

**PHENOLIC (PF) 60% GLASS FIBER/MINERAL FILLED,
ASBESTOS FREE MOLDING COMPOUND****ESF-M3D144-A****1. SCOPE**

The material defined by this specification is a non-asbestos, glass fiber filled two step phenolic transfer molding compound.

2. APPLICATION

This specification was released originally for material used for molding commutator assemblies for small motors in automobile accessories, where arc resistance is required.

3. REQUIREMENTS**3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS**

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 MOLDED SPECIMENS**3.4.1 Preparation of Test Specimens**

Unless otherwise specified all tests shall be carried out on compression molded test specimens. Molded specimens are post baked for 6 h at 190 °C.

3.4.2	Ash Content, min (ASTM D 2584, 4 h at 650 °C)	60%
3.4.3	Specific Gravity (ASTM D 792)	1.91 - 2.01
3.4.4	Tensile Strength, min (ASTM D 638, 150 x 12.7 x 3.2 mm specimen)	33 MPa
3.4.5	Flexural Strength, min (ASTM D 790, 64 x 12.7 x 6.4 mm specimen)	58 MPa
3.4.6	Compressive Strength, min (ASTM D 695, 25 x 12.7 x 12.7 mm specimen)	94 MPa
3.4.7	Impact Strength, Izod, min (ASTM D 256, 64 x 12.7 x 12.7 mm specimen)	71 J/m

Date	Action	Revisions
2004 11 17	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.5, 3.6 & 4
1972 07 08		Reactivated & Updated DF00E00107002190 A. Vallabhanath
1984 06 22	Released	CF40RD888002155 J.B. Huebner



3.4.8	Heat Deflection Temperature, min (ASTM D 648, 12.7 x 12.7 x 12.7 mm specimen. At 1.82 MPa)	300 °C
3.4.9	Water Absorption, max (ASTM D 570, 50 mm dia x 3.2 mm specimen, 24 h immersion)	0.5%
3.4.10	Dielectric Strength, min (ASTM D 149, short time)	8.0 kV/mm
3.4.11	Arc Resistance, min (ASTM D 495)	180 s
3.4.12	Hardness, Rockwell M, min (ASTM D 785)	88

5. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

5.1 RECYCLING CODE

SAE PF- (GF+M) 60 or >PF- (GF+M) 60<
↑
OPTIONAL