8212313/2023/EEMRT-ENE51

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2.For EPC contractors only.

FINECAB WIRES & CABLES PVT LTD

Guaranteed Technical Particulars

Customer : Transmission corporation of Andhra Pradesh Limited (APTransco)			
PROJECTNAME:-		AS APPLICABLE	
PO :-			
Contractor: AS APPLICABLE			
TITLE: Power Cable			
	PARTICULARS		**4 C X 16**
SR. NO.	**Description**	**Unit**	**Confrmation/Commitement 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	**Wheather Suitable for Earthed or Unearthed System**		Both
6	**SIZE**	SQ. MM	4 C X 16
7	**Type.**		AYFY (FRLS & C2 TYPE)
8	**Conductor :**		
a.	Material		H2 GRADE ALUMINIUM AS PER IS 8130 : 2013
b.	Nominal Size (Phase / Neutral)	SQ. MM	16
c.	Number of wires in each conductor (Phase / Neutral)	Nos.	7
d.	Diameter of Each Wire (Phase/Neutral) (Before Stranding).	mm	1.71
e.	Direction of lay of conductor		RIGHT HAND LAY
f.	Shape of conductor		STRANDED SECTOR SHAPED
g.	DC Resistance at 20ºC (MAX.) PHASE/NEUTRAL	Ohms/ Km	1.91
h.	AC Resistance at 90ºC (MAX.) PHASE/NEUTRAL	Ohms/ Km	2.44
9	**Insulation**		
a.	Material.		EXTRUDEDPVC TYPE A
b.	IS Reference		IS : 1554(PART-1) 1988
c.	Nominal Thickness. (Phase / Neutral)	mm	1.00
d.	Cores identification		RED,YELLOW,BLUE & BLACK (As per IS:1554-1/1988)

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CHIEF ENGINEER/PROJECTS

APTRANSCO/VS/VIJAYAWADA

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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	16.33
e.	Colour of inner sheath		Black
11	**Armouring**		
a.	Material & Type		GALVANIZED STEEL FLAT STRIP
b.	Extruded OR Wrapped		Wrapped
c.	IS Reference		IS: 3975/1999
d.	Nominal Diameter	mm	4 X 0.80
e.	Mimimum Fictitious Diameter over Armour	mm	17.93
f.	Direction of lay of armour		LEFT HAND LAY
h.	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	1.40
e.	Colour		BLACK
g.	Mimimum Fictitious Diameter of Cable	mm	20.73
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**		
	Minimum volume resistivity at (ohm-cm)		
	(i) 27 deg. C.		1×10^{13}
	(ii) 70 deg. 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
	b) Short circuit current rating for armour	KA	KA/√t (K-0.05 Factor in Amp) (where A = Area of Armour in mm2& t = time in seconds)
19	**Current carrying capacity in air and corresponding assumptions/conditions of installation**		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 when Laid.		
	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	1.19 KA
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	Mts	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	1920
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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