

TRANSMISSION CORPORATION OF TELANGANA LIMITED

STANDARDISED GUARANTEED TECHNICAL PARTICULARS FOR MOOSE, ZEBRA & PANTHER CONDUCTOR

Sl. No.	Particulars.	For Moose ACSR Conductor	For Zebra ACSR Conductor	For Panther ACSR Conductor
1.	Maker's name (material). a) Aluminium wire b) Steel Wire c) Complete Conductor	Balco, Hindalco, Nalco, Vedanta. G.K.Wires, Hulas, Nirmal Wires, Prestress, Usha Martin, Systematics wires, Bedmutha, Kritika, Ratlam, TATA, Kataria Wires. As per the approved list of conductor Manufactures indicated in the specification		
2.	Stranding and wire diameter I). No. of Strands a) Aluminium b) Steel II). wire diameter in mm a) Aluminium (Std/Max/Min) b) Steel (Std/Max/Min)	54 7 3.53/3.55/3.51 3.53/3.60/3.46	54 7 3.18/3.21/3.15 3.18/3.24/3.12	30 7 3.00/3.03/2.97 3.00/3.06/2.94
3.	Nominal aluminium area in Sq.mm.	520	420	200
4.	Sectional aluminium.area in Sq.mm	528.5	428.9	212.1
5.	Standard area of cross-section in sq.mm. a) Aluminium strand b) Steel strand c) Whole Conductor	9.787 9.787 597	7.942 7.942 484.5	7.069 7.069 261.5
6.	Diameter of complete conductor in mm	31.77	28.62	21.00
7.	Guaranteed ultimate tensile strength of conductor in KN	161.2	130.32	89.67
8.	Minimum breaking load in KN for a) Aluminium strand (before/after stranding) b) Steel strand (before / after stranding)	1.57 / 1.49 12.86 / 12.22	1.29 / 1.23 10.43 / 9.91	1.17 / 1.11 9.29 / 8.83
9.	Purity of Aluminium rods in %	99.6	99.6	99.6
10.	Zinc coating of steel strand a) Number and duration of dips (Precede test). b) Minimum weight of coating in gms/sq.mtr.	3 dips – 1 minute each 270	3 dips – 1 minute each 270	3 dips – 1 minute each 270
11.	Maximum working tension.	70% of UTS of Conductor		
12.	Weight in kg. per km. (Max/Min) a) Aluminium b) Steel c) Conductor	26.45 76.34 2004	21.47 61.95 1621	19.11 55.13 974
13.	Max. resistance in ohms per kM at 20 deg.C. a) Aluminium strand b) Conductor	2.921 0.05552	3.626 0.06868	4.079 0.139

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14.	a) Continuous max. current rating of conductor in still air at 45 deg.C. ambient temperature.(Amps.) b) Temperature rise for the above current. (deg.C)	950 30	800 30	486 30
15.	Lay Ratio Steel Core : 6 Wire layer. Aluminium : 12 Wire layer. 18 Wire layer. 24 Wire layer.	Min. Max. 16 18 12 14 11 13 10 12	Min. Max. 13 18 12 14 11 13 10 12	Min. Max. 13 18 12 14 10 12 ---
16.	Modulus of elasticity of a) Aluminium strand GN/Sq.m. b) Steel strand GN/Sq.m. c) Conductor GN/Sq.m.	10 59 69	10 59 69	10 59 80
17.	Co-efficient of linear expansion per degree centigrade of a) Aluminium strand b) Steel strand c) Conductor	23.0×10^{-6} 11.5×10^{-6} 19.3×10^{-6}	23.0×10^{-6} 11.5×10^{-6} 19.3×10^{-6}	23.0×10^{-6} 11.5×10^{-6} 17.8×10^{-6}
18.	Percentage of carbon in steel wire.	0.5 to 0.85	0.5 to 0.85	0.5 to 0.85
19.	Standard according to which the conductor will be manufactured and tested.	IS : 398 (part-5) 1992	IS : 398 (part-2) 1996	IS : 398 (part-2) 1996
20.	Drum Drawings shall be approved as per requirement			

APPROVED

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	Standardized Guaranteed Technical Particulars for PANTHER, ZEBRA & MOOSE CONDUCTOR
	STD/GTP-DWG/Approval No.5011/5012/5013 Revision No.0
	Prepared & Approved during SEPTEMBER 2022