



**PLANT PURCHASING SPECIFICATION  
BHOPAL**

BP 23793

Rev. No. 04

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**SUPERSEDES  
BP 23793 Rev.03**

**EPOXY PREIMPREGNATED (B-STAGE) LONGITUDINALLY ORIENTED  
POLYESTER FLEECE**

**1. GENERAL**

This specification governs the requirements of longitudinally oriented polyester fleece, which is impregnated (B-Stage) with an epoxy resin (Bisphenol type). The material has a temperature index of at least 155.

**2. APPLICATION**

Used as final layer on Rotor bars of class F insulated A.C. Machines.

**3. COMPLIANCE WITH NATIONAL STANDARDS**

There is no Indian Standard covering this type of material.

**4. DIMENSIONS AND TOLERANCES**

**4.1 Preferred Thickness & Tolerance**

0.08 mm, with tolerance of  $\pm 0.02$  mm

**4.2 Preferred Width & Tolerance**

1000 mm with a tolerance of  $\pm 10$  mm

However any other thickness & width can also be ordered.

**4.3 Length per Roll**

100 meters

**5. TEST METHODS**

As per conventional method or as stated against each clause.

**6. SAMPLE FOR TEST**

1 meter fleece in full width shall be sent by BHEL QC to TSD for testing.

Revision: Cl. No. 1, 4, 6, 7 & 8 modified.  
Prev. Cl. No. 10 merged with Cl. No. 8.  
Cl. No. 10 & 11 added.  
Brought up to date.

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**7. SHELF LIFE & STORAGE**

At 5 °C: 12 Months minimum

At 25 °C: 6 Months minimum

**8. COMPOSITION**

Thickness (mm)	Total substance (gsm)	Backing Material		Resin (gsm)
		Thickness (mm)	Substance (gsm)	
0.08 ± 0.02	62 ± 10	0.065 ± 0.01	30 ± 5	32 ± 5

**9. MECHANICAL PROPERTIES****9.1 Breaking Strength :**

Longitudinal Direction : 20 N/cm width, Minimum

**9.2 Elongation at Break :**

Longitudinal Direction : 12% Minimum

**Note :**

Breaking Strength and Elongation Test shall be carried out on a tensile testing machine with a uniform rate of traverse of 50 mm per minute and gauge length of 100 mm. Width of test specimen shall be 15 mm.

**10. Hardening Time & Temperature**

20-120 minutes at 120 ± 2 °C

**11. TYPE TEST****11.1. Identification of Resin by IR**

Epoxy Resin (Bisphenol type)

**11.2 Hardening Time & Temperature**

	Temperature °C	
	140±2	160±2
Time Maximum	40 minutes	30 minutes



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### 12. TEST CERTIFICATES :

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:

BP23793: Epoxy Preimpregnated (B-stage) Longitudinally Oriented Polyester  
Rev.04 Fleece

BHEL PO No.

Batch/Lot No.

Test values obtained/Certificate for compliance for clause 4 & 7 to 11

### 13 PACKING AND MARKING

Rolls shall be packed in sealed wrappers and supplied in crates to prevent from any damage.

#### 13.1 On Rolls :

Each roll shall be legibly marked with the following information.

Batch/Lot No.

Manufacturer's and / or supplier's Name and Grade

Thickness, Width & Length

Date of manufacture

#### 13.2 On Crate :

Each crate shall be marked with following information:

BP23793 : Epoxy Preimpregnated (B-stage) Longitudinally Oriented Polyester  
Fleece

BHEL PO No.

Manufacturer's and / or supplier's Name and Grade

Thickness, Width & Length of Roll

Quantity of Rolls

Date of Manufacture

Test Certificate Reference