

NOTE:-1.Drawings approval subject to valid type test reports,
 7287172/2023/EEMRT-ENE51 to be checked during acceptance tests. Drawing approval subject to valid vendor registration
 2.For EPC contractors only.

THERMOCABLES LIMITED, HYDERABAD

TRANSMISSION CORPORATION OF ANDHRA PRADESH LTD.

Contractor Name: As Applicables

Project Name : As Applicable

Purchase Order No. : As Applicable

STANDARDISED GUARANTEED TECHNICAL PARTICULARS FOR ARMoured POWER CABLES		
1	Material Description	POWER CABLE
2	a) Type and description of the cable with size	Aluminium conductor PVC insulated Armoured cables as per IS:1554 (part-1)
	b)Standards which they conform to	IS 1554 Part-1
3	CONDUCTOR (Sq.mm)	3.5C X 35
	a) Material	Stranded Sector Shaped Aluminium conductor of H2 Grade as per IS:8130
	b) Whether stranded	Yes
	c) shape of conductor	Sector shaped
	Main conductor (sq.mm)	35
	Neutral conductor (sq.mm)	16
	d)If so, number of strands main conductor	7
	Number strands Neutral conductor	7
	e)Diameter of each strand before stranding(mm) Main conductor	2.54
	Diameter of each strand before stranding(mm) Neutral conductor	1.71
	f) Max.Conductor resistance at 20 Deg.C(Ohms/Km) Main	0.868
	g) Max.Conductor resistance at 20 Deg.C(Ohms/Km) Neutral	1.91
4	INSULATION	
	a) Material	PVC Type A as per IS:5831
	b)Nominal thickness(mm) Main conductor	1.2
	Nominal thickness(mm) Neutral conductor	1.0
	Minimum Thickness (mm) Main/ Neutral	T min= Tnom.- (Tnom x 0.1 +0.1)
	c)Minimum tensile strength without ageing (N/mm ²) and maximum % variation after ageing	12.5
	d)Minimum elongation at break without ageing (%) and maximum % variation after ageing.	150
	e)Minimum volume resistivity at	
	i) 27 DegC (Ohm-Cm)	1 x 10 ¹³
	ii)Max.rated temperature of 70 Deg.C(Ohm-Cm)	1 x 10 ¹⁰
	f)Minimum insulation resistance constant at	
	i) 27 Deg C(Mega ohm-Km)	36.7
	ii)Max.rated temperature of 70 Deg.C (Mega ohm-Km)	0.0367
	iii)Whether application of insulation is by way of extrussion	Extrusion
5	INNER SHEATH	
	a) Material	PVC ST1 as per IS:5831/84
	b)Minimum thickness inner sheath(in mm)	0.3
	c)Whether method of application is by way of extrussion	Extrusion
	d) Colour	Black
6	Interstices(or fillers)	Yes if required
7	ARMOURING	
	a)Material	Galvanised steel Strip As per IS 3975
	b) Size	4 x 0.8

CHIEF ENGINEER/PROJECTS
 APTRANSCO/VIS/Vijayawada

7287172/2023/EEMRT-ENE51

8	OUTER SHEATH	
	a) Material	PVC ST1 as per IS:5831/84
	b) Minimum thickness(mm)	1.4
	c) Minimum tensile strength without ageing (N/mm ²) and maximum % variation after ageing	12.5
	d) Minimum elongation of break(%) and maximum variation after ageing (%)	150
	e) Whether method of application is by way of Extrusion	Extrusion
	f) Whether the PVC suitably treated for withstanding the working conditions.	Yes
	g) Inner & Outer Colour	Black
	i) Physical parameters	
	a) Overall dia of core(mm)	Not applicable for being Sector Shape
	b) Calculated diameter over Inner sheath(mm) (Approx.)	20.75
	c) Calculated diameter under the outer sheath (mm) (Approx.)	22.35
	d) Overall diameter of the finished cable(mm)	25.55 +/- 2.0
	e) Drum length(mtrs)/tolerance (%)	1000/500 +/-10% ingeneral or as per the requirement incase of short length
	f) Approx Cable weight(Kg/Km)	1090
	g) Approx Gross weight of the complete drum with cable(Kg/km)	1240
10	Electrical parameters	
	a) Rated voltage(volts)	1100
	b) Voltage grade(volts)	1100
	c) Whether suitable for earthed/Unearthed system	Both
	d) Continuous current carrying capacity(Amps)	
	i) In Air at 40 Deg C	86
	ii) In ground at 30 Deg C	92
	e) Short circuit current capacity for 1 sec. Duration	2.66
	f) Max. conductor temperature during short circuit condition.	160 Deg C
11	Marking	3.5C 35 SQ.MM ELECTRIC 1100V AYFY Thermocables Year of manufacturing APTRANSCO ISI MARK
		As per IS 1554 PART 1 & APTRANSCO to be embossed with an interval of 1 meter throughout the cable. Sequential marking by printing only
12	Identification (Main & Neutral cores)	RED, YELLOW, BLUE & BLACK
13	Inner & Outer sheath is done in separate operation & the material intended for outer Sheath is as per IS 1554 Part 1	Confirmed

Drawing approval subject to valid vendor registration

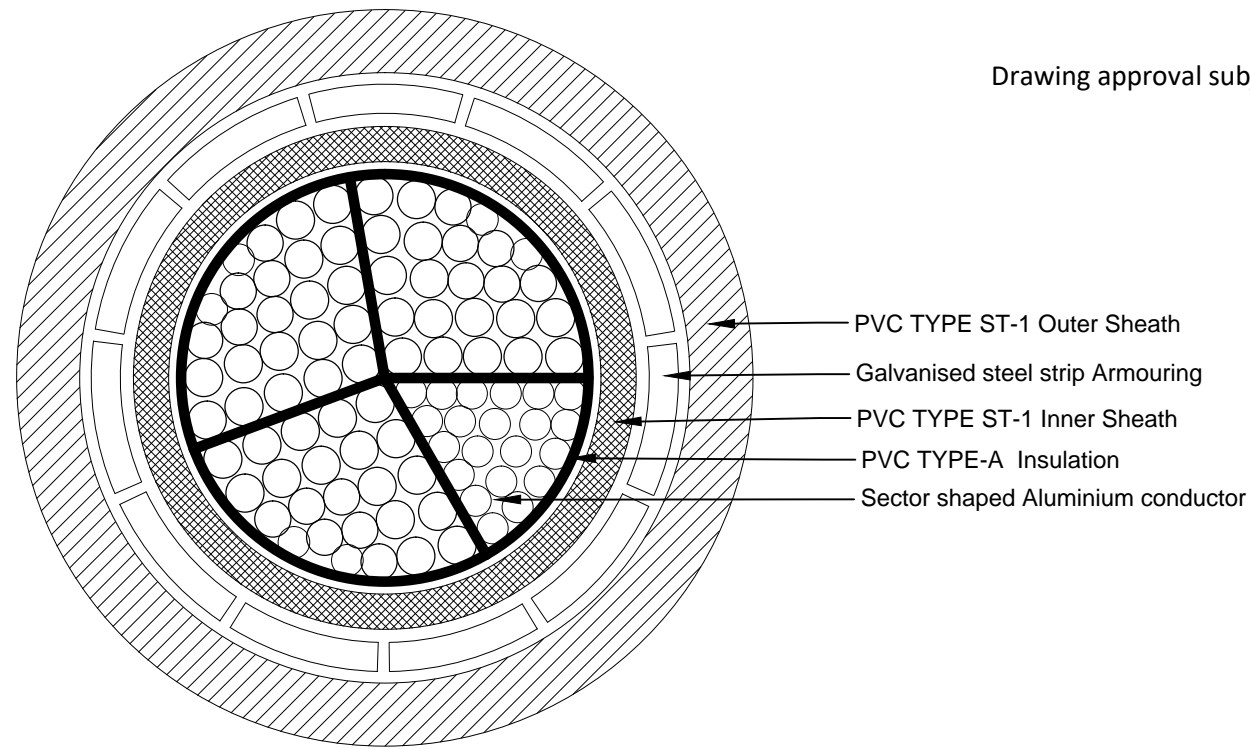
CHIEF ENGINEER/PROJECTS
APTRANSCO/VS/Vijayawada

PRODUCT SPECIFICATION DRAWING


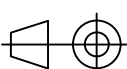
3.5C X 35 SQ.MM – Armoured Power Cable

NOTE:-1. Drawings approval subject to valid type test reports,
to be checked during acceptance tests.
2. For EPC contractors only.

Drawing approval subject to valid vendor registration



CHIEF ENGINEER/PROJECTS
APTRANSCO/VS/Vijayawada

PROJECT: AS APPLICABLE				
CUSTOMER: AS APPLICABLE				
PO AS APPLICABLE				
FIRM		 THERMO CABLES LTD. PLOT NO.28, NAGARJUNA HILLS, PUNJA GUTTA, HYDERABAD-500082 (TELANGANA)		
	NAME	SIGN	DATE	TITLE:
DESIGN	C.T		10.04.23	3.5C x 35 SQ.MM ARMoured CABLE
DRAWN	C.T		10.04.23	PART NO:
CHECKED	M.S		10.04.23	
DEPT. HEAD	M.S		10.04.23	ALL DIMENSIONS ARE IN MM
RELEASED FOR	PRELIMINARY		SCALE: NTS	SHEET: 1 OFF 1
	APPROVAL	✓		DRG.NO.
	ENGINEERING			REV.
	CONSTRUCTION			00