



NORTH BIHAR POWER DISTRIBUTION CO. LTD.

[Office of Chief Engineer, Project-I/Urban]
(Regd. Office: Vidyut Bhawan, Bailey Road, Patna)
CIN No: U40109BR2012SGC018920

Letter No: 1623

[File No:-N-XIII/RDSS/V.A/Samastipur Circle-3129/2023-

Dated: 03-11-23

E-mail: cerdssnbpdc@gmail.com

From,

Shriram Singh
Chief Engineer, Project-I (Urban)

To,

M/s Polycab India Ltd.
Polycab House, 771,
Pandit Satwalekar Marg, Mumba
Email:- umesh.joshi@polycab.com

Sub:- Regarding approval of GTP & Drawing of Covered Conductor of make M/s Polycab India Ltd., Mumbai for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme."

Ref:- (i) NOA No.-248 & 249 dated 06.03.2023
(ii) This office vendor approval Letter No.-248 dated 16.10.2023

Sir,

With reference to the above, please find the copy of approved GTP & Drawing of following item for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme":-

S.N.	Material Description	Vendor Name
1	50 Sqmm AL59 ACS Covered Conductor	M/s Polycab India Ltd., Polycab House, 771, Mougale Lane, Mahin (W), Mumbai Factory- Halol-Vadodara Road, Vill-Nurpura, TALuka Halol, Dist.-Panchmahal-389350, Gujrat
2	99 Sqmm AL59 ACS Covered Conductor	

Correction where required in GTP & Drawing submitted by you has been done. However, these drawings shall be subject to correctness as per technical specifications of the tender document and the entire responsibility of correctness of the drawing as per the specifications as well as supply of material according to the technical specifications of the contract agreement shall be that of the contractor.

In case of any conflict or contradiction between GTP/Drawing & Technical Specifications, the decision of Chief Engineer, Project-I (Urban) shall be final and binding on both parties. Contractor shall have to replace the material to the entire satisfaction of the purchaser in case the material is found unsuitable for use in the project, at any stage.

Please carry out the works immediately under the conditions stated above.

Encl:- As above

Yours faithfully


(Shriram Singh)

Chief Engineer, Project-I (Urban)

Memo No.- 1623

Date- 03-11-23

Copy forwarded to Chief Engineer, Project-II, NBPDC for information and necessary action.

Encl:-As above


(Shriram Singh)

Chief Engineer, Project-I (Urban)

Sr. No	PARTICULARS	UNIT	50 Sq.mm.	99 Sq.mm.
1	Name of the Manufacturer		Polycab India LTD	
2	Applicable Standard		Generally as per BS EN 50397-1, IS 398 (P-II), IEC 1232	
3	Type of Cable		AL59 ACS Covered Conductor	AL59 ACS Covered Conductor
4	Nom. cross sectional area of conductor	Sq.mm	50	99
5	CONDUCTOR			
	a) Material		AL59 ACS Conductor *	AL59 ACS Conductor *
	b) Shape		Longitudinal	Water Blocked Stranded Circular
	c) No. of Wire/Diameter of Wire (Before stranding)	Nos. / mm	Aluminium Alloy (AL 59) - 6/3.35 ACS - 1/3.35	Aluminium Alloy (AL 59) - 6/4.72 ACS - 1/4.72 ✓
	d) Overall Diameter of Conductor (Approx.)	mm	10.05 ✓	14.16 ✓
	e) Max. D.C. Resistance at 20°C	Ohm/Km	0.551 ✓	0.278 ✓
	f) Approx. Breaking Load	KN	23.62 ✓	41.64 ✓
6	THICKNESS & DIMENSION DETAILS			
	CONDUCTOR SCREEN			
	a) Material		Extruded semi-conducting compound ✓	Extruded semi-conducting compound ✓
	b) Nom. Thickness	mm	0.3 ✓	0.3 ✓
	INSULATION L Colour - Natural			
	a) Material		XLPE insulation (Without carbon black) ✓	XLPE insulation (Without carbon black) ✓
	b) Nom. Thickness	mm	1.2 ✓	1.2 ✓
	OUTER COVER L Colour - Black			
	a) Material		Tracking Resistant (As per BSEN 50397-1) Black XLPE (UV) ✓	Tracking Resistant (As per BSEN 50397-1) Black XLPE (UV) ✓
	b) Nom. Thickness	mm	1.1 ✓	1.1 ✓
7	Approx. Overall diameter	mm	17.0 +/-2	21.0 +/-2
8	Approx. Weight of Cables (For guidance purpose only)	Kg/Km	410 390	642 600
9	Current rating	Amps.	215 ✓	335 ✓
10	Standard Packing length	Mtrs	2000 ± 5% ✓	1000 ± 5% ✓
11	Non-Standard Drum Length mtrs		Max. 5% Order Quantity	Max. 5% Order Quantity
12	PRINTING		YEAR POLYCARB 11KV XLPE ELECTRIC AL59 ACS COVERED * NOTE CABLE SIZE GEN BS EN 50397-1 & Sequential length marking shall be provided by printing	

APPROVED
Subject to the condition that you are not absolved to the responsibility of correctness of materials
CE (Project-1), Urban NBPDCI

Checked
MP → SY → AEE(P-1) EEE(P-1) ESE(P-1)

Note:- The values given above are subject to tolerances as per the relevant standards.
TDS NO- AK -221214-9031-NBPDCI PATNA DATE : 14-09-2023.
* Aluminium Alloy composition in % → Si:- 0.36-0.40, Mg:- 0.35-0.38, Fe:- 0.13-0.16, Cu:- 0.15-0.19, Mn-0, Cr:- 0.005, Zn:- 0.01, Bi:- 0, other elements:- 0.005, Remainder - Al.
* Minimum elongation of strand (250 mm gauge):- Before stranding Al - 2%. After stranding Al - 2%.

* Short current rating of covered conductor KA
for 1 sec with initial temp. 90°C and final temp 250°C :-
For 50 sqmm → 4.9 KA
For 99 sqmm → 9.73 KA



* Tolerance in dimension of wire as per IS 398 (Part - II 1994) amended upto date.

371

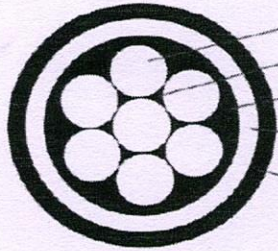


CROSS SECTIONAL DRAWING COVERED CONDUCTOR

Document ID: TE/QMS/F/03

Rev. No
02

Issue Date
08-05-2023



1. AL 59 ACS CONDUCTOR
2. Extruded longitudinal water blocking layer
3. Extruded semi conducting layer
4. XLPE Insulation (Without carbon black)
5. Outer cover with tracknig resistant XLPE (UV resistant)

Note- Drawing not to scale

VOLTAGE GRADE	11 KV	POLYCAB INDIA LIMITED	
CABLE SIZE	1C x 30 Sq.mm, 1C x 50 Sq.mm & 1C x 99 Sq.mm		
CABLE TYPE	AL59 ACS Covered Conductor	Date	Revision No
CUSTOMER	NBPDCL SBPDCL	14-09-2023	00
DRAWING NO	AK -221214-9031	PREPARE BY	AK
		CHECKED BY	BS
		APPROVED BY	BS

APPROVED

Subject to the condition that you are not absolved to the responsibility of correctness of materials

CE (Project-1), Urban
NBPDCL



AL59 ACS Covered Conductor - 50 Sq.mm:

- Reactance per km = 0.378 ohms
- Approx. mass of Al. wire & ACS = 203 kg/km
- Mass of Al. wire used in construction of Al. conductor with Al. clad steel = 23.82 kg/km
- Mass of Al. clad steel in construction of Al. conductor with Al. clad steel = 58.69 kg/km
- Extruded semi conductive layer - 0.3 mm

AL59 ACS Covered Conductor - 99 Sq.mm:

- Reactance per km = 0.357 ohms
- Approx. mass of Al. wire & ACS = 403 kg/km
- Mass of Al. wire used in construction of Al. conductor with Al. clad steel = 47.3 kg/km
- Mass of Al. clad steel in construction of Al. conductor with Al. clad steel :- 115.31 kg/km
- Extruded semi conductive layer - 0.3 mm

Checked

AEE(P-1) EEE(P-1) ESE(P-1)

* NOTE :- Following information be marked on each package

- (a) Manufacturer name
- (b) Trade mark if any
- (c) Drum or identification no.
- (d) Size of conductor number & length of conductors
- (e) Gross mass of the package
- (f) Net mass of conductor
- (g) EN 50397-1:2006

370

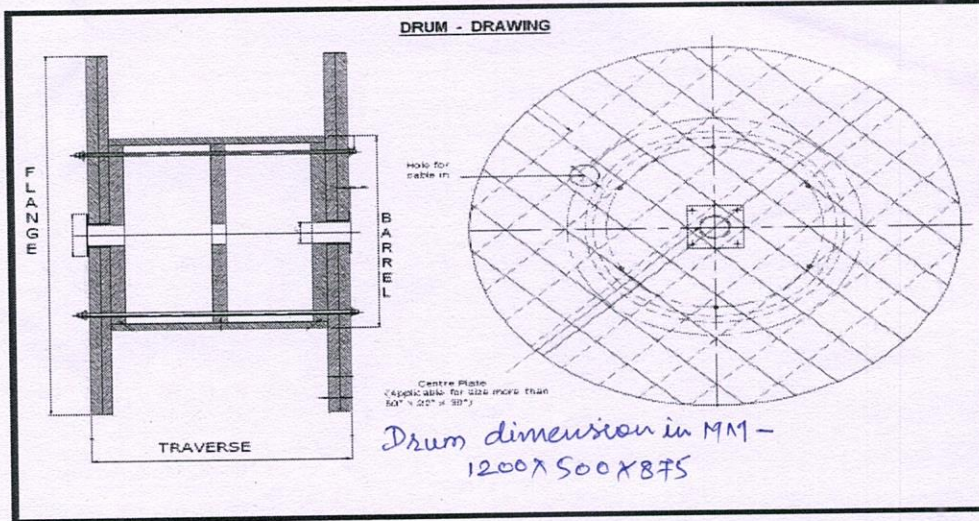


WOODEN DRUM DRAWING EARTHING CABLE

Document ID: TE/QMS/F/03

Rev. No
02

Issue Date
08-05-2023



*Drum dimension in MM -
1200 x 500 x 875*

Note- Drawing not to scale

POLYCAB INDIA LIMITED

VOLTAGE GRADE	11 kV	Date 14-09-2023		Revision No 00	
CABLE SIZE	1C x 30 Sq.mm, 1C x 50 Sq.mm & 1C x 99 Sq.mm				
CABLE TYPE	AL59 ACS Covered Conductor	PREPARE BY	AK		
CUSTOMER	NBPDCL SBPDCL	CHECKED BY	BS		
DRAWING NO	AK -221214-9031	APPROVED BY	BS		

APPROVED
Subject to the condition that
you are not absolved to the
responsibility of correctness
of materials

CE (Project-1), Urban
NBPDCL

Checked

AEE(P-1) EEE(P-1) ESE(P-1)

