Ford Motor Company

ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
FIBERBOARD (PANEL), LAMINATED-POLYETHYLENE LINED	**ESB-M2E3-A** **∇ ESB-M2E3-B** **ESB-M2E4-A** **∇ ESB-M2E4-C** **ESB-M2E5-A** **∇ ESB-M2E5-B**

1. SCOPE

The material defined by these specifications is a laminated, polyethylene lined panel board of good quality and uniform construction.

2. APPLICATION

These specifications were released originally for material used as a trim foundation for door panels or as a base board to which a coating is applied for headlining or package tray applications.

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).

3.2 CONSTRUCTION

The board shall be constructed of a core of kraft and mixed fibers. The core shall be free of residual asphalt and other contaminants which might cause sew line stains. Laminated to each side of the core shall be a film of polyethylene which is also laminated to a kraft paper liner. The kraft paper liners shall form the outer faces of the board.

3.3 THICKNESS
(SAE J 315b)

ESB-M2E3-A & ∇ ESB-M2E3-B	0.060 +/ 0.005 in (1.52 +/- 0.13 mm)
ESB-M2E4-A & ∇ ESB-M2E4-C	0.08 +/- 0.005 in (2.03 +/- 0.13 mm)
ESB-M2E5-A & ∇ ESB-M2E5-B	0.100 +/- 0.005 in (2.54 +/- 0.13 mm)

Date	Action	Revisions
2003 01 31	Revised	Para 3.0 inserted ; Para 3.1, 3.14, 4 deleted
1978 09 15		Metricated, Renumbered & Retyped CAHI-RD572066-93
1971 08 17		Released ∇ ESB-M2E3-B,∇4-C,∇5-B AB1-302-14

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3.4	**MOISTURE CONTENT, max** (SAE J 315b)	7 % Based on original weight
3.5	**WATER ABSORPTION, max** (SAE J 315b, 24 h immersion)	20 %
3.6	**WARP, max** (FLTM BS 2-1, 24 h water immersion)	4 %

3.7 BURSTING STRENGTH, min
(SAE J 315b)

ESB-M2E3-A & ∇ ESB-M2E3-B	235 psi (1.62 MPa)
ESB-M2E4-A & ∇ ESB-M2E4-C	325 psi (2.24 MPa)
ESB-M2E5-A & ∇ ESB-M2E5-B	425 psi (2.93 MPa)

3.8 TENSILE STRENGTH, lb/in (N/mm), min
(ASTM D 828)

	WMD	AMD
ESB-M2E3-A & ∇ ESB-M2E3-B	350 (61)	125 (22)
ESB-M2E4-A & ∇ ESB-M2E4-C	450 (79)	150 (26)
ESB-M2E5-A & ∇ ESB-M2E5-B	500 (88)	200 (35)

3.9 DIMENSIONAL STABILITY
(SAE J 315b, 24 h, water)

		WMD	AMD
3.9.1	Expansion, max	0.7%	0.7%
3.9.2	Contraction, max	0.7%	0.7%

3.10 ADHESION, min — 1 lb/in (176 N/m) of width
(FLTM BN 113-01)

The polyethylene films and adhesives employed shall result in a firm bond between the plies to hold the assembly together, during production handling and for the normal life of the assembly, at various extreme temperatures and humidity conditions encountered under service operating conditions.

3.11 STAINING
(FLTM AN 101-03, Method "A")

The material shall contain no asphalt or other resins that shall cause staining of the contact fabric.

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