



# SHREERADHE

## INDUSTRIES

Power through Polymer

Shree Radhe Industries  
Plot No. 86, GIDC Alindra, Savli  
Vadodara-391775, Gujarat, India

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🌐 www.shreeradheindustries.com

1189

Customer- BSPTCL - NIT-15

Project- Notification of Award for Construction of 132 KV D/C Murliganj-Udakishanganj Transmission Line with Panther Conductor (line length approx. 50 RKM) & Construction of LILO of one circuit of 132 KV D/C Ramnagar-Dhanaha Transmission Line with ACSR Panther Conductor (Line length -40 RKM) at GSS Bagha & Construction of LILO of both circuit of 132KV GIS Goradih-GSS sabour Transmission line(RL-25X2=50 km) at GSS Barari.

NOA No.:19/Trans/Misc/P-I/127/2021 Dated: 16/08/2021

### GUARANTEED TECHNICAL PARTICULARS OF 132KV 70KN POLYMER INSULATORS

Name & Address of Manufacturer : SHREE RADHE INDUSTRIES

Plot No. 86, GIDC Alindra, Savli

Vadodara-391775, Gujarat.

| Sr. No.  | Description                                     | Units    |                              |
|----------|-------------------------------------------------|----------|------------------------------|
| <b>A</b> | <b>GENERAL</b>                                  |          | <b>132KV 70KN-SUSPENSION</b> |
| 1        | Voltage level                                   | KV       | 132                          |
| 2        | Type                                            |          | B & S                        |
| 3        | Shed Profile                                    |          | Aerodynamic                  |
| 4        | Shed Type                                       |          | Alternating                  |
| 5        | Shed Diameter (Big/Small)                       | mm       | 142±7/112±6                  |
| 6        | Min. Thickness of Sheath Covering over Core     | mm       | 3                            |
| 7        | Colour                                          |          | Grey                         |
| 8        | Surface                                         |          | Smooth                       |
| 9        | Core Diameter                                   | mm       | 20                           |
| 10       | Type of Locking device & its Material           |          | R-Clip of SS                 |
| 11       | Size & Designation of Ball & Socket             | mm       | 16                           |
| 12       | Ball & Socket Diameter                          | mm       | 16                           |
| 13       | Sectional Length                                | mm       | 1305 ± 38                    |
| 14       | Weight of Insulator                             |          | 6.3 approx.                  |
| 15       | Guaranteed Mechanical Failing Load              | KN       | 70                           |
| 16       | Routine Mechanical Load                         | KN       | 35                           |
| <b>B</b> | <b>MATERIAL</b>                                 |          |                              |
| (a)      | FRP Rod                                         |          | ECR Boron Free               |
| (b)      | Weather Shed with % contents of Silicon         | Min.     | Silicon content 30% by       |
| (c)      | Housing                                         |          | Silicone Rubber              |
| (d)      | End Fittings                                    | B & S    | Forged Steel HDG             |
| <b>C</b> | <b>ELECTRICAL</b>                               |          |                              |
| 1        | Minimum Creepage Distance                       | mm       | 4495                         |
| 2        | Dry Arc Distance                                | mm       | 1200                         |
| 3        | Power Frequency Withstand Voltage on Insulator  |          |                              |
| (a)      | Dry                                             | KV(rms)  | 275                          |
| (b)      | Wet                                             | KV(rms)  | 275                          |
| 5        | Lighting Impulse Withstand Voltage on Insulator |          |                              |
| (a)      | Positive                                        | KV(Peak) | 650                          |
| (b)      | Negative                                        | KV(Peak) | 650                          |
| 7        | Applicable Standard                             |          | IEC 61109-2008               |

**APPROVED**

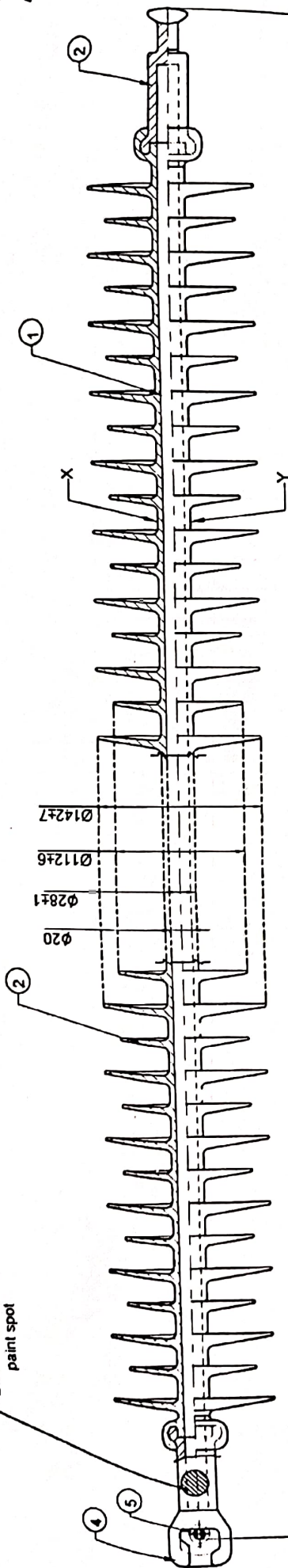
Subject to the condition that you are not absolved of the responsibility for the quality of the materials supplied as per spec.

Electrical Superintendent  
(Planning and Engineering)  
Bihar State Power Transmission Company Limited  
Vidyanagar, Patna-800021

14 JAN 2022



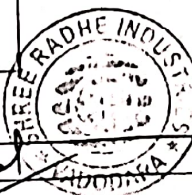
Dia. 20 mm Black paint spot



1305 ± 38

Subject to the condition that you are not absolved of the responsibility for the quality of the materials supplied as per spec.

Electrical Superintending Engineer  
(Planning and Engineering)  
Bihar State Power Transmission Company Limited  
14 JAN 2022



Customer - BSPTCL - MT-15  
Project - Notification of Award for Construction of 132 KV D/C Muriganj-Udaishan ganj Transmission Line with Panther Conductor (Line length approx. 50 RKMS) Construction of L/O of one circuit of 132 KV D/C Ramnagar-Dharwad Transmission Line with ACSR Panther Conductor (Line length -40 RKMS) at GSS Bagha & Construction of L/O of both circuit of 132KV GIS Goradhi-GSS sabour Transmission line(RL-25X2-50 km) at GSS Baran  
NOA No 19/Trans/MiscP-JT27/2021 Dated 16/09/2021

### TECHNICAL PARTICULARS

Compliance to IEC 61109 Ed.2.0 & IEC 62217

|                                          |          |          |  |
|------------------------------------------|----------|----------|--|
| 1.DIMENSIONS                             |          |          |  |
| Sectional Length(SL)                     | mm       | 1305±38  |  |
| Creepage Distance Minimum                | mm       | 4495     |  |
| Dry Arcing Distance                      | mm       | 1200     |  |
| 2.MECHANICAL CHARACTERISTICS             |          |          |  |
| Specified Mechanical Load                | KN       | 70       |  |
| Routine Mechanical Load                  | KN       | 35       |  |
| Coupling Designation (IEC 60120,IS:2486) | mm       | 16 Alt B |  |
| 3.ELECTRICAL CHARACTERISTICS             |          |          |  |
| Nominal System voltage                   | KV       | 132      |  |
| Highest System voltage                   | KV       | 145      |  |
| Wet power frequency withstand voltage    | KV(rms)  | 275      |  |
| Dry lightning impulse withstand voltage  | KV(Peak) | 650      |  |

NOTES:  
1. All the parameters characterising the Insulator profile as per IEC - 60815  
2. Tolerances as per the IEC - 61109  
± (0.04 x d + 1.5) When d ≤ 300 mm  
± (0.025 x d + 6) When d > 300 mm  
3. Reference standard : IEC - 61109

MARKING TO BE EMBOSSED AT "X"  
MARKING AT "Y"  
MONTH & YEAR

|                                                                   |                               |                              |                    |
|-------------------------------------------------------------------|-------------------------------|------------------------------|--------------------|
| 5                                                                 | Security Clip-R Clip          | Stainless Steel              |                    |
| 4                                                                 | Socket End Fitting            | Casting/Forging              | Hot dip galvanized |
| 3                                                                 | Ball Fitting                  | Forging                      | Hot dip galvanized |
| 2                                                                 | Rubber Housing & Weather shed | Silicone Rubber              |                    |
| 1                                                                 | FRP Rod                       | Resin Bonded Fibre Glass Rod |                    |
| SR NO.                                                            | DESCRIPTION                   | SPECIFICATION                | MATERIAL           |
| TITLE: 132KV-70KN-SUSPENSION SILICONE RUBBER COMPOSITE INSULATORS |                               |                              |                    |
| REF : Customer- BSPTCL - MT-15                                    |                               |                              |                    |
| Drg. No. 666100                                                   |                               |                              |                    |
| SHREE RADHE INDUSTRIES Power Through Polymer                      |                               |                              |                    |
| Rev. No. 03                                                       |                               |                              |                    |

Adopted for NIT No - 101PR/BSPTCL/2023





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Power through Polymer

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Customer- BSPTCL - NIT-15

Project- Notification of Award for Construction of 132 KV D/C Murliganj-Udakishanganj Transmission Line with Panther Conductor ( line length approx. 50 RKM)& Construction of LILO of one circuit of 132 KV D/C Ramnagar-Dhanaha Transmission Line with ACSR Panther Conductor (Line length -40 RKM) at GSS Bagha & Construction of LILO of both circuit of 132KV GIS Goradih-GSS sabour Transmission line(RL-25X2=50 km) at GSS Barari.  
NOA No.:19/Trans/Misc/P-I/127/2021 Dated: 16/08/2021

**GUARANTEED TECHNICAL PARTICULARS OF 132KV 90KN POLYMER INSULATORS**

Name & Address of Manufacturer: SHREE RADHE INDUSTRIES

Plot No. 86, GIDC Alindra, Savli  
Vadodara-391775, Gujarat.

| Sr. No.  | Description                                     | Units    |                               |
|----------|-------------------------------------------------|----------|-------------------------------|
| <b>A</b> | <b>GENERAL</b>                                  |          | <b>132KV 90KN TENSION</b>     |
| 1        | Voltage level                                   | KV       | 132                           |
| 2        | Type                                            |          | B & S                         |
| 3        | Shed Profile                                    |          | Aerodynamic                   |
| 4        | Shed Type                                       |          | Alternating                   |
| 5        | Shed Diameter (Big/Small)                       |          | 142±7/112±6                   |
| 6        | Min. Thickness of Sheath Covering over Core     | mm       | 3                             |
| 7        | Colour                                          |          | Grey                          |
| 8        | Surface                                         |          | Smooth                        |
| 9        | Core Diameter                                   | mm       | 20                            |
| 10       | Type of Locking device & its Material           |          | R-Clip of SS                  |
| 11       | Size & Designation of Ball & Socket             | mm       | 16                            |
| 12       | Ball & Socket Diameter                          | mm       | 16                            |
| 13       | Sectional Length                                | mm       | 1450 ± 42                     |
| 14       | Weight of Insulator                             | KG       | 6.6 kgs                       |
| 15       | Guaranteed Mechanical Failing Load              | KN       | 90                            |
| 16       | Routine Mechanical Load                         | KN       | 45                            |
| <b>B</b> | <b>MATERIAL</b>                                 |          |                               |
|          | (a) FRP Rod                                     |          | ECR Boron Free                |
|          | (b) Weather Shed with % contents of Silicon     | Min.     | Silicon content 30% by weight |
|          | (c) Housing                                     |          | Silicone Rubber               |
|          | (d) End Fittings                                | B & S    | Forged Steel HDG              |
| <b>C</b> | <b>ELECTRICAL</b>                               |          |                               |
| 1        | Minimum Creepage Distance                       | mm       | 4495                          |
| 2        | Dry Arc Distance                                | mm       | 1200                          |
| 3        | Power Frequency Withstand Voltage on Insulator  |          |                               |
|          | (a) Dry                                         | KV(rms)  | 275                           |
|          | (b) Wet                                         | KV(rms)  | 275                           |
| 5        | Lighting Impulse Withstand Voltage on Insulator |          |                               |
|          | (a) Positive                                    | KV(Peak) | 650                           |
|          | (b) Negative                                    | KV(Peak) | 650                           |
| 7        | Applicable Standard                             |          | IEC 61109-2008                |

**APPROVED**

Subject to the condition that you are not to be held responsible for the materials supplied as per the contract.

Adopted for NIT No -  
10/PR/BSPTCL/2023

*(Signature)*

Electrical Substation Engineering Engineer  
(Planning and Engineering)  
Bihar State Power Transmission Company Limited  
Vidyut Bhawan, Patna-800021



*(Signature)*



Dia. 20 mm Orange  
paint spot

Ø142±7  
Ø112±6  
Ø28±1  
Ø20

1450 ± 42

Customer - BSPTCL - NIT-15  
Project - Notification of Award for Construction of 132 KV DVC Multigran-Udakhnagan ganj Transmission Line with  
Partner Conductor (Line length approx. 50 RKM) & Construction of LLO of one circuit of 132 KV DVC  
Ramnagar-Dharwadana Transmission Line with ACSR Panther Conductor (Line length 40 RKM) at GSS Bagha  
& Construction of LLO of both circuit of 132KV GIS Goradhi-GSS sabour Transmission line(RL-25X2=50 km)  
at GSS Baran  
NOA No. 19/TransMiscP-1/127/2021 Dated: 16/08/2021

## TECHNICAL PARTICULARS

### Compliance to IEC 61109 Ed.2.0 & IEC 62217

| 1.DIMENSIONS                             |          |
|------------------------------------------|----------|
| Sectional Length(SL)                     | mm       |
| Creepage Distance Minimum                | 1450±42  |
| Dry Arcing Distance                      | mm       |
|                                          | 4495     |
|                                          | mm       |
|                                          | 1200     |
| 2.MECHANICAL CHARACTERISTICS             |          |
| Specified Mechanical Load                | KN       |
|                                          | 80       |
| Routine Mechanical Load                  | KN       |
|                                          | 45       |
| Coupling Designation (IEC 60120,IS:2486) | mm       |
|                                          | 16 Alt B |
| 3.ELECTRICAL CHARACTERISTICS             |          |
| Nominal System voltage                   | KV       |
|                                          | 132      |
| Highest System voltage                   | KV       |
|                                          | 145      |
| Wet power frequency withstand voltage    | KV(rms)  |
|                                          | 275      |
| Dry lightning impulse withstand voltage  | KV(Peak) |
|                                          | 650      |

#### NOTES:

1. All the parameters characterising the Insulator profile as per IEC - 60815
2. Tolerances as per the IEC : 61109  
 $\pm (0.04 \times d + 1.5)$  When  $d \leq 300$  mm  
 $\pm (0.025 \times d + 6)$  When  $d > 300$  mm
3. Reference standard - IEC-61109

| MARKING TO BE<br>EMBOSSD AT "X" | MARKING AT "Y" |
|---------------------------------|----------------|
|                                 | MONTH & YEAR   |

Subject to the condition that you are not absolved of the responsibility for performance of the material supplied as per the drawing.

Electrical Substation Engineering  
(Planning and Engineering)  
Bihar State Power Transmission Company Limited  
Vidhyut Bhawan, Patna-800021  
14 JAN 2022

Adopted for NIT-15  
101/PR/BSPTCL/2023.



|                                                                                     |                               |                           |                              |                                                                                                  |
|-------------------------------------------------------------------------------------|-------------------------------|---------------------------|------------------------------|--------------------------------------------------------------------------------------------------|
| 5                                                                                   | Security Clip-R Clip          | IEC:60120 / IS:2486       | Stainless Steel              |                                                                                                  |
| 4                                                                                   | Socket End Fitting            |                           | Casting/Forging              | Hot dip galvanized                                                                               |
| 3                                                                                   | Ball Fitting                  |                           | Forging                      | Hot dip galvanized                                                                               |
| 2                                                                                   | Rubber Housing & Weather shed |                           | Silicone Rubber              |                                                                                                  |
| 1                                                                                   | FRP Rod                       |                           | Resin Bonded Fibre Glass Rod |                                                                                                  |
| SR NO.                                                                              | DESCRIPTION                   | SPECIFICATION             | MATERIAL                     | DETAILS                                                                                          |
| TITLE :<br>132KV-90KN -TENSION<br>SILICONE RUBBER COMPOSITE INSULATORS              |                               | SCALE<br>N.T.S.           | UNIT<br>mm.                  | PROJECTION<br> |
| REF :-Customer- BSPTCL - NIT-15                                                     |                               | ALL DIMENSIONS ARE IN mm. |                              |                                                                                                  |
|                                                                                     |                               | DRAWN BY                  | GNP                          | 23.08.2021                                                                                       |
|                                                                                     |                               | CHECKED BY                | AJ                           | 23.08.2021                                                                                       |
|                                                                                     |                               | APPROVED BY               | VSL                          | 23.08.2021                                                                                       |
|                                                                                     |                               | Drg. No.                  |                              | Rev. No.                                                                                         |
|                                                                                     |                               | 666156                    |                              | 0                                                                                                |
|  |                               |                           |                              |                                                                                                  |
| SHREE RADHE<br>INDUSTRIES<br>Power Through Polymer                                  |                               |                           |                              |                                                                                                  |