



PLANT PURCHASING SPECIFICATION
BHOPAL

BP 27668

Rev. No. 02

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SUPERSEDES
BP 27668 Rev.01

SOLVENT FREE EPOXY RESIN

1. GENERAL :

This specification covers the technical requirements of a 100% reactive solvent free epoxy resin containing inorganic fillers based on two components that can be used very successfully for casting & potting of electrical components at room temperature or elevated temperatures. Resin system has good heat resistance upto 120 deg.C. Its heat resistance makes it an ideal substitute wherever hot curing adhesives cannot be used.

2. APPLICATION : Used for manufacture of pottings, encapsulation, castings etc.

3. COMPLIANCE WITH NATIONAL STANDARDS :

There is no Indian Standard covering this type of material.

4. TECHNICAL REQUIREMENTS :

4.1 Composition and Class :

The resin shall be based on epoxy resin containing inorganic fillers preferably pale beige in colour, when mixed with appropriate choice of hardeners, and after proper curing depending on the desired viscosity or pot life or on the curing condition, a wide range of properties (e.g.physical, mechanical and electrical) shall be obtained to suit specific products. Resin shall be capable of curing without application of pressure or heat when hardener is added. It will cure at low temperature of 5 deg.C, but higher temperature will considerably accelerate setting & ensure stronger bond.

The infra-red spectra of the individual resin lots should always comply with the sample lot type approved earlier and no deviation from this shall be allowed.

4.2 The material shall comply with the requirements given in Table - 1 with a test sample drawn and tested in accordance with relevant clauses of Corporate Standard AA 085 17 10 and IS specified therein.

Revision : Reviewed & Brought upto date

Issued by :

Rhanda

STANDARDS AND MATERIALS GROUP
TECHNICAL SERVICES DEPARTMENT

Rev. 02

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TABLE - I

A. PROPERTIES OF RESIN

SI.NO	Characteristics	Requirements	Method of test
1	Appearance	Pale beige, thixotropic paste	
2	Specific gravity at 20°C	1.65 – 1.70	I.S : 101
3	Kinematic Viscosity by Brookefield Viscometer(in CP) at 25°C at 50°C	960000 390000	
4	Flash Point (Pensky Martens)	110°C	
5	Solid Content by mass	100 %	AA 085 17 10
6	Epoxy Equivalent	190 kg / kg mol	ISO 3001

B. PROPERTIES OF RESIN & HARDENER MIXTURE (TYPE TEST)

100 Parts by weight of the resin when mixed with 40 parts by weight of Hardener for solvent epoxy resin to BP 27673 shall have the following characteristics :

SI.No	Characteristics	Requirements
1.	Pot life	30 Minutes for 100 gm mixture at 25 ° C
2.	Properties of cured Resin	
2.1	Tensile Strength	1.2 kg /mm ² , min
2.2	Modulus of Elasticity	900-950 kg/mm ²
2.3	Electrical Insulating Properties	Good
2.4	Water & Chemical Resistance	Excellent

4.3 The material shall comply with the general conditions as stipulated in clause 4.1 of AA 085 17 10 and the resin shall be deemed to have been approved for final acceptance only after necessary shop trials as a type approval test.

4.4 Shelf life and keeping property :

When stored under cover in a dry place in the original sealed container under normal temperature. conditions the material shall retain the properties prescribed in this specifications for a period of atleast 24 months after the date of manufacture which shall be subsequent to the date of placing order.



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5. TEST CERTIFICATE:

Unless otherwise specified, three copies of test certificates shall be supplied along with each consignment.

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

The test certificate shall bear the following information :

BP 27668 : Solvent Free Epoxy Resin
(Rev.02)

BHEL Order No.

Batch / Lot No.

Date of Manufacture.

Size and No. of Drums.

Test values obtained/ certificate for compliance for Cl. 4.

6. PACKING AND MARKING:

The material shall be packed in polyester bags and kept in suitable container .
Container shall be labeled with the following information:

BP 27668 : Solvent Free Epoxy Resin

BHEL Order No.

Supplier's / Manufacturer's Name & Grade

Batch No.

Date of Manufacture.

Date of Expiry.

Net & Gross Weight.