminium Alloy , Phase Conductor is insulated with XLPE Compound, Messenger is either insulated or bare with lighting conductor of 16 sq mm. Referred specification IS : 14255-1995 upto the latest amendment.

S.No	Description and Type of Cable	Number of Wires		Thickness of XLPE Insulation		Approx. overall Diameter	Approx Weight of Cable	Breaking Load of Messenger	Maximum DC Resistance Ohms/Km		AC Current Rating Amps
		Phase	Messenger	Phase	Messenger				Phase	Messenger	
				mm	mm	mm	Kg/Km	KN (min)	Phase	Messenger	In air at 40° C
With Insulated Messenger conductor											
1	3C X 16 sq mm + 25 sq mm (insulated) + 16 sq mm	7	7	1.2	1.2	23.5	369	7	1.91	1.38	62
2	3C X 25 sq mm + 25 sq mm (insulated) + 16 sq mm	7	7	1.2	1.2	25	457	7	1.2	1.38	82
3	3C X 35 sq mm + 25 sq mm (insulated) + 16 sq mm	7	7	1.2	1.2	27.5	554	7	0.868	1.38	103
4	3C X 35 sq mm + 35 sq mm (insulated) + 16 sq mm	7	7	1.2	1.2	28.4	586	10.1	0.868	0.986	103
5	3C X 50 sq mm + 35 sq mm (insulated) + 16 sq mm	7	7	1.5	1.2	32.5	760	10.1	0.641	0.986	127
6	3C X 70 sq mm + 50 sq mm (insulated) + 16 sq mm	7	7	1.5	1.5	37.5	1007	14	0.443	0.689	154
7	3C X 70 sq mm + 70 sq mm (insulated) + 16 sq mm	7	7	1.5	1.5	39.5	1070	19.7	0.443	0.492	154
8	3C X 95 sq mm + 70 sq mm (insulated) + 16 sq mm	19	7	1.5	1.5	42.5	1304	19.7	0.32	0.492	188
9	3C X 120 sq mm + 70 sq mm (insulated) + 16 sq mm	19	7	1.6	1.5	46.8	1550	19.7	0.253	0.492	218
10	3C X 150 sq mm + 70 sq mm (insulated) + 16 sq mm	19	7	1.8	1.5	50.8	1860	19.7	0.206	0.492	248



With Bare Messenger conductor											
1	3C X 16 sq mm + 25 sq mm (bare) + 16 sq mm	7	7	1.2	N.A	19.5	340	7	1.91	1.38	62
2	3C X 25 sq mm + 25 sq mm (bare) + 16 sq mm	7	7	1.2	N.A	20.5	429	7	1.2	1.38	82
3	3C X 35 sq mm + 25 sq mm (bare) + 16 sq mm	7	7	1.2	N.A	23.5	526	7	0.868	1.38	103
4	3C X 35 sq mm + 35 sq mm (bare) + 16 sq mm	7	7	1.2	N.A	25	553	10.1	0.868	0.986	103
5	3C X 50 sq mm + 35 sq mm (bare) + 16 sq mm	7	7	1.5	N.A	26.8	727	10.1	0.641	0.986	127
6	3C X 70 sq mm + 50 sq mm (bare) + 16 sq mm	7	7	1.5	N.A	31.5	958	14	0.443	0.689	154
7	3C X 70 sq mm + 70 sq mm (bare) + 16 sq mm	7	7	1.5	N.A	34.5	1013	19.7	0.443	0.492	154
8	3C X 95 sq mm + 70 sq mm (bare) + 16 sq mm	19	7	1.5	N.A	37	1248	19.7	0.32	0.492	188
9	3C X 120 sq mm + 70 sq mm (bare) + 16 sq mm	19	7	1.6	N.A	39	1493	19.7	0.253	0.492	218
10	3C X 150 sq mm + 70 sq mm (bare) + 16 sq mm	19	7	1.8	N.A	40	1803	19.7	0.206	0.492	248

SPECIAL CABLES

Telephone Cable

Telephone cables are recommended for use in internal telephone wiring in high rise buildings, offices, factories, hotels, residential complexes, etc. Twisted pair cables are best suited for telephone cabling applications. The conductor is made of solid annealed, electrolytic grade high conductivity bare copper. The conductor is insulated with special grade high – density polyethylene with color coding. The insulated cores are twisted with uniform lay to form pairs and are bunched together in such a manner so as to minimize cross talk. The cable is jacketed with a grey colour specially formulated Fire Retardant (FR) PVC with high oxygen and temperature index.

Tortek manufactured two types of Telephone Cables, one is Unarmoured and another one is Armoured Cable.

RS 485 Cable

RS 485 Communication cables is used by the telecommunication industries. These cables are manufactured using best quality of raw material and advance technology in adherence with industry norms. Moreover, we assure our customers that these cables are tested against various quality measures so as to ensure their quality.

The construction of RS 485 Communication cable is Annealed bare / tinned high conductivity copper and insulated by PVC/PE/ Cellular PE Insulated. The insulated cores are twisted to form a pair and pairs laid up in sub-units / units in concentric layers. Tapping is used on pairs and covered with overall Pvc sheath. Individual and or overall shielding with Aluminium-Mylar tape/copper tape/lapping/braiding provided depending upon the requirement. Armouring provided with an extruded inner PVC/PE sheath and overall sheath of PVC/PE wherever required.

Handling, Storage and Laying of Tortek Cables

A. CABLE INSPECTION

Inspect every cable reel for damage before accepting the shipment. Be particularly alert for cable damage if:

1. A reel is laying flat on its side.
2. Several reel are stacked.
3. Other freight I stacked on a reel.
4. Nails have been driven into reel flanges to secure shipping blocks.
5. A reel flange is damaged.

Thus the following is a list of Do's and Don't that should be followed while handling and storing the cables before it is put to use.

C. PRE-INSTALLATION

To ensure safety during cable installation, following shall be checked prior to installation.

1. The cable selected is proper for designed application.
2. The cable has not been damaged in transit or storage Review all application state and national codes to verify that the cable chosen is appropriate for the