



PLANT PURCHASING SPECIFICATION BHOPAL

BP 25787

Rev. No. 04

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SUPERSEDES
BP 25787 Rev.03

POLYURETHANE-EPOXY RESIN AND MOWITAL TREATED GLASS TAPE

1. GENERAL :

This specification governs the quality requirements of bias cut glass fabric With basket weaving, treated with polyurethane varnish, which is further impregnated with a mixture of epoxy resin and mowital containing silicon oil in desmodur CT. The material has temperature index of at least 155°C

2. APPLICATION :

Used as an outer covering layer on rotor bars of slip ring machines and stator coils/ bars of low voltage AC machines. It is also used in the form of wrappers in intermediate insulation pads of stator windings of VPI machines.

3. COMPLIANCE WITH NATIONAL STANDARDS :

There is no Indian Standard covering this type of material.

4. CONDITION OF DELIVERY :

In tape form and full width fabric form.

5. DIMENSIONS AND TOLERANCES :

5.1 Sizes : Thickness and width shall be as stated on the order.

5.2 Thickness & Tolerances :

Finished Tape : 0.09 ± 0.01 mm

5.3 Width & Tolerance :

Tape : 16, 20 & 25 mm with tolerance of ± 0.5 mm

Fabric : 1000 mm with tolerance of ± 20 mm. However other widths may also be ordered.

5.4 Length/ Roll : 50 metres

6. SHELF LIFE: 12 months at normal room temperature

Rev: Cl. no. 5.2, 10.1.1, 11.1, 12.1 & 12.3
Modified

Based on L601/ QPA 064 – 651 of DW Siemens

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TECHNICAL SERVICES DEPARTMENT



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7. FINISH :

The surface of the tape shall be uniform and free from defects such as bubbles, pinholes, tackiness, creases and flaws. The varnish of the tape shall not peel, flake or become brittle during storage at normal temperature. The varnish must be thoroughly dried and gluing of layers in rolls should not take place.

8. TEST METHODS :

Unless otherwise specified, the tests shall be conducted in accordance with the relevant methods of IS: 3352.

9. SAMPLE FOR TEST :

A roll of 50 metre sample prepared from the same batch shall be supplied for testing and approval.

10. STRUCTURE :

10.1 Glass Fabric (DIN 16740)

10.1.1 Substance : $56 \pm 3 \text{ gm/m}^2$

10.1.2 Warp Threads : 24 per cm of size EC-5-11-tex

10.1.3 Weft Threads : 24 per cm of size EC-5-11-tex

Note :

1. Type of Weaving : Basket (Linen Wall Binding)
2. Lubricant used shall be Dexol-layer and shall not exceed 3% by weight

10.2 Basic Varnish :

Fabric shall be treated with polyurethane varnish having solid content of about 15 gm/ m^2 .

10.3 Cover Varnish :

Fabric treated with basic varnish shall be further impregnated with the following mixture.

Epoxy resin and mowital B60 H in desmodur CT stable, with maximum 0.1% silicon oil.

The solid content of the mixture shall be approximately 25 gm/ m^2 .



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11. PHYSICAL PROPERTIES :

11.1 Substance : $104 \pm 10 \text{ gm/ m}^2$

12. MECHANICAL PROPERTIES :

12.1 Breaking Strength : 85 N/cm Width Min.

12.2 Elongation: 30% Min.

12.3 Force at 2.5% Elongation : $18 \pm 5 \text{ N/cm}$

12.4 Breaking Load of Joints: 15 N/cm, Min.

12.5 Tensile Strength of Glued Samples :

Sample is prepared with two tape pieces with 30 mm overlapping under a pressure of 0.1 N/mm^2 at $120 \pm 2 \text{ deg. C}$ for 15 ± 0.25 hours with polyester film as releaser.

Tensile strength does not exceed 0.04 N/mm^2 when tested on a tensile testing machine with rate of traverse of 30 mm per minute.

13. TEST CERTIFICATE :

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

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

The test certificate shall bear the following information.

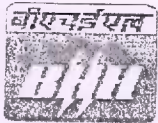
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BHEL Order No.

Batch/ Lot No.

Shelf Life

Test values obtained/ certificate for compliance for clauses 5, 7 & 10 to 12.



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14. PACKING AND MARKING

Tape shall be wound on a hollow core of a suitable material of length equal to the width of the tape. The core shall have an inside diameter of approximately 55 mm and be sufficiently strong to support the tape without collapsing. Each roll shall be dipped in paraffin wax. The tape shall be wrapped in a strong paper to prevent damage to the ends of the rolls.

Each package shall be marked with the following information.

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BHEL Order No.

Batch No. / Lot No.

Manufacturer's /Supplier's Name and Grade

Thickness, Width and Length

Month & Year of manufacture