

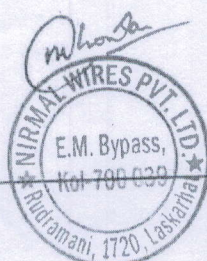
GUARANTEE TECHNICAL PARTICULARS OF ACSR PANTHER

1529

Purchaser :	M/s. Bihar State Power Transmission Company Ltd.
Contractor :	M/s. ABN Tower and Transmission Private Limited
Manufacturer	Nirmal Wires Pvt. Ltd., Kolkata

Sl. No.	DESCRIPTION	UNIT	ACSR PANTHER
1.	Name & address of the Manufacturer		Nirmal Wires Pvt. Ltd. Regd. Office: Rudramani, 1720, Laskarhat, E.M. Bypass, Kolkata- 700039
2.	Manufacturer's name and address (for the materials given below)		
	a) E.C. Grade Aluminium Rods/ingots		i) National Alu. Co. Ltd. Bhubneswar, Orissa. ii) Hindalco Industries Ltd, Ramkoot, Uttar Pradesh. iii) Bharat Alu. Co. Ltd. Korba, Chhatisgarh.
	b) Steel Rods		TATA, SAIL, ECL
	c) Complete Conductor		Nirmal Wires Pvt. Ltd. Vill-Ishwaripur, Deulti, PO- Barunda, PS-Bagnan, Howrah- 711303
3.	Indian Standard		IS: 398 (Part-2) -96 IS: 1778 -1980
	a) for conductor		
	b) for drum		
4.	E.C. Grade Aluminium Rods		IS: 5484:1978
	a) Indian Standard	%	Purity: 99.6 (min)
	b) Composition		Copper: 0.04(max)
5.	High Tensile Galvanized Steel Wire		
	a) Chemical Composition	%	C = 0.50 to 0.85 ✓ P = 0.035 (Max) ✓ S = 0.045 (Max) ✓ Si = 0.10 to 0.35 ✓ Mn = 0.50 to 1.10 ✓
6.	Aluminium Strands		
	a) Diameter	mm	3.00 ✓
	Standard	mm	3.03 ✓
	maximum	mm	2.97 ✓
	minimum		
	b) Cross Sectional Area of nominal dia wire	mm ²	7.069 ✓
	c) Minimum Weight	Kg/Km	19.11 ✓
	d) Breaking load		
	Before stranding	KN	1.17 ✓
	After stranding	KN	1.11 ✓

APPROVED
Subject to the condition that you are not absolved of
the responsibility for correctness of the materials
supplied as per specification
Sanjiv
Electrical Superintending Engineer
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidyut Bhawan, Patna-800021
Ref



GUARANTEE TECHNICAL PARTICULARS OF ACSR PANTHER

1528

Purchaser :	M/s. Bihar State Power Transmission Company Ltd.
Contractor :	M/s. ABN Tower and Transmission Private Limited
Manufacturer	Nirmal Wires Pvt. Ltd., Kolkata

Sl. No.	DESCRIPTION	UNIT	ACSR PANTHER
	e) Electrical Resistance at 20°C	ohms/Km	4.079 ✓
	f) Wrapping	8 on x 6 off x 6 on on its own dia	No Breaking
7.	Steel strands		
	a) Diameter Standard	mm	3.00 ✓
	Maximum	mm	3.06
	Minimum	mm	2.94
	b) Minimum Weight	Kg/km	55.13 ✓
	c) Breaking load:		
	Before stranding	KN	9.29 ✓
	After stranding	KN	8.83 ✓
	d) Cross Sectional Area of nominal dia wire	mm ²	7.069 ✓
	e) Elongation of 200 mm gauge length on breaking.		
	i) Before stranding	%	4
	ii) After stranding	%	3.5
	f) No. of twists on a length equal to 100 times the diameter of wire (Torsion Test)		
	i) Before stranding	Nos.	18 (min)
	ii) After stranding	Nos.	16 (min)
	g) Galvanizing		
	i) Indian standard		IS: 209 : (1992)
	ii) Purity of Zinc	%	99.95 (Min)
	iii) Process of galvanizing		Hot Dip
	iv) Minimum weight of Zinc		
	After stranding	Gms/Sq.Meter	240
	v) Uniformity of Zn coating		
	a) Before stranding		
	Minimum no. of dips of 1 minute duration which the strand can withstand (under preece test)	Nos.	3
	b) After stranding	-do-	2½
	h) Wrapping	8 on x 6 off x 6 on on 4 x dia	No flacking or breaking

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Sanjiv Kumar
 Electrical Superintending Engineer
 (Planning and Engineering)
 Bihar State Power Transmission Company Limited
 Vigyut Bhawan, Patna-800021
 10/03/14



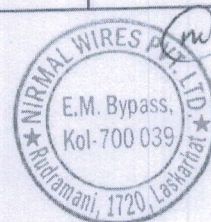
GUARANTEE TECHNICAL PARTICULARS OF ACSR PANTHER

1527

Purchaser :	M/s. Bihar State Power Transmission Company Ltd.
Contractor :	M/s. ABN Tower and Transmission Private Limited
Manufacturer	Nirmal Wires Pvt. Ltd., Kolkata

Sl. No.	DESCRIPTION	UNIT	ACSR PANTHER
8.	Complete Conductor		
	a) Code		PANTHER ACSR
	b) Construction	No x Dia	Al - 30 x 3.00 mm ✓ St - 7 x 3.00 mm ✓
	c) Copper Equivalent Area	Sq. mm	130.0 ✓
	d) Nominal Aluminium Area	Sq. mm	200.0 ✓
	e) Sectional Aluminium Area	Sq. mm	212.10 ✓
	f) Total Sectional Area	Sq. mm	261.50 ✓
	g) Over all Diameter	mm	21.00 ✓
	h) Strands & Wire Diameter	Nos/mm	30/3.00 ✓
	Aluminium	Nos/mm	7/3.00 ✓
	Steel		
	i) Lay Ratio		
	Steel 6 Wire	mm	max.28/min.13 ✓
	Aluminium 18 Wire	mm	max.14/min.10 ✓
	12 Wire	mm	max.16/min.10 ✓
	j) Calculated Breaking load	KN	89.67 ✓
	k) Final Modulus of Elasticity	GN/m ²	80 ✓
	l) Coefficient of Linear Expansion	per °C	17.8 X 10 ⁻⁶
	m) Minimum Weight (per KM)		
	Steel	Kg	388
	Aluminium	Kg	586
	ACSR conductor	Kg	974 ✓
	n) Calculated Resistance at 20°C	ohms/km	0.1390
	o) Standard length	meter	2000 ± 5% ✓
	p) No. of standard length in one drum	nos.	one
	q) Random lengths	%	10
	r) Joints in strands		
	Steel		No joints
	Aluminium		No joints

UTS of conductor = 9127 Kg

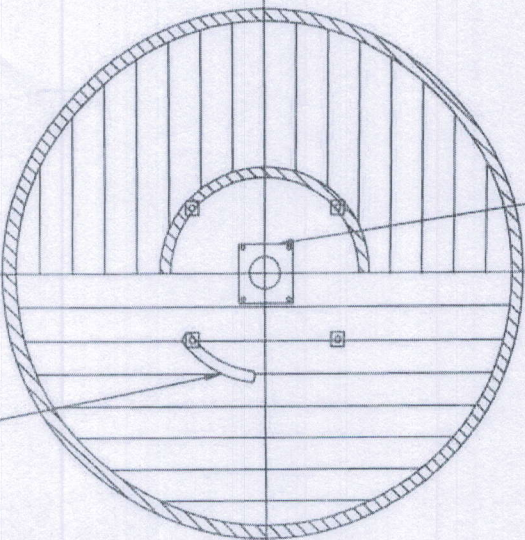


APPROVED

To the condition that you are not absolved of responsibility for correctness of the materials as per specification

13/03/24
1/10
Nirmal Wires Pvt. Ltd.
(Planning and Engineering)
Bihar State Power Transmission Company Limited
Vidvut Bhawan, Patna-800021

Conductor Hole



Spindle Plate

ALL DIMENSIONS AS PER IS : 1778- 1980

SL NO.	DESCRIPTION	QTY	SIZE
1.	Flange Diameter		MM
2.	Barrel Diameter		1475
3.	Traverse		600
4.	Flange Thickness		710
5.	Bore Diameter		2 X 33
6.	Barrel end Support Thickness		80
7.	Barrel end & External lagging thickness		50
8.	Stretchers	6	100X50
9.	Bolts	6	19
10.	Square Washer	4	50X6
11.	Spindle Plate	2	230X230X6
12.	Spindle Plate Bolt	4	12
13.	Binders	3	G.I. Wire
14.	Center Piece Provided	1	Yes
15.	Any specific value that has not been mentioned in the above table shall be strictly as per IS: 1778- 1980		

Standard Length Per Drum	1
Standard Length	1200 2000 $\pm$ 5%
Gross Weight (Max.)	2098 Kgs
Net Weight (Max.)	1948 Kgs
Tare Weight (Approx.)	150 Kgs
Reference No.	

Purchaser - M/s. Bihar State Power Transmission Company Ltd.

Contractor - M/s. ABN Tower and Transmission Private LimitedS



NIRMAL WIRES PVT. LTD.

WORKS : MOUZA - ISWARIPUR, JL - 34,P.O.+ P.S. - BAGMAN, HOWRAH
HEAD OFFICE : Rudramani, 15th Floor, 1720 Laskarhat, EM Bypass, Kol- 39

ALL DIMENSIONS ARE IN MM.

SCALE : DATE 28/02/2024

NTS

CHKD

TITLE: DRUM DRAWING OF ACSR Panther Conductor

DRG NO.

NWPL/23-24/0170

REV 00

APPVD



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