

LT Aerial Bunched Cables 1100 Volts (3.5 Core). Reference standard: Generally to IS : 7098(1) 88.

Sl. No.	Description	3 x 25 + 1 x 16 + 1 x 35	3 x 35 + 1 x 16 + 1 x 35	3 x 50 + 1 x 25 + 1 x 35	3 x 70 + 1 x 35 + 1 x 35	3 x 95 + 1 x 50 + 1 x 55	
1	Power/Neutral Core :						
1.1	Conductors						
	Nom. Cross sectional area (i) Power cores (mm ²) (ii) Neutral cores (mm ²)	25 16	35 16	50 25	70 35	95 50	
	Max. D.C. resistance conductor at 20°C (i) Power cores (Ohm/Km) (ii) Neutral cores (Ohm/Km)	1.20 1.91	0.868 1.910	0.641 1.200	0.443 0.868	0.320 0.641	
	Approx. diameter of conductor (i) Power cores (mm) (ii) Neutral cores (mm)	6.2 5.1	7.3 5.1	8.35 6.20	10.1 7.30	12.00 8.35	
1.2	Insulation: Minimum thickness: (i) Power cores (mm) (ii) Neutral cores (mm)	0.9 0.7	0.9 0.7	1.0 0.9	1.1 0.9	1.1 1.0	
2	Messenger Wire(Bare): (i) Nom. Cross sectional area (Sq. mm) (ii) Approx. Breaking load (KN)	35 41	35 41	35 41	55 62	55 62	
3	Current Rating: Continuous current carrying capacity of cable in Air at Ambient temp. 40°C (Amp.)	99	122	149	190	235	
4	Approx. weight (Kg./Km.)	580	665	810	1165	1430	
5	Number of Cores: (i) Power cores (ii) Neutral cores (iii) Bare messenger	(No.) : 3 (No.) : 1 (No.) : 1					
6	De-rating factor De-rating factors for variation in Air Temp. Air Temp. (°C) Rating Factor	30	35	40	45	50	55
		1.12	1.06	1	0.94	0.88	0.83

7	(i) Identification of power core : (ii) Laying :	By providing ridges on the insulation: Three power cores and one Neutral core shall be suitable twisted around bare Steel Messenger./AAAC
8	Detail of the Power / Neutral core : (i) Conductor: a) Material (b) Flexibility class as per IS:8130/84 (c) Form of Conductor (ii) Insulation: (a) Material (b) Colour of Insulation	Aluminium to IS:8130/84 Class – 2 Compacted circular. Cross linked Polyethylene to IS: 7098(I)/88 Black
9	Details of the Messenger wire (Bare) (i) Material (ii) Form of Conductor	ACSR/AAAC Conductor to IS:398(II) & (IV) respectively. Standard circular/ compacted circular.

LT Aerial Bunched Cables 1100 Volts (4 Core). Reference standard: Generally to IS : 7098(1) 88.

Sl. No.	Description	3 x 25 + 1 x 25 + 1 x 35	3 x 35 + 1 x 35 + 1 x 35	3 x 50 + 1 x 50 + 1 x 35	3 x 70 + 1 x 70 + 1 x 55	3 x 95 + 1 x 95 + 1 x 55
1	Power/Neutral Core :					
1.1	Conductors					
	Nom. Cross sectional area (i) Power cores (mm ²) (ii)Neutral cores (mm ²)	25 25	35 35	50 50	70 70	95 95
	Max. D.C. resistance conductor at 20°C (i) Power cores (Ohm/Km) (ii) Neutral cores (Ohm/Km)	1.20 1.20	0.868 0.868	0.641 0.641	0.443 0.443	0.320 0.320
	Approx. diameter of conductor (i)Power cores (mm) (ii)Neutral cores (mm)	6.2 6.2	7.3 7.3	8.35 8.35	10.1 10.1	12.00 12.00

1.2	Insulation: Minimum thickness: (i)Power cores (mm) (ii)Neutral cores (mm)	0.9 0.9	0.9 0.9	1.0 1.0	1.1 1.1	1.1 1.1	
2	Messenger Wire(Bare): (i) Nom. Cross sectional area (Sq. mm) (ii) Approx. Breaking load (KN)	35 41	35 41	35 41	55 62	55 62	
3	Current Rating: Continuous current carrying capacity of cable in Air at Ambient temp. 40°C (Amp.)	99	122	149	190	235	
4	Approx. weight (Kg./Km.)	610	725	880	1270	1570	
5	Number of Cores: (i)Power cores (ii)Neutral cores (iii) Bare messenger	(No.) : 3 (No.) : 1 (No.) : 1					
6	De-rating factor De-rating factors for variation in Air Temp. Air Temp. (°C) Rating Factor	30 1.12	35 1.06	40 1	45 0.94	50 0.88	55 0.83
7	(i) Identification of power core : (ii) Laying :	By providing ridges on the insulation: Three power cores and one Neutral core shall be suitable twisted around bare Steel Messenger./AAAC					
8	Detail of the Power / Neutral core : (i) Conductor: a) Material (b) Flexibility class as per IS:8130/84 (c) Form of Conductor (ii) Insulation: (a) Material (b) Colour of Insulation	Aluminium to IS:8130/84 Class – 2 Compacted circular. Cross linked Polyethylene to IS: 7098(I)/88 Black					

LT Aerial Bunched Cables 1100 Volts (5 Core) with Street Lighting Conductor. Reference standard: Generally to IS : 6474-71.

Sl. No.	Description	3 x 16 + 1 x 16 + 1 x 25	3 x 25 + 1 x 16 + 1 x 25	3 x 50 + 1 x 16 + 1 x 25	3 x 50 + 1 x 16 + 1 x 35	3 x 70 + 1 x 16 + 1 x 50	3 x 95 + 1 x 16 + 1 x 70	3 x 120 + 1 x 16 + 1 x 70
1	Power/Neutral Core							
1.1	Conductors							
	Nom. Cross sectional area (i) Power cores (mm ²) (ii) Neutral cores (mm ²)	16 16	25 16	35 16	50 16	70 16	95 16	120 16
	Max. D.C. resistance conductor at 20°C (i) Power cores (Ohm/Km) (ii) Neutral cores (Ohm/Km)	1.91 1.91	1.20 1.91	0.868 0.910	0.641 0.910	0.443 0.910	0.320 1.910	0.253 1.910
	Approx. diameter of conductor (i) Power cores (mm) (ii) Neutral cores (mm)	4.4 4.4	5.5 4.4	6.8 4.4	7.9 4.4	9.6 4.4	11.3 4.4	12.7 4.4
1.2	Insulation: Minimum thickness: (i) Power cores (mm) (ii) Neutral cores (mm)	1.0 1.0	1.0 1.0	1.0 1.0	1.2 1.0	1.4 1.0	1.4 1.0	1.6 1.0
2	Messenger Wire(Bare): (i) Nom. Cross sectional area (Sq. mm) (ii) Approx. Breaking load (KN)	25 7.5	25 7.5	25 7.5	35 10.3	50 14.7	70 2.06	70 20.6
3	Current Rating: Continuous current carrying capacity of cable in Air at Ambient temp. 40°C (Amp.)	51	70	86	105	130	155	180
4	Approx. weight (Kg./Km.)	610	725	880	1270	1570	1180	1430
5	Number of Cores: (i) Power cores (ii) Neutral cores (iii) Bare messenger	(No.) : 3 (No.) : 1 (No.) : 1						
6	De-rating factor De-rating factors for	30	35	40	45	50	55	

	variation in Air Temp. Air Temp. (°C) Rating Factor	1.12	1.06	1	0.94	0.88	0.83
7	(i) Identification of power core : (ii) Laying :	By providing ridges on the insulation. Three power cores and one Neutral core shall be suitable twisted around bare AAAC Messenger.					
8	Detail of the Power / Neutral core : (i) Conductor: a) Material (b) Flexibility class as per IS:8130/84 (c) Form of Conductor (ii) Insulation: (a) Material (b) Colour of Insulation	Aluminium to IS:8130/84 Class – 2 Compacted circular. High Density Polyethylene to IS: 6474 - 1971 Black					
9	Details of the Messenger wire (Bare) (i) Material (ii) Form of Conductor	All Alloy Aluminium Conductor to IS:398 (IV). Standard Compacted circular.					

FINISHED AERIAL BUNCHED CABLE TESTING

TESTS	METHOD OF TESTING
Tensile Test	IS : 10810 pt – 2
Wrapping Test	IS : 10810 pt – 3
Conductor Resistance Test	IS : 10810 pt – 5
Test For thickness of Insulation	IS : 10810 pt – 6
Physical Test for polyethylene Insulation	IS : 10810 pt – 7
Tensile Strength & Elong. Test	IS : 10810 pt – 23
Melt flow Index	IS : 10810 pt – 22
Vicat softening Point	IS : 10810 pt – 32
Carbon Black Content & dispersion Colour Fastness	IS : 10810 pt – 18
Environmental stress cracking	IS : 10810 pt – 29

Bleeding & Blooming	IS : 10810	pt – 19
Volume Resistivity Test	IS : 10810	pt – 43
High Voltage test including water immersion test.	IS : 1596	

Test for messenger conductor:

Breaking load Test	IS : 398 (pt-IV)
Elongation Test	IS : 398 (pt-IV)
Resistance Test	IS : 398 (pt-IV)

Dimensional test as per the parameters specified in the technical particulars.

→ **Bending test on completed cable shall also as performed. The diameter of mandrel shall be $10(D+d)$.**

Where,

D = Overall diameter of the cable

d = Dia over conductor

