

TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED
STANDARDISED GUARANTEED TECHNICAL PARTICULARS FOR
PANTHER AAA CONDUCTOR

Sl. No.	Description	Units	Details for AAAC-PANTHER conductor
1	Standard according to which the conductor will be manufactured and tested		IS:398 (part-4) 1979
	The type tests should have been conducted not earlier than 5 years in the Standard third party laboratory. The Manufacturer shall produce the type test reports at the time of acceptance tests.		
2	Quality of material & standard to which conform		BIS
	The Manufacturer shall produce the valid BIS certification at the time of acceptance tests.		
3	Number of strands		
	a) Aluminium Alloy	Nos	37
5	I) Diameter of Strands (Aluminium Alloy)		
	a) Nominal	mm	2.88
	b) Maximum	mm	2.91
	c) Minimum	mm	2.85
	II) Overall diameter of Conductor	mm	20.16
6	Cross Sectional Area of		
	a) Whole Conductor	Sq mm	241.00
	b) Each Strand	Sq mm	6.514
7	Minimum % of Aluminium in Alloy	%	97.31
9	Number of Strands		
	a) Centre wire (Aluminium Alloy wire)	Nos	1
	b) First Layer (Aluminium Alloy wire)	Nos	6
	c) Second Layer (Aluminium Alloy wire)	Nos	12
	d) Third Layer (Aluminium Alloy wire)	Nos	18
10	Weight of		
	a) Whole Conductor	Kg /Km	663.8
	b) Aluminium Alloy Strand (At Nominal Dia.)	Kg /Km	17.59

APPROVED FOR TURNKEY PROJECTS




CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD


Sl. No.	Description	Units	Details for AAAC-PANTHER conductor	
11	Calculated D.C. resistance at 20 degC			
	a) Whole Conductor	Ohms / Km	0.1375	
	b) Aluminium Alloy Strand	Ohms / Km	4.989	
12	Ultimate Tensile Strength			
	I) Whole Conductor	KN/ Min	67.49	
	II) Min breaking load before stranding			
	a) Aluminium Alloy Strand	KN/ Min	2.19	
	III) Min breaking load after stranding			
	a)Aluminium Alloy Strand	KN/ Min	1.92	
13	Modulus of elasticity of			
	a) Aluminium Alloy Strand	-	-	
	b) Whole Conductor	Kg/sq. cm.	0.5814 X 10-6	
14	Co-efficient of linear expansion per degree centigrade of			
	a) Aluminium Alloy Strand	per deg. C	23.0x10-6	
	b) Whole Conductor	per deg. C	23.0x10-6	
15	Resistivity	Ohms Sq.mm / Mtr	Max.0.02930	
16	a) Continuous maximum current rating of conductor in still air at ambient Temperature (40Deg.C)	Amp	563 A @ 85 Degree Centigrade.	
	b) Temperature rise for the above in degree C	deg. C	45	
17	Lay Ratios		Min.	Max.
	Aluminium Alloy Strand: 1st Layer (6 Wires)		12	14
	Aluminium Alloy Strand: 2nd Layer (12 Wires)		11	13
	Aluminium Alloy Strand: 3rd Layer (18 Wires)		10	12
18	Maximum working tension.		70% of UTS of Conductor	

APPROVED FOR TURNKEY PROJECTS


CHIEF ENGINEER / CONSTRUCTION -1
APTRANSCO/VIDYUTH SQUADHA/HYD

Sl. No.	Description	Units	Details for AAAC-PANTHER conductor
19	Maximum single length of conductor which can be manufactured	KM	1.5
20	Tolerance, if any, on standard lengths.		± 5 %
21	No. of standard lengths in one reel.		1
22	Weight of the conductor in one reel	KG	995.70
23	Weight of the drum	KG	250 Kgs ± 5%
24	Gross weight of the reel including weight of the conductor	KG	1245.70
25	Drum (Reel) details	1370x600x710 mm	
	a) Dimensions of the reel		IS 1778/1980
	b) Whether the drum on which the conductor is wound conforms to the specification		IS 1778/1980
	c) Other particulars, if any.	Brand Name, other details to be provided on the surface of drum.	
26	Raw Materials are to be procured directly from the Primary Producers so as to ensure the quality of raw materials. The test certificates of raw materials and invoices shall be produced at the time of inspection.		
	a) Aluminium Alloy wire	Make: VEDANTA/BALCO / HINDALCO/ NALCO	
	Complete Conductor to be purchased directly from the conductor manufacturer only	As per the approved list of conductor Manufacturers indicated in the specification	
28	Important Packing & Markings: For the detailed package and markings please refer the specification.	Medium grade Kraft paper shall be used in between the layers of the conductor. After reeling the conductor, the exposed surface of the outer layer of conductor shall be wrapped with thin polythene sheet across the flanges to preserve the conductor from dirt, grit and damage during transportation and handling and also to prevent ingress of rain water.	
	Standardised Guaranteed Technical Particulars for Panther AAA Conductor.		
	STD/GTP-DWG/Approval No. 3 / Revision No. 0		
	Prepared & Approved during October - 2011		

APPROVED FOR TURNKEY PROJECTS


 25/10/2011
CHIEF ENGINEER / CONSTRUCTION-I
 APTRANSCO/VIDYUTH SOUDHA/HYD