



PLANT PURCHASING SPECIFICATION BHOPAL

BP 55396

REV NO. 02

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SUPERSEDES
BP 55396 Rev 01

SILICONE RUBBER ADHESIVE/SEALANT

1. GENERAL :

This specification governs the technical requirements of the single component silicone rubber compound/sealant in paste form, which cures to a tough rubbery solid when exposed to moisture in the air. This material does flow under its own weight, therefore it can be applied overhead or on sidewall joints and surfaces without slumping, sagging or running off. The material adheres well to all sorts of surfaces. The adhesive is suitable for use in temperature range of -50° C to 220°C and for short time upto 250 deg.C.

Note : Curing System - Neutral Curing, Non corrosive mechanism which produces no exothermic heat & no acetic acid or other corrosive by products.

2. APPLICATION :

For general purpose sealing and bonding as a space filling rubbery adhesive or formed in place of gasket in traction machines & other electrical equipments.

3. COMPLIANCE WITH NATIONAL STANDARDS;

There is no Indian standard covering this material.

4. SAMPLE FOR TEST :

0.5 kg or min two cartridges (300 ml) sample shall be supplied for testing and approval.

5. SHELF LIFE :

12 months minimum, at room temperature in a sealed container kept in a dry place.

6. PROPERTIES :

6.1 Colour : White, unless otherwise stated on the order.

6.2 Specific Gravity : 1.05 ± 0.05 at Room Temp.

6.3 Viscosity : Paste like consistency.

Revision : Reviewed & No technical change

Issued by :

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6.4 Cure Characteristics :

- 6.4.1 Skin Over Time: 10 - 25 minutes
- 6.4.2 Tack Free Time : 2 Hours
- 6.4.3 Cure Time for 3 mm Thick Slab :
 - i) Hardening : 24 hours
 - ii) Full Cure : 72 hours to 168 hours

6.5 Properties of Cured Material :

Testing shall be done on 3 mm thick test slab prepared as per ASTM D-3182 exposed to air at 27 ± 2 deg.0 and 50% Relative Humidity for 168 hours.

- 6.5.1 Hardness : 30 ± 5 IRHD (ASTM D 2240 / IS 3400 Part II)
- 6.5.2 Tensile Strength : $16 \text{ kg/m}^2 \text{ min}$ (ASTM D 412) / (IS 3400 Part I)
- 6.5.3 Elongation % : 250 min.
- 6.5.4 Volume Resistivity: $10^{14} \text{ Ohm - cm min.}$
- 6.5.5 Electric Strength (BDV) : 15 kv/mm min

} (ASTM D-257)

6.6 Bond Strength on Mild Steel Single lap joint of 25 x 25 mm : 80 kg min.

6.7 Effect of heat ageing at 220 ± 4 deg.C for 96 ± 1 hour - (Type Test):

- 6.7.1 Tensile Strength : $14 \text{ kg/cm}^2 \text{ min.}$
- 6.7.2 Elongation % : 250 min.
- 6.7.3 Hardness : 30 ± 5 IRHD
- 6.7.4 Electric Strength (BDV) : 15 kV/mm (ASTM D149)

7. TEST CERTIFICATE :

Unless otherwise specified, three copies of test certificates shall be supplied.

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents shipping or packing list to facilitate quick clearance of the material.

The test certificate shall bear the following information.



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BHEL Order No.

Supplier's Name & Trade Mark if any.

Date of Manufacture and Expiry.

Test Results of properties as per the specification.

8. PACKING AND MARKING :

Shall be supplied in suitable cartridges of 300 ml capacity or as stated on the order.

Each cartridge should bear the following particulars.

BP 55396 : Silicone Rubber Adhesive/Sealant.

BHEL Order No.

Manufacturer's/Supplier's Name, Trade Mark if any.

Date of Manufacture and Expiry.

Quantity.