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POLYESTER FILM - NON ADHESIVE TAPE		SUPERSEDES BP 22887 Rev.02
<p>1. GENERAL:</p> <p>This specification governs the quality of polyester film made by drawing or extruding polyethylene terephthalate (PTP) having very good mechanical, electrical and dimensional stability properties, low water absorption, highly resistant to dilute acids, alkalies, oils & greases, alcohols and hydrocarbons. The material has a temperature index of at least 130.</p> <p>2. APPLICATION:</p> <p>Used as conductor insulation on stator coils of A.C.Machines and in insulation of class H insulated traction machines.</p> <p>3. COMPLIANCE WITH NATIONAL STANDARDS:</p> <p>There is no Indian Standard covering this type of material. However assistance has been drawn from DIN:40634 Gr.F1510.</p> <p>4. DIMENSIONS AND TOLERANCES:</p> <p>4.1 <u>Sizes:</u></p> <p>Thickness x width x length of the film shall be stated on order.</p> <p>4.2 <u>Thickness:</u></p> <p>4.2.1 <u>Preferred Thickness:</u> 10, 12, 20 25, 38 50 & 100 microns.</p> <p>4.2.2 <u>Tolerance:</u> + 5%.</p> <p>4.3 <u>Preferred Width:</u> 10, 12, 15, 20, 30 & 32 mm.</p> <p>However any other size can also be ordered.</p> <p>5. FINISH:</p> <p>Shall be clean, free from blister, blow holes and wrinkles. Optical properties shall be consistent from lot to lot.</p>		
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6. TEST METHODS:
As stated against each clause.
7. SAMPLE FOR TEST:
- 5 Sq. Metre in roll form of ordered thickness from the same batch shall be supplied for testing and approval purposes.
8. PHYSICAL PROPERTIES:
- 8.1 Density at Room Temp: 1.4 ± 0.1 gm/cc.
- 8.2 Shrinkage After 24 ± 1 Hrs. at 130 ± 3 deg.C in either direction:
3.0%, Max.
Tested on sample of size 100 x 100 mm.
- 8.3 Loss in weight after 24 ± 1 hrs. ageing at 130 ± 3 deg.C:
0.15 %, Max.
Tested on sample of size 100 Cm².
- 8.4 Water absorption after 24 ± 1 hrs. immersion at R/T:
0.4% Max.
On sample of 5 sheets of 200 x 200 mm.
- 8.5 Behaviour under long time stresses : DIN 40634
Limiting Temperature : 130 ± 3 deg.C,
9. MECHANICAL PROPERTIES:
- 9.1 Tensile Strength:
- 9.1.1 Longitudinal Direction: 160 - 250 N/mm².
- 9.1.2 Transverse Direction: 200 - 290 N/mm².
- 9.2 Elongation at Break:
- 9.2.1 Longitudinal Direction: 80 - 140%.
- 9.2.2 Transverse Direction: 50 - 120%.



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Tensile Strength and Elongation test shall be carried out on tensile testing machine with a uniform rate of Jaw separation of 200 mm per minute and gauge length of 100 mm.

10. ELECTRICAL PROPERTIES:

10.1 Electric Strength, (BDV) (IS:2584-1963, RA 2001 :

300 kV/mm, Min when tested with 6 mm dia electrode.

10.2 Dissipation factor (Tan Delta at 50 Hz & 100 Votls) (ASTM D-150):

0.0020, Max.

10.3 Volume Resistivity (ASTM-D 257):

1×10^{17} Ohm - Cm, Min.

11. CHEMICAL PROPERTIES:

11.1 Identification of Material:

Film when identified by infra red spectro-photometer or any other conventional method shall confirm the presence of polyethylene terephthalate.

12. TEST CERTIFICATE:

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

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

The test certificate shall bear the following information.

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(Rev.03)

BHEL Order No.

Batch No.

Date of Manufacture.

Test values obtained for Physical, Mechanical & Electrical properties and the dimensional tolerances as per the specification.



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13. PACKING AND MARKING:

Rolls shall be suitably packed to prevent damage during transit and storage.

Packages shall be labelled with the following information:

BP 22887 : Polyester Film-Non Adhesive Tape

BHEL Order No.

Manufacturer's and/or Supplier's Name and Grade.

Batch No/Lot No.

Thickness, width and length

Net Weight.

Test Certificate Reference.