



CORPORATE PURCHASING SPECIFICATION

AA 275 13

Rev. No. 02

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ALKYD PROTECTIVE COATING ENAMEL - TEMPERATURE INDEX 130

1.0 GENERAL:

This specification governs the quality requirements of air drying insulating enamel of the Temperature Index of at least 130.

2.0 APPLICATION:

For protective coating on electrical windings.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no Indian standard covering this material.

4.0 REQUIREMENTS:

4.1 Composition and class :

The enamel shall be obtained suitable pigment dispersed in alkyd resin of medium oil length to give a colour **Red opaque** or as specified in BHEL order. The enamel shall contain liquid driers conforming to IS:385 and antifungus additive in proper proportions and shall be compatible with the resin medium.

Whenever required by BHEL, the manufacturer shall furnish relevant information on composition. The material shall be of temperature index at least 130.

The infrared spectra of the individual enamel lots type approved shall always comply with the sample lots type approved earlier and no deviation from this shall be allowed.

4.2 The material shall also comply with the requirements given in Table 1, with a test sample drawn in accordance with the clause 2 of BHEL standard AA 085 17 10. The test panels shall be made according to clauses 5.1 and 3.3 of AA 085 17 10 at 27°C within 16 hours.

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

Revisions :

Cl: 33.3.2 of MOM of MRC-E

APPROVED :

INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (E)

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TABLE 1 - TECHNICAL REQUIREMENTS

S.No	CHARACTERISTICS	REQUIREMENT	METHOD OF TEST (Ref to Cl. in AA 085 17 10)
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PROPERTIES OF VARNISH:

1.	Weight per ten litres in kgs	10 - 12	5
* 2.	Viscosity at 27 ⁰ C with FC4 cup	: 175 seconds, approx..	6
3.	Non- volatile matter at 100 ⁰ ±2C	: 50 - 80 %	7
4.	Fineness of grind	: 6 - 7	10
5.	Compatibility (Thinner - Xylene-Toluene)	: To pass the test	12
6.	Flash point	: 25 ⁰ C , min	14
7.	Acid value	: 10, max	17
8.	Pigment content	: 12%, min.	20
9.	Solid content (1.5 g/150 ⁰ C/2 hr)	: 50 - 55	

PROPERTIES OF FILM:

10.	Drying time at 27 ⁰ C in hrs and grade	: 18 - 20 B 2	21
11.	Finish	: To pass the test	22
12..	Flexibility and adhesion	: To pass the test	23
13.	Scratch Hardness	: 1.5 kg	24
14.	Effect of moisture percent	: 1.8 max.	31
15.	Dielectric strength	:	32
	a) at room temperature	: 40 Kv/mm	
	b) after water absorption	: 15 Kv/mm	
16.	Comparative tracking index	: 186	36

* LOT TO LOT VARIATION NOT MORE THAN 20 SECONDS.



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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 this specification for a period of not less than 12 months after the date of manufacture which shall be subsequent to the date of placing the 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 275 13 (Rev.No 02): Alkyd protective coating enamel - TI 130

BHEL order No.

Manufacturer's/Supplier's Name

Batch/Lot No.

Size and number of drums

Name and Grade of material

Date of manufacture and expiry

Test results for the properties of enamel and cured film as per Table-1.

6.0 PACKING AND MARKING:

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

Manufacturer's / Supplier's Name

Batch/Lot No.

Name and Grade of material

Quantity supplied

Date of manufacture/Expiry.

7.0 ACCEPTANCE CRITERIA :

The material supplies shall be accepted on the basis of the following :

- i) Compliance certificate to AA 275 13, Rev 02 furnished by the supplier.
- ii) Test certificate furnished by the supplier and / or testing carried out at BHEL end.

**8.0 ENVIRONMENTAL REQUIREMENTS :**

The supplier shall furnish Material Safety Data Sheet (MSDS) covering all information relating to human safety and environmental impacts of the hazardous materials particularly during their transportation, storage, handling and disposal alongwith each supply.

Each container shall be marked with corresponding symbol and minimum worded cautionary notice for flammable / corrosive / toxic / harmful / irritant and oxidizing etc. as applicable.

9.0 REJECTION :

BHEL reserves the right to reject the entire lot of the material, if found not to comply with these requirements. Parts of the lot which are found to be defective or not complying with these requirements can also be rejected at a later stage.

10.0 REFERRED STANDARDS (Latest Publications Including Amendments) :

- 1) IS: 385
- 2) AA 0851710