



PLANT PURCHASING SPECIFICATION
BHOPAL

BP 23780

Rev. No. 02

PAGE 1 OF 3

SUPERSEDES
BP 23780 Rev.01

PRE – IMPREGNATED POLYESTER FLEECE

1. GENERAL

This specification governs the quality 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 for stack consolidation of A.C. machine stator coils/ bars.

3. COMPLIANCE WITH NATIONAL STANDARDS

There is no Indian Standard covering this type of material.

4. DIMENSIONS & TOLERANCES

4.1 Preferred thickness & Tolerance

0.12 mm, with tolerance of ± 0.03 mm

4.2 Preferred Width & Tolerance

1000 mm with a tolerance of ± 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 / as stated against each clause

6. SAMPLE FOR TEST

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

7. SHELF LIFE & STORAGE

At ≤ 5 °C: 12 months minimum from the date of delivery

At > 5 to ≤ 25 °C: 6 months minimum from the date of delivery

Revision: Clause 9 - Tolerance on resin flow added. Clause 9.1 - Formula for calculation of resin flow modified. These changes are as suggested by ISE.

Issued by :

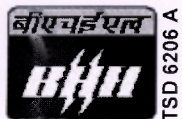
STANDARDS AND MATERIALS GROUP
TECHNICAL SERVICES DEPARTMENT

Rev. 02

Date :04.02.2013

Date of first Issue : 17.10.2006

COPYRIGHT AND CONFIDENTIAL
The information on this document is the property of Bharat Heavy Electricals Limited, Bhopal.
It must not be used directly or indirectly in any way detrimental to be interest of the company



PLANT PURCHASING SPECIFICATION
BHOPAL

BP 23780

Rev. No. 02

PAGE 2 OF 3

8. COMPOSITION

Thickness of Tape (mm)	Total Substance (gsm)	Backing Material		Resin (gsm)
		Thickness (mm)	Substance (gsm)	
0.12 ± 0.03	140 ± 18	0.08 ± 0.01	60 ± 8	80 ± 10

9. RESIN FLOW (%)

35 ± 5

9.1 Test Method

The resin flow is calculated by cutting 10 samples transversely across the width of prepregs of 100 X 100 mm format. These samples are weighed precisely on an analytical scale (G1) and then placed one on top of the other between press plates of a preheated press and compressed for a predetermined period at 2 N/mm². A standard pressing temperature of 160 °C is selected.

A proportion of the resin will flow out of the side of the backing material during the pressing process. This resin discharge is carefully removed after cooling and the remaining compressed sample is once again weighed precisely (G2). The amount of resin flow can now be calculated using the following formula :

$$\frac{(G1 - G2) \times 100}{G1} = \% \text{ Resin Flow}$$

G1 = Initial weight

G2 = Final Weight

10. HARDENING TIME & TEMPERATURE

20 – 120 minutes at 120 ± 2°C

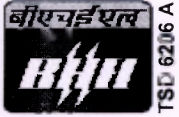
11. TYPE TEST

11.1 Identification of Resin by IR

Epoxy Resin (Bisphenol type)

11.2 Hardening Time & Temperature

Time (maximum)	Temperature ° C	
	140 ± 2	160 ± 2
	40 minutes	30 minutes



**PLANT PURCHASING SPECIFICATION
BHOPAL**

BP 23780

Rev. No. 02

PAGE 3 OF 3

12. 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:

BP 23780: Pre-Impregnated Polyester Fleece
Rev. 02

Our Order No.

Batch / Lot No.

Test value obtained / certificate for compliance for clause 4 & 7 to 10.

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 suppliers Name and Grade

Thickness, Width and Length

Date of manufacture

13.2 On Crate

Each crate shall be marked with the following information:

BP 23780 : Pre-Impregnated Polyester Fleece

Our Order No.

Manufacturer's and / or suppliers Name and Grade

Batch / Lot No.

Thickness, Width & Length of Roll

Quantity of Rolls

Date of Manufacture

Test Certificate Reference