



CORPORATE PURCHASING SPECIFICATION

AA 250 14

Rev.No.01

PREFACE SHEET

**MICANITE SHEETS /SEPARATORS FOR COMMUTATOR OF
TRACTION MACHINES (TEMPERATURE INDEX 155)**

**FOR INTERNAL USE ONLY
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Comparable Standards:

1. INTERNATIONAL ; IEC 371-3-1-1977, TYPE V

Suggested/Probable suppliers and grades:

Refer plant vendors list

User Plant References:

1. BHOPAL : BP 25094

Revisions :

Lr:TME/300 dt: 27.08.2005 from BP

APPROVED :

**INTERPLANT MATERIAL
RATIONALISATION COMMITTEE -MRC (E)**

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**MICANITE SHEETS / SEPARATORS FOR COMMUTATORS OF TRACTION MACHINES
(TEMPERATURE INDEX 155)**

1.0 GENERAL:

This specification governs the quality requirements of alkyd vinyl bonded micanite sheets or separators made from muscovite mica splittings free from metallic and foreign inclusion and cut to sizes as per drawing. The material shall have a temperature index of at least 155.

2.0 APPLICATION:

Used in the manufacture of commutators for electrical machines.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no National Standard covering this type of material. However, assistance has been derived from the following National Standard.

IEC 371-3-1 : Specification For Rigid Mica Materials For
Type 5 : Commutator Separators.

4.0 DIMENSIONS AND TOLERANCES:

4.1 Sizes:

As stated in the order / drawing.

4.2 Standard Thickness And Tolerances:

4.2.1 For Sheets:

Unless otherwise specified in the order/drawing, the thickness shall be as given in clause 4.1.3 of IEC 371-3-1 and the tolerance should be of close tolerance as per clause 4.1.4 of IEC 371-3-1.

4.2.2 For Segments :

To be stack gauged as given in the order/drawing or as per clause 4.2 of IEC 371-3-1. Stack gauge dimension to be marked on each batch.

4.3 Other Dimensions:

Shall be checked as per clause 5.1 of IEC 371-3-1 and the tolerance shall be as given in clause 5.2 of IEC 371-3-1.

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**5.0 FINISH:**

Shall be smooth with trimmed edges. Bond shall be uniformly distributed and also shall be free from hard patches through holes, foreign inclusions etc. The sheets shall be specially ground to size.

6.0 TEST SAMPLES:

Three sheets of ordered thickness of size 300 X 300 mm, prepared from the same Batch shall be supplied for testing and approval.

7.0 PROPERTIES :

Unless otherwise specified, when tested in accordance with the relevant methods of IEC 371-2 : Methods Of Test For Insulating Materials Based On Build Up Mica, the test sample shall show the following values:

7.1 Physical:**7.1.1 Bond Content :**

4% \pm 1%

Note:

The type of bonding material used shall be disclosed by the suppliers. The composition of the binder may be determined by infra-red spectrography or thin layer chromatography or any other suitable method.

7.1.2 Stability At Temperature 260°C \pm 5°C And Pressure 60 N/mm²:

No oozing of bond and slippage of mica shall be observed. Area of segments used shall be between 15 and 40 cm². In case slight oozing of bond is observed in the form of traces at the edges of the test pieces, another sample may be tested. No oozing shall be observed on the second sample.

7.2 Mechanical :**Flexural Strength (As per AA 085 17 01):**

50 to 100 N/mm²

Tests shall be carried out on five specimens.

7.3 Electrical

Electrical strength (BDV) at room temperature

10 KV/mm minimum

The test shall be carried out on 5 specimens.

8.0 TYPE TEST:

Elastic Compression At 200 \pm 3° C

1.2% to 4% when measured as per clause 4 of IEC 371-2

9.0 TEST CERTIFICATES:

Unless otherwise stated, three copies of certificates shall be supplied along with each consignment giving the following information.



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

AA 25014, Rev 01 : Micanite Sheet / Separators For Commutator Of
: Traction Machines – Temperature Index 155.

BHEL order no.
Manufacturer's / supplier's name.
Trade mark, if any.
Batch / lot no.
Quantity Supplied.
Test results of clause 4.0, 7.0 and 8.0.

10.0 PACKING AND MARKING:

Identification slip shall be pasted suitably on corner of each board giving the size and manufacturer's code number / grade. The stacks shall be adequately packed with moisture proof polythene sheets and placed suitably in wooden cases.

Each consignment shall be legibly marked or labeled with the following information.

AA 25014 : Micanite Sheet / Separators For Commutator Of
: Traction Machines – Temperature Index 155.

BHEL order no.
Manufacturer's / supplier's name.
Batch / lot no.
Trade mark, if any.
Sizes and quantity Supplied.
Date of manufacture.

11.0 REJECTION AND REPLACEMENT:

If the material does not comply with the requirements of this specification during receipt inspection at BHEL or if any defect is found during further processing of the material, BHEL reserves the right to reject the whole consignment notwithstanding any previous certification of satisfactory testing and / or inspection. The supplier shall undertake to replace the rejected material at his own cost and the rejected material shall be taken back by the supplier after fulfilling all the commercial terms and conditions.

12.0 REFERRED STANDARDS (LATEST PUBLICATIONS INCLUDING AMENDMENTS):

1. IEC 371-2
2. IEC 371-3-1
3. AA 0851701