827/6515/2023/EEMRT-ENE51

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTEANCE TESTS

2. FOR EPC CONTRACTS ONLY

Drawing approval subject to valid vendor registration

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			
SR. NO.	**PARTICULARS** **Description**	**Unit**	**3.5 C X 120** **Confirmation/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	3.5 C X 120
7	**Type.**		AYFY (FRLS & C2 TYPE)
8	**Conductor :**		
a.	Material		H2 GRADE ALUMINIUM AS PER IS 8130 : 2013 CLASS 2
b.	Nominal Size (Phase / Neutral)	SQ.MM	120 / 70
c.	Number of wires in each conductor (Phase/Neutral)	Nos.	19 / 19
d.	Diameter of Each Wire (Phase/Neutral)BEFORE STRANDING	mm	2.84 / 2.18
e.	Shape of conductor		STRANDED SECTOR SHAPE
f.	Direction of lay of Conductor		RIGHT HAND LAY
g.	DC Resistance at 20ºC (MAX.) PHASE/NEUTRAL	Ohms/Km	0.253 / 0.443
h.	AC Resistance at 90ºC (MAX.) PHASE/NEUTRAL	Ohms/Km	0.324 / 0.567
9	**Insulation**		
a.	Material.		EXTRUDED PVC TYPE A
b.	IS Reference		IS :1554 (PART-1) 1988
c.	Nominal Thickness. (Phase / Neutral)	mm	1.60 / 1.40
d.	Cores identification		RED , YELLOW , BLUE & BLACK
f.	Cores identification		Confirming to : IS 1554
g.	MINIMUM FICTITIOUS DIAMETER UNDER INNER SHEATH	mm	35.7

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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	0.50
d.	MINIMUM FICTITIOUS DIAMETER OVER INNER SHEATH	mm	36.7
e.	Colour of inner sheath		Black
11	**Armouring**		
a.	Material & Type		GALVANIZED STEEL STRIP
b.	Extruded OR Wrapped		Wrapped
c	IS Reference		IS: 3975/1999
d.	Nominal Diameter	mm	4 X 0.80
e.	MINIMUM FICTITIOUS DIAMETER OVER ARMOURED	mm	38.3
f.	Direction of lay of armour		LEFT HAND LAY
g.	Min . Coverage of armour		upto 90 %
h.	DC Resistance of armour (Max) 20* C	ohm/km	2.20
12	**Outer Sheath**		
a.	Material.		EXTRUDED PVC
b.	Type.		ST-2 WITH FRLS PROPERTY
c.	IS Reference		IS : 5831 - 1984
d.	Minimum Thickness	mm	1.72
e.	Colour		BLACK
f.	MINIMUM FICTITIOUS DIAMETER OVER OUTHER SHEATH	mm	41.7
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**		
	a) 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
	c) Short circuit current rating for armour		KA/√t (K- 0.05 Factor in Amp) (where A = Area of Armour in mm2& t = time in seconds)
19	**a)Current carrying capacity in air and corresponding assumptions/conditions of installation**		As per IS: 1255
21	**ELECTRICAL CHARACTERISTICS**		
a.	laying up of cable is accordance with		Confirming to : IS 1255
b.	Short Circuit Rating for 1 Sec. Duration	KA	9.10
c.	Conductor Temperature allowed for Continuous Operation condition (Max.)	°C	70
d.	Conductor Temperature allowed for the short circuit condition (Max.)	°C	160
22	**GENERAL**		
a.	Standard drum length	Mts	500/1000 (±5 %) OR ACTUAL
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	12900
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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