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

2.For EPC contractors only

8215031/2023/EEMRT-ENE51

CHANDRESH CABLE LIMITED (BRAND NAME : AVOCAB)

STANDARDISED GUARNTEED TECHNICAL PARTICULARS FOR

UNARMOURED COPPER CONTROL CABLES

Drawing approval subject to valid vendor registration

Sl.	Description	Parameters / Values				
1	**Material Description**	**CONTROL CABLES**				
2	a) Type and description of the cable with size	Copper conductor PVC Insulated unaroured cables as per IS : 1554(Part-I)-1988				
	b) Standard which they conform to	IS : 1554(P-I), IS 8130, IS : 5831				
	The type tests should have been conductes not earlier than 5 years in the Standard third party laboratory. The Manufature shall produce the type test reports at the time of acceptance tests.					
	c) Quality of material & standard to which conform	BIS				
	The manufacture shall produce the valid BIS certification at the time of acceptance tests.					
3	**CONDUCTOR (Sq.mm)**	**2 C X 2.5**	**4 C X 2.5**	**6 C X 2.5**	**10 C X 2.5**	**12 C X 2.5**
	a) Material	Standard Copper conductor as per IS : 8130 class 2				
	b) Wheather standard	Yes				
	c) If so. Number of strands	7	7	7	7	7
	d) Nominal Diameter of each strand before stranding (mm)	0.67	0.67	0.67	0.67	0.67
	e) Max. resistance at 20 Deg. C (Ohm/Km)	7.41				
4	**INSULATION**					
	a) Material	PVC Type A as per IS : 5832				
	b) Nominal thickness (mm)	0.9	0.9	0.9	0.9	0.9
	c) Minimum tensile strength without agening (N/mm2) and maximum % variation after agenging.	12.5 & +/-20%				
	d) Maximum elongation at break without agening (%) and maximum % variation after agening .	150% & +/-20%				
	e) Minimum volume resistivity at					
	i) 27 Deg C (Ohm-Cm)	1 X 10^13				
	ii) Max. rated temperature of 70 Deg.C (Ohm-Cm)	1 X 10^10				
	f) Minimum insulation resistance contant at					
	i) 27 Deg C (Mega ohm/Km)	36.7				
	ii) Max. rated temperature of 70 Deg.C (Mega Ohm/Km)	0.037				
	iii) Wheather application of insulation is by way of extrusion	Extrusion				
5	**INNER SHEATH**					
	a) Material	PVC as per IS : 1554(Part-I)				
	b) Minimum thickness inner sheath (in mm)	0.3	0.3	0.3	0.3	0.3
	c) Wheather method of application is by way of extrusion	Extrusion				
6	**OUTER SHEATH**					
	a) Material	PVC Type ST-1 as per IS : 5831				
	b) Nominal thickness (mm)	1.8	1.8	1.8	2.0	2.0
	c) Minimum tensile strength without agening (N/mm2) and maximum % variation after agenging.	12.5 & +/-20%				
	d) Maximum elongation at break without agening (%) and maximum variation after agening (%)	150% & +/-20%				
	e) Wheather method of application is by way of extrusion	Yes. Extrusion				
	f) Are the inner and outer sheaths extruded in a single operation out of the material intended for outer sheaths	Inner and outer sheath shall be extruded seperately				
	g) Wheather the PVC suitably treated for withstanding the working conditions.	YES				
	h) Colour	BLACK				

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7	**Physical parameters**					
	a) Min Fictitious dia of core (mm)	3.6	3.6	3.6	3.6	3.6
	b) Min Fictitiou diameter over laid up cores(mm)	7.2	8.7	10.8	14.4	15
	c) Min Fictitiou diameter under the outer sheath (mm)	7.8	9.3	11.4	15	15.6
	d) Min Fictitiou Overall diameter of the finished cable (mm)	11.4	12.9	15	19	19.6
8	**Drum length (mtrs)/tolerance (%)**	1000 +/-10% ingeneral or as per the requirement incase of short lengthts				
	a) Approx. Cable weight (Kg/Km)	200	277	289	610	693
9	**Electrical parameters**					
	a) Rated volatge (Volts)	1100 Volts				
	b) Voltage garde (Volts)	1100 Volts				
	c) Wheather suitable for earthed/Unearthed system	Both				
	d) Short circuit current capacity for 1 sec. Duration - KA	284.5 Amps				
	e) Max. conductor temperature during short circuit condition.	160 deg.C.				
10	**Markings**	As per IS : 1554(Part-1)&"APTRANSCO" to be embossed with an interve interval of one meter throughout the cable,seq. marking by printing only				
11	**Identification**	Cores shall be identified by different coloring of PVC insulation by adopting the following scheme:				
		a) 2 Cores : Red and Black				
		b) 4 Cores : Red, Yellow, Blue, Black				
		c) 6,10 & 12 cores : Two adjacent core (counting and direction core) in each layer, blue and yellow remaining cores gray				

CHANDRESH CABLES LIMITED CHHATRAL Q.C.

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