



FIBERBOARD (PANEL), LAMINATED - POLYETHYLENE LINED - FORMING GRADE

ESB-M2E4-B
▽ ESB-M2E4-D

1. SCOPE

The material defined by these specifications is a moisture resistant laminated panel board with good formability and dimensional stability.

2 APPLICATION

These specifications were released originally for material used as a formed trim foundation for door panels or as a formed base board to which a coating can be 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 with a core of kraft and mixed fibers laminated on each side with polyethylene lined kraft paper. The core shall contain thermoplastic resin to provide contours without internal delamination, objectionable wrinkling or cracking of the surface and shall be free of residual asphalt or other contaminants which might cause sew line stains. The kraft paper liner shall form the outer faces of the board.

3.3 MOISTURE CONTENT, max 7%
(SAE J 315) Based on original weight

3.4 WATER ABSORPTION, max 20%
(SAE J 315, 24 h immersion)

3.5 WARP, max 4%
(FLTM BS 002-01, 24 h water immersion)

3.6 BURSTING STRENGTH, min 1.1 MPa/mm
(SAE J 315) of thickness

3.7 TENSILE STRENGTH, min
(ASTM D 828)

WMD 0.88 kN/mm of thickness
AMD 0.35 kN/mm of thickness

Date	Action	Revisions
2003 08 14	Revised	Para 3.0 inserted; Para 3.1, 3.15, 4 deleted
1983 03 02	3.9	Added Statement Revision: C7N1-ED 274633
1968 04 18		Released ESB-M2E4-B



Documents

AX1-1168

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**3.8 DIMENSIONAL STABILITY**
(SAE J 315, Method "B," 24 h)

	Expansion In Water % max	Contraction In Heat % max
WMD	+0.2	-0.7
AMD	+0.2	-0.7

3.9 TRANSVERSE STRENGTH, min
(FLTM BS 005-01, 152 mm span, transverse strength requirement shall be omitted for fiberboards less than 1.5 mm thick)

WMD	20 N/mm of thickness
AMD	11 N/mm of thickness

3.10 BEND TEST, FORMED PARTS
(FLTM BS 004-03)

No cracks or delamination. Bend and displacement values will be as specified on engineering drawings.

3.11 HUMIDITY AGING, FORMED PARTS

No delamination between layers and no ply separation after 24 h immersion in water (room temperature) followed by 7 days aging in a humidity cabinet at 100% R.H. and 38 °C.

3.12 ADHESION
(FLTM BN 015-01)

Original ply adhesion, min	88 N/m of width
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3.13 STAINING
(FLTM AN 101-03, Method "A")

Rating 5 AATCC chart for measuring transference of color.

3.14 ▽ ESB-M2E4-D Only

▽ 3.14.1 Flammability

In order to comply with Federal Motor Vehicle Safety Standard No. 302, the materials, portions of components, and composites shall not burn, or transmit a flame across its surface, at a rate of more than 101 mm per min. To demonstrate compliance, the sample size and method of testing shall be in accordance with FLTM BN 024-02.