

## Technical Specification & Quantity Requirement

1. **Material:** Two-part potting compound for Satellite (Space) Structural Application
2. **Item description:** Two-part potting compound for Satellite (Space) Structural application

Part 1: Low density, syntactic foam, epoxy encapsulant, henceforth referred to as **Resin**

Part 2: Catalyst, henceforth referred to as **Hardener**

3. **Properties**

- a) **Properties of Resin**

| SI No. | Property          | Value                        |
|--------|-------------------|------------------------------|
| 1      | Chemical type     | Epoxy                        |
| 2      | Colour            | Black liquid                 |
| 3      | Density           | 0.6 to 0.7 g/cm <sup>3</sup> |
| 4      | Viscosity at 25°C | 30,000 to 50,000 mPa.s       |
| 5      | Shelf life at RT  | Minimum 12 months            |

- b) **Properties of Hardener**

| SI No. | Property                                   | Value  |
|--------|--|--|
| 1      | Chemical type                              | Imidazole / aliphatic amine                        |
| 2      | Colour                                     | Amber  |
| 3      | Density                                    | 0.9 to 1.1 g/cm <sup>3</sup>                       |
| 4      | Viscosity at 25°C                          | 40 to 60 mPa.s                                     |
| 5      | Pot life (100 g at 25°C)                   | 40 minutes   |
| 6      | Shelf life at RT                           | Minimum 9 months in unopened containers            |
| 7      | Mixing ratio, by weight<br>Resin: Hardener | 100:10   |
| 8      | Cure schedule                              | 16 to 24 hours at 65°C or<br>2 to 4 hours at 150°C |
| 9      | Service temperature (intermittent)         | 205°C  |

- c) **Properties of cured material**

| SI No. | Property   | Value                        |
|--------|--|------------------------------|
| 1      | Tensile strength, ISO 527-2  | Minimum 20 N/mm <sup>2</sup> |
| 2      | Compressive strength, ISO 604  | Minimum 65 N/mm <sup>2</sup> |
| 3      | Shore hardness, ISO 868, Durometer D   | ≥75                          |
| 4      | Outgassing, ASTM E595<br>TML (Total Mass Loss)<br>CVCM (Collected Volatile Condensable<br>Materials) | < 1%<br>< 0.1 %              |

4. **Quantity Required**

- a. Resin = 60 Packs (135.9 Kgs) (1 Pack = 5 LBS / 2.265Kgs)
- b. Hardener = 30 Packs (13.62 Kgs) (1 Pack = 1 LB / 0.454Kgs)

5. **Delivery schedule**

Total ordered quantity to be supplied in single shipment within 24 weeks from P.O. date.

6. **Terms and Conditions**

- a) Quotation shall be in two parts

Part 1: Techno-Commercial bid

Part 2: Price bid

- b) No price should be mentioned in the technical bid (Part 1: Techno-commercial bid). If quoted, then the bid will not be considered.
- c) OEM details of Resin and Hardener to be enclosed with the quote, along with the trade name of the products.
- d) Data sheets of products showing detailed property values mentioned in Clause 3 to be attached.
- e) Item shall be supplied in original mill packing and no repacking will be allowed.
- f) Both resin and hardener should have more than 6 months of shelf life from the date of shipment.
- g) Party should agree to the delivery schedule as mentioned in Clause 5

**Note:** Party should comply to all of the above requirements in the compliance chart, if not, their quote will not be considered for evaluation

## COMPLIANCE MATRIX

| Sl No       | Specification   | Complied (Yes / No) | Offered specification / remarks |
|-------------|---|---------------------|---------------------------------|
| <b>1</b>    | <b>Two-part Potting compound</b>  | ---                 | ---                             |
| <b>1.1</b>  | <b>Resin</b>  | ---                 | ---                             |
| 1.1.1       | Chemical type   |                     |                                 |
| 1.1.2       | Colour  |                     |                                 |
| 1.1.3       | Density   |                     |                                 |
| 1.1.4       | Viscosity at 25°C   |                     |                                 |
| 1.1.5       | Shelf life at RT  |                     |                                 |
| <b>1.2</b>  | <b>Hardener</b>   | ---                 | ---                             |
| 1.2.1       | Chemical type   |                     |                                 |
| 1.2.2       | Colour  |                     |                                 |
| 1.2.3       | Density   |                     |                                 |
| 1.2.4       | Viscosity at 25°C   |                     |                                 |
| 1.2.5       | Pot life (100 g at 25°C)  |                     |                                 |
| 1.2.6       | Shelf life at RT  |                     |                                 |
| 1.2.7       | Mixing ratio, by weight (Resin: Hardener)   |                     |                                 |
| 1.2.8       | Cure schedule   |                     |                                 |
| 1.2.9       | Service temperature (intermittent)  |                     |                                 |
| <b>1.3</b>  | <b>Properties of cured adhesive</b>   | ---                 | ---                             |
| 1.3.1       | Tensile strength, ISO 527-2   |                     |                                 |
| 1.3.2       | Compressive strength, ISO 604   |                     |                                 |
| 1.3.3       | Shore hardness, ISO 868, Durometer D  |                     |                                 |
| 1.3.4       | Outgassing, ASTM E595   | ---                 | ---                             |
| 1.3.5       | TML (Total Mass Loss)   |                     |                                 |
| 1.3.6       | CVCM (Collected Volatile Condensable Materials)   |                     |                                 |
| <b>1.4</b>  | <b>Total quantity: 149.52 kgs</b>   |                     |                                 |
| 1.4.1       | Resin: 60 Packs (135.9 Kgs)(1 Pack = 5 LBS/2.265Kgs)                                    |                     |                                 |
| 1.4.2       | Hardener : 30 Packs (13.62 Kgs)(1 Pack = 1 LB/0.454Kgs)                                 |                     |                                 |
| <b>1.5</b>  | <b>Delivery schedule</b>  | ---                 | ---                             |
| 1.5.1       | Total ordered quantity to be supplied in single shipment within 24 weeks from P.O. date |                     |                                 |
| <b>1.6</b>  | Quotation shall be in two parts   |                     |                                 |
| <b>1.7</b>  | OEM details   |                     |                                 |
| <b>1.8</b>  | Data sheets of adhesives  |                     |                                 |
| <b>1.9</b>  | Sample adhesive, if required  |                     |                                 |
| <b>1.10</b> | To be supplied in original mill packing   |                     |                                 |
| <b>1.11</b> | Shelf life of adhesive  |                     |                                 |
| <b>1.12</b> | Supply condition (Resin and Hardener should be supplied together)                       |                     |                                 |