

**ISOPHTHALATE VARNISHED POLYESTER FABRIC TAPE****1.0 GENERAL:**

This specification governs the quality requirements of straight cut tape slitted from isophthalate varnished polyester fabric. The material shall remain flexible over a wide range of temperatures and shall not crack when creased on cold or hot water, acids, alkalies, salt solutions, petrol, white spirit, impregnating varnishes, etc. The tape shall have a temperature index of 120.

**2.0 APPLICATION:**

Used as insulation in winding of turbo and hydro generators, traction machines and AC machines.

**3.0 COMPLIANCE WITH NATIONAL STANDARDS:**

There is no national standard covering this type of material.

**4.0 DIMENSIONS AND TOLERANCES:****4.1 Sizes:**

Thickness, width and length of the tape shall be as specified in BHEL order.

**4.1.1 Width:**

Preferred widths are 20mm and 25mm.

**4.1.2 Length:**

50 metres / Roll.

**4.2 Tolerances:****4.2.1 Thickness:**

Thickness (mm)	Tolerance (mm)
0.08	± 0.008
0.13	± 0.013

**4.2.2 Width :** ± 0.5 mm

Revisions :

Letter from HW

APPROVED :

INTERPLANT MATERIAL  
RATIONALISATION COMMITTEE-MRC (E)

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**5.0 FINISH:**

The surface of the tape shall be uniform and free from defects such as bubbles, pinholes, creases and flaws. The varnish of the tape shall not peel, flake or become brittle during storage at normal room temperature. It shall be possible to unroll the tape easily and the tape shall be free from hard particles.

**6.0 JOINTS:**

The number of joints per reel shall not exceed two and none of the jointed lengths in a reel shall be shorter than 10 metres. At each joint, the tape shall be butted and joined up by a strip of coloured adhesive tape indicating on the edge of the roll the presence of a joint. Pins or other metallic fasteners shall not be used for securing the ends of the joints.

**7.0 TEST SAMPLE:**

One roll of 50 metres length shall be supplied for testing and approval purposes.

**8.0 CHEMICAL COMPOSITION:**

The binder of the varnish used shall be based on Isophthalate resin. The varnish, if required, when determined by infra-red spectography or thin layer chromatography or any other suitable method shall strictly be isophthalate based.

**9.0 PROPERTIES:****9.1 Mechanical:**

**9.1.1 Breaking load** : 7 N/mm width, min.

**9.2 Electrical:****9.2.1 Electric strength (Proof- 1, minute) in air at room temperature:**

40 kV/mm

**10.0 ACCEPTANCE CRITERIA:**

Material shall be accepted on the basis of the following:

- a) Compliance certificate furnished by the supplier
- b) Test certificate furnished by the supplier and / or testing carried out at BHEL end.

**11.0 TEST CERTIFICATES:**

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

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



AA 237 03, Rev 02: Isophthalate varnished polyester fabric tape  
BHEL order No.  
Manufacturers/suppliers Name:  
Trade name/mark, if any:  
Batch/Lot No.  
Quantity supplied  
Test values of 4.0 and 9.0 and compliance for clause 8.0.

**12.0 PACKING AND MARKING:**

The tape shall be wound on a hollow core of suitable material of length equal to the width of the tape. The core shall have an inside diameter of approximately 40 mm and be sufficiently strong to support in a strong paper to prevent damage to the ends of the rolls.

Each package shall be marked /labeled legibly with the following information:.

AA 237 03: Isophthalate varnished polyester fabric tape  
BHEL order No.  
Manufacturers/suppliers Name:  
Trade mark, if any  
Batch/Lot No.  
Thickness, width and length of the tape.  
Quantity supplied  
Date of manufacture

**13.0 REFERRED STANDARDS (Latest Publications Including Amendments):**

- 1) IS: 3352