



CORPORATE PURCHASING SPECIFICATIONS

AA 27610

Rev. No.01

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EPOXY RESIN FOR CASTING & POTTING

1.0 GENERAL:

This specification covers the technical requirements of a 100% reactive epoxy resin based on bisphenol – A and epichlorohydrin that can be used very successfully for casting and potting of electrical components at room temperature or at slightly elevated temperatures.

2.0 APPLICATION:

Used for manufacture of potting, encapsulation, castings etc.

3.0 COMPLIANCES WITH NATIONAL STANDARDS:

There is no Indian standard covering this type of material.

4.0 TECHNICAL REQUIREMENTS:

4.1 Composition and Class:

The resin shall be based on bisphenol-A and epichlorohydrin preferably light yellow in colour, when mixed with appropriate choice of hardeners, fillers and reactive diluents and after proper curing depending on the desired viscosity of 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.

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 also comply with the requirements given in Table-I with a test Sample drawn and tested in accordance with relevant clauses of Corporate Standard AA 085 17 10 and IS specified there in.

A. PROPERTIES OF RESIN :

TABLE – I

S. No	Characteristics	Requirements	Method of test ,referred to
1.	Specific gravity	1.1-1.5	IS : 197
2.	Kinematic Visocity at 20°C in Cp	660 – 1000	IS : 197
3.	Epoxy content.	5.1 to 5.6	AA 085 1710
4.	Flash Point	109°C	-

Revisions:
Ref.Cl.28.4.2. of MOM of MRC(E)

APPROVED:
INTERPLANT MATERIAL RATIONALISATION
COMMITTEE – MRC(E)

Rev. No.01	Amd. No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
Dt:15-04-1998	Dt:	Year:	HEP, Bhopal	Corp. R&D	July,88

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NOTE:-

If stored for a long time the resin may become turbid or start to crystallize especially at temperature below 20°C. After 1-2 hours of heating at 50°-70°C the resin will become clear and liquid again and recover all its former handling characteristics.

B. Properties of Resin & Hardener Mixture:

100 parts by weight of the resin when mixed with 11 parts by weight of Aliphatic Polyamine for Epoxy resin to AA 276 16 shall have the following characteristics.

TABLE – II

S. No	Characteristics	Requirements	Method of test ,referred to
1.	Viscosity Cp	650-750	IS : 197
2.	Pot life 100gm	30-40 minute	-----
3.	Specific gravity	1.14 – 1.18	IS : 197
4.	Marten's Heat distortion Temperature	45-55	DIN 53458

❖ The sample shall be cured at $60 \pm 2^\circ\text{C}$ for one hour

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 An Keeping Property:

When stored under cover in a dry place in the original sealed container under normal temperature condition the material shall retain the properties prescribed in this specification for a period of at least 6 months after the date of manufacture which shall be subsequent to the date of placing order.

5.0 TEST CERTIFICATE:

Unless otherwise stated, three copies of test certificates shall be sent along with each consignment.

In addition the suppliers shall ensure to send one copy of test certificates along with the despatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

AA 276 10: Epoxy Resin for Casting & Potting

(Rev 01)

BHEL Order No.

Batch No.

Date of Manufacture

Size and Number of drums



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Test results for the properties of resin as per Cl.4.

6.0 PACKING AND MARKING:

The material shall be packed in drums of 20 litres or any suitable size as per our order and sealed. The drum's are to be suitably packed to prevent damage during transit. Each drum shall bear the following information:

AA 276 10: Epoxy Resin For Casting & Potting

BHEL Order No.

Batch No

Date of Manufacturing

Date of Expiry

Net Weight

Supplier's Name.

7.0 REFERRED STANDARDS(LATEST PUBLICATIONS INCLUDING AMENDMENTS):

1. AA 276 16
2. AA 085 17 01