

GUARANTEED TECHNICAL PARTICULARS FOR LT AERIAL BUNCHED CABLE

Sl. No.	Particulars	Bidders offer	BESCOM Specification	Applicable IS/Remarks
1	Name of manufacturer.			
2	Applicable standard/specification.		IS-14255-1995, IS-6474-1984 (RA 1991), IS 8130, IS-398 - 4, & IS -10810 (1 to 64)	
3	Type of Cable(construction to be described)		3 x 95 + 1 x 16 + 1 x 70 Sqmm XLPE Insulated Aerial Bunched cable, with insulated Messenger	
4	Size of Cable.		3 x 95 + 1 x 16 + 1 x 70 Sqmm	
5A	Phase Conductor - Alu Portion.		95 Sqmm	
	a) Material of conductor. & Purity		H2 or H4 grade as per IS Aluminium wire with purity 99.7%	Cl. 4.1 of IS -8130/1984
	b) Applicable standard.			IS-8130/2013
	c) No. of strands.			Table2 of IS -8130 /2013
	d) Nominal diameter of strand (mm).			The dimensions are only indicative. However, the effective cross section should be as specified in SI No. 3 above.
	e) Max. diameter of bare conductor (mm)			Table 1 of IS 10462/1983 & Fictitious calculation as per cl 3.2
	f) Nominal area of cross-section of bare conductor (Sq.mm)		95 Sqmm	BESCOM Requirement
5B	Phase conductor - Insulation portion.			
	a) Material of insulation.		XLPE Cross linked Polythene	
	b) Insulation thickness (mm)			Table 4 of IS 14255 /1995
	c) Diameter of insulated conductor (mm)			Table 1 (Fictitious) of IS 10462/1983
	d) Whether the insulation conforms to the standards specified in the technical specification.			As per IS-14255/1995
6A	Street Light Conductor-Alum. Portion		16Sqmm	
	a) Material of Conductor			IS 8130- 2013 All. Wire Class - 2
	b) Applicable Standard			IS-8130-2013
	c) No. of Strands			Table2 of IS -8130/1984
	d) No. Diameter of the strand in mm.			The dimensions are only indicative. However, the effective cross section should be as specified in SI No. 3 above.
	e) Max. diameter of bare conductor			Table 1 of IS 10462/1983 & Fictitious calculation as per cl 3.2
6B	Street Light Conductor-Insulation Portion			
	a) Material of Insulation		XLPE Cross linked Polythene	
	b) Insulation Thickness (mm)			Table 4 of IS 14255 /1995
	c) Diameter of insulated conductor (mm)			Table 1 of IS -10462/1983 & Fictitious calculation as per cl 3.2
	d) Whether the insulation conforms to the standards specified in the technical specification			As per IS-14255/1995

7A	Messenger/neutral conductor - AAA portion.			
	a)	Material of conductor.	Aluminium alloy	IS-398 Part-IV-1994
	b)	Applicable standard	IS-398 Part-IV-1994	
	c)	Number of strands		Table 2 of IS 398(P4)/ 1994
	d)	Nominal diameter of strand (mm).		Table 1 of IS -10462/1983 & Fictitious calculation as per cl 3.2
	e)	Max. diameter of bare conductor (mm)		The effective cross section should be as specified in Sl No. 3 above.
	f)	Nominal area of cross-section of bare conductor (Sq.mm)	70 Sq.mm	BESCOM Requirement
	g)	Lay ratio.		Table 3 of IS 398 (P4) / 1994
	h)	breaking load (kN) Minimum		Table -1 of IS-398 (P4)-1994
7B	Insulation portion.			
	a)	Material of insulation.	Extruded XLPE Cross linked Polythene	Extruded XLPE Cross linked Polythene
	b)	Insulation thickness (mm)		Table 4 of IS 14255 /1995
	c)	Diameter of insulated conductor (mm)		The effective cross section should be as specified in Sl No. 3 above.
	d)	Whether the insulation conforms to the standards specified in the technical specification.		As per IS-14255
8	Complete AB Cable			
	a)	Overall diameter (mm)		
	b)	Total weight (kg/km)	1180 kgs appx.	BesCOM Requirement as per Clause 6.0 of BESCOM TS
	c)	Standard drum length offered (mtrs)and tolerance.	500 Mts +/- 5%	
	d)	Gross weight of the cable drum		
	e)	Code or method of cable identification.	As per clause of IS 14255- 1995- conductor shall be provided with 1, 2, 3 ridges for quick identification of phases, 4 ridges shall be provided for neutral conductor streelight/messenger wire shall not have any identification mark	Clause 8 of IS 14255 /1995
9	Hot Set test on Insulation:			
	a)	Elongation under load	75% Max	Table1 of IS-14255/1995 and BESCOM requirement As per TS 2 of schedule II of BESCOM TS
	b)	Maximum Permanent elongation after cooling	10% Max	
	c)	Tensile Strength at break	12.5 N/mm² Min	
	d)	Elongation at break	200% Min	Table1 of IS-14255/1995
	e)	Shrinkage	4% max	
	f)	water absorption	1mg/cm³	

10	Electrical Data :				
	a)	Max. DC resistance of the Phase conductor at 20° C			Table1 of IS 8130/2013
	b)	Max.DC resistance of the neutral/ Messenger conductor at 20° C			Table2 of IS 398 (P4)/1994
	c)	Max. DC Resistance of the street light conductor at 20° C			Table1 of IS 8130/2013
	d)	AC resistance at – 90 Deg. C Phase conductor (ohms/km)			Calculation sheet shall be furnished
	e)	Max.AC resistance of the neutral/ Messenger conductor at 20° C			
	f)	AC Resistance at 90Deg. C Street light			
	g)	Approx. inductive reactance at 50 Hz. Phase conductor/Street light (ohms/km)			
	h)	Approx. inductive reactance at 50 Hz Messenger/neutral conductor (ohms/km)			
	i)	Short circuit current for 1 Sec. Max. (KA)		8.93KA	
	j)	Current carrying capacity (amps) at various ambient temp.deg. of 10°C, 20°C, 30°C, 40°C & 50°C			
11	Tests.				
	Details of type tests and factory tests conducted on each size of AB Cable .			As per IS-14255-1995	
12	BENDING RADIUS OF CABLE :			10(D+d) where D=Actual diameter of the cable & d- actual diameter of the conductor	Cl. 11.4 of IS 14255 /1995
13	Scheme of the identification of the cable			Manufacturer's name or trade mark, voltage grade, IS No. Year of manufacture, CM/L No. and the letters "BESCOM" and "Project details" The identification shall repeat every 1000 mm along with length of the cable.	