

8212273/2023/EEMRT-ENE51



NOTE: 1. Drawings Approval subject to valid type test reports, to be checked during acceptance tests.

2. For EPC contractors only.

FINECAB WIRES & CABLES PVT LTD

Guaranteed Technical Particulars

Drawing approval subject to valid vendor registration

Customer : Transmission corporation of Andhra Pradesh Limited (APTransco)			
PROJECTNAME:-		AS APPLICABLE	
PO :-			
Contractor: AS APPLICABLE			
TITLE: Power Cable			
	PARTICULARS		2 C X 6
SR. NO.	Description	Unit	Confirmation/Commitment by the Supplier/Bidder
1	Name of Manufacturer.		FINECAB WIRES & CABLES PVT LTD (BRAND NAME-FINECAB)
2	Applicable Standard.		IS : 1554 (PART-1) 1988
3	Voltage Grade.	Volts	1100
4	Permission variation in a) Voltage	%	±10
	b) Frequency	%	±5
	c) Combined	%	±10
5	Weather Suitable for Earthed or Unearthed System		Both
6	SIZE	SQ.MM	2 C X 6
7	Type.		AYWY(FRLS & C2 TYPE)
8	Conductor :		
a.	Material		H2 GRADE ALUMINIUM AS PER IS 8130 : 2013 Class 2
b.	Nominal Size (Phase / Neutral)	SQ.MM	6
c.	Number of wires in each conductor	Nos.	7
d.	Diameter of Each Wire (Before Stranding)	mm	1.05
e.	Direction of lay of conductor		RIGHT HAND LAY
f.	Shape of conductor		STRANDED CIRCULAR
g.	DC Resistance at 20°C (MAX.) PHASE/NEUTRAL	Ohms/Km	4.61
h.	AC Resistance at 90°C (MAX.)	Ohms/Km	5.90
9	Insulation		
a.	Material.		EXTRUDED PVC TYPE A
b.	IS Reference		IS : 1554 (PART-1) 1988
c.	Nominal Thickness. (Phase / Neutral)	mm	1.00
d.	Cores identification		RED, BLACK (As per IS:1554-1/1988)
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10	Inner Sheath		
a.	Material.		EXTRUDED PVC TYPE ST-1
b.	IS Reference		IS : 5831 - 1984
c.	Minimum Thickness	mm	0.30
d.	Mimimum Fictitious Diameter over Inner Sheath	mm	10.20
e.	Colour of inner sheath		Black
11	Armouring		
a.	Material & Type		GALVANIZED STEEL ROUND WIRE
b.	Extruded OR Wrapped		Wrapped
c.	IS Reference		IS : 3975/1999
d.	Nominal Diameter	mm	1.40
e.	Mimimum Fictitious Diameter over Armour	mm	13.0
f.	Direction of lay of armour		LEFT HAND LAY
g.	DC Resistance of armour (Max.)	ohm/km	As per IS:1554(P-1)1988 Table no-6
12	Outer Sheath		
a.	Material.		EXTRUDED PVC
b.	Type.		ST-2 WITH FRLS PROPERTY
c.	IS Reference		IS : 5831 - 1984
d.	Minimum Thickness	mm	1.24
e.	Colour		BLACK
f.	Mimimum Fictitious Diameter of Cable		15.48
13	FRLS PROPERTIES		
a.	Oxygen Index (Minimum)	%	29
b.	Temperature index (Minimum)	Deg C	250
c.	Smoke Density (Maximum)	%	60
d.	Acid Gas Generation (HCL%) Maximum	%	20
e.	Flamibility Test a.Unefected Portion (min.)	mm	50
	b. Flame Duration (Max.)	sec.	60
14	Insulation Test		
	d) Minimum volume resistivity at (ohm-cm)		
	(i) 27 deg. C.		1×10^{13}
	(ii) 70deg. C.		1×10^{10}

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15	(i) Minimum tensile - strength of insulation	N/mm ²	12.5(min) as per IS 5831:1984
	(ii) Minimum elongation at break		150(min) as per IS 5831:1984
16	(i) Minimum tensile - strength of sheath	N/mm ²	12.5(min) as per IS 5831:1984
	(ii) Minimum elongation at break	%	150(min) as per IS 5831:1984
17	(i) Minimum tensile - strength of armour	Mpa	300-500 as per IS 3975:1999
	(ii) Minimum elongation at break	%	10(min) as per IS 3975:1999
18	PVC Cable		
	a) High voltage test		3KV(rms) for 5mint as per IS 1554(part-1):1988
	c) Short circuit current rating for armour	KA	KA/ \sqrt{t} (K- 0.05 Factor in Amp) (where A = Area of Armour in mm ² & t = time in seconds)
19	a) Current carrying capacity in air and corresponding		As per IS :1255
20	ELECTRICAL CHARACTERISTICS		
a.	Laying up of cable is accordance with		Confirming to : IS 3961-2
b.	Continuous Current Rating for Standard IS Condition		
	i. In Ground. at 30°C	Amps	As per IS 3961-2
	ii. In Air at 40°C	Amps	
	iii. In Air at 50°C	Amps	
c	Short Circuit Rating for 1 Sec. Duration	KA	0.448
d.	Conductor Temperature allowed for Continuous Operation condition (Max.)	°C	70
e.	Conductor Temperature allowed for the short circuit condition (Max.)	°C	160
21	GENERAL		
a.	Standard drum length	Mtrs	500/1000 (±5 %)
b.	Cable - Drum		Shall confirm to IS 10418 only
c	Recommended min. Bending radius of cable	mm	12 X OVERALL DIA OF A CABLE
d.	Recommended Max. Safe pulling force		
	i) When Cable Pulled by pulling eye	N	360
e.	Packing Material		NON RETURNABLE WOODEN DRUM
f.	Embossing on Cable		PROVIDE AS PER IS-1554 (PART-1)1988, Name of Customer, Year of manufacturing, FRLS, APTRANSCO
g.	Cable should be ISI Marked		Yes , All cable furnish with ISI - Marked only
h.	Sequential marking of length(Printing)		PROVIDE EVERY METER
i	End cap		Provided both end of cable
			 
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