



**ELECTROPORCELAINS DIVISION
BENGALURU – 560012, INDIA
Purchase Specification
Group : Photovoltaic Module**

SPEC. NO: PS-901-02-0016

REV. 01

JOB NO.-STD.

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RTV SILICONE ADHESIVE FOR SPV MODULE

1.0 ITEM: : RTV Silicone Adhesive fast cure Type

2.0 APPLICATION: : For sealing of PV panel with Aluminum Frames and Joining of Junction box to the back of panel on Back sheet.

3.0 TECHNICAL CHARACTERISTICS:

| SI No. | Description | Parameter |
|--------|-----------------------------|---|
| 3.1 | Color | White or Bright White |
| 3.2 | Appearance | Uncured: Thixotropic Paste, cured: Elastic Rubber |
| 3.3 | Density @23°C (g/cm3) | ≥ 1.35 |
| 3.4 | Specific gravity | ≥ 1.37 |
| 3.5 | Tack free Time @23°C | 15 to 20 minutes |
| 3.6 | Tensile Strength (MPa) | ≥ 1.6 |
| 3.7 | Adhesive Strength (MPa) | ≥ 1.3 |
| 3.8 | Shear Strength (MPa) | ≥ 1.2 |
| 3.9 | Tear Strength (kN/m) | ≥ 8.0 |
| 3.9 | Peel Strength (kN/m) | ≥ 4.0 |
| 3.10 | Elongation at break | ≥ 360% |
| 3.11 | Hardness (Shore-A) | ≥ 26 |
| 3.12 | Volume Resistivity | ≥ 2.0 x 10 ¹⁵ |
| 3.13 | Dielectric Strength (kV/mm) | ≥ 15 |
| 3.14 | Operating Temperature | -55°C to +200°C |

4.0 TEST:

4.1 Vendor has to provide valid type test report for the parameter defined below in section 4.2 and certified with TUV / UL which shall be valid for five (5) year from the date of issue from lab.

4.2 Vendor must produce Type test report for the following tests 1) Color, 2) Density, 3) Specific gravity, 4) Tack free time, 5) Tensile Strength, 6) Adhesive Strength, 7) Shear Strength, 8) Tear Strength, 9) Peel Strength, 10) Elongation at break, 11) Hardness (Shore-A), 12) Volume Resistivity, 13) Dielectric Strength, 14) Operating Temperature, 15) Value Flammability, 16) Glow -Wire Flammability, 17) Glow -Wire ignition, 18) Ball Pressure, 19) Heat Deflection, 20) Flexural Strength, 21) Tensile Impact".

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| Revision (01): | Issued By | Prepared By | Checked By | Approved By | Date |
|-----------------------|-----------|-------------|------------|-------------|----------|
| 2 nd Issue | SPV Eng. | RKP | NAR | CNP | 20.03.18 |



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4.3 Vendor has to perform and do the re-type test for the tests mentioned in the above clause no. 4.1 for the change in any chemical composition or change in process parameters.

4.4 Vendor must submit Routine test report for each lot for the following tests 1) Density, 2) Specific gravity, 3) Track free time, 4) Tensile Strength, 5) Adhesive Strength, 6) Shear Strength, 7) Tear Strength, 8) Peel Strength, 9) Elongation at break, 10) Hardness (Shore-A), 11) Dielectric strength.

5.0 NOTE:

5.1 The silicone adhesive shall be non-corrosive to metals.

5.2 The silicone adhesive shall be of low odour type.

5.3 The bidder shall provide min. of 20 Kgs of true sample along with Techno-commercial bids for evaluation. The bulk supply by successful bidders will be evaluated w.r.t accepted sample as above & its technical specification deviation if any, the lot will be liable for rejection.

6.0 PACKING CONDITIONS:

6.1 The silicone Adhesive shall be supplied in steel cylindrical barrels having inner diameter of 571.5 mm and of min. 250 Kg. each.

6.2 Steel cylindrical barrels shall be supplied in pallets for transportation / shipment and each barrel shall have manufactures label containing

- I. Manufactures name
- II. Product description
- III. Lot no
- IV. Date of Manufacture
- V. Date of Expiry
- VI. Handling /storage instruction if any.

6.3 Final packing box shall have a label containing BHEL Purchase Order No. & Date and Specification No. - BHEL / PS-901-02-0016.

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