

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

**FIBERBOARD, CELLULOSE - HIGH STRENGTH PHENOLIC RESIN
IMPREGNATED - ELASTOMER COATED**

ESB-M2E93-B

1. SCOPE

The material defined by this specification is a cellulose fiberboard impregnated with a high strength phenolic resin and coated with an elastomeric material.

2. APPLICATION

This specification was released originally for material used for bumper spacer shims.

3. REQUIREMENTS

All specimens and/or production parts shall be treated with a polymeric coating and post cured to case harden and seal and coated with an elastomeric material.

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.2 FIBERBOARD PRIOR TO ELASTOMER COATING

(All tests shall be conducted in accordance with ASTM F 104, Type 3 materials, unless otherwise specified.)

3.2.1	COMPRESSIBILITY, max (4000 psi (27.6 MPa) load)	15 %
	Recovery, min	80 %
3.2.2	TENSILE STRENGTH, min	6400 psi (44.2 MPa)
3.2.3	DENSITY, min (ASTM F 104, Section "A" 2.14 Density Type 2)	60 lb/ft ³ (962 kg/m ³)

Date	Action	Revisions
2002 10 14	Revised	Updated and renumbered
1979 09 10		Released AK1-6000-17

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3.2.4 IMMERSION IN LIQUIDS
(22 h at 23 +/- 2 °C)

Immersion Fluid	Weight Increase % max	Thickness Change % max
ESE-M97B18 Antifreeze	12	6
ASTM Reference Fuel "B"	15	5
ASTM Oil #1	10	5
ASTM Oil #3	10	5
Distilled Water	25	25

3.3 FIBERBOARD AFTER ELASTOMER COATING

3.3.1 Elastomer Coating

3.3.2 Water Absorption, max
(ASTM D 570, 24 h) 4 %

3.3.3 Coating Thickness 0.5 - 1.0 mils
(13 - 25 µm)

3.3.4 Torque Loss After Heat Exposure, max 20 %

Simulated bumper assemblies, with bolts initially torqued to within specified limits, shall be exposed to 111 to 117 °C for 10 min (simulating paint repair cycle temperatures).