



CORPORATE PURCHASING SPECIFICATION

AA 276 16

Rev. No. 01

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ALIPHATIC POLYAMINE HARDENER FOR EPOXY RESIN

1.0 GENERAL:

This specification governs the quality requirements of cold curing unfilled, polyamine hardener in liquid form for use with epoxy casting, impregnating and laminating resins. This hardener gives low exotherm and is less susceptible to mixture coupled with lower volatility due to its higher flash point.

2.0 APPLICATION:

Used in appropriate mixing ratio with epoxy resins for the manufacture of prepregs, potting and encapsulation, adhesives etc.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no Indian standard covering this type of material.

4.0 TECHNICAL REQUIREMENTS :

4.1 Composition and Class:

This material shall be based on Triethyl Tetra Amines Mixtures of epoxy resins and hardener under shall show excellent mechanical properties after curing and shall maintain good electrical properties. The heat resistance of the resin system (epoxy resin and hardener) shall be of at least 80°C.

4.2 The. Material shall comply with the requirements given in Table-1 with a test sample drawn in accordance with clause 2 of BHEL standard AA 085 17 10.

A. Properties of Hardener:

Table - 1

Sl.No.	Characteristics	Requirements	Method of test referred to
1.	Colour	Pale straw	--
2.	Viscosity at 25°C in Cp.	10 - 20	IS: 197
3.	Weight per 10 litres in kg.	9.7 - 9.9	AA 0851710

B. Properties of Resin and Hardener Mixture:

100 parts by weight of the resin to BHEL specification AA 27610 : Epoxy resin for casting and potting, when mixed with 11 parts by weight of this hardener shall have the following characteristics:

Revisions :

Cl: 32.4.92 of MOM of MRC-E

APPROVED :

INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (E)

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Sl.No.	Characteristics	Requirement	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 temp.	45 - 55	DIN 53458

* The sample shall be cured at 60°C for one hour.

4.3 Material shall comply with the general conditions as stipulated in clause 4.1 of AA 0851710 and then it shall be deemed to have approved for final acceptance only after necessary shop trails as a type approval test.

4.4 Shelf life/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 the specification for a period of 12 months after the date of manufacture which shall be subsequent to the date of placing order.

5.0 TEST CERTIFICATES:

Unless otherwise specified, three copies of test certificates shall be supplied alongwith each consignment .In addition, the supplier shall ensure to enclose one copy of the test certificate along with their despatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

AA 27616 (Rev.No 01): Aliphatic polyamine hardener for epoxy resin

BHEL order No.

Manufacturer's/Supplier's Name

Size and No. of drums

Date of manufacture and expiry

Storage conditions

Test results containing the properties of hardener as per Table-1.

6.0 PACKING AND MARKING:

The material shall be packed in non-reactive container of 4 litres or any suitable size as per order and sealed. The containers are to be suitably packed to prevent damage during transit. Each container shall bear the following information.

AA 27616: Aliphatic polyamine hardener for epoxy resin

BHEL order No.

Manufacturer's / Supplier's Name

Date of manufacture and expiry .

Storage condition

Net weight

7.0 REFERRED STANDARDS (Latest Publications Including Amendments):

1) AA 0851710

2) AA 27610

3) IS: 197

4) DIN 53458