Ford Motor Company

ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
FIBERBOARD (PANEL)	**ESB-M2E13-A**
PAPERBOARD, KRAFT LINED - BENDING GRADE	**ESB-M2E13-C**
PAPERBOARD, KRAFT LINED - BENDING GRADE	**∇ ESB-M2E13-D**

1. SCOPE

The materials defined by these specifications are either laminated or cylinder machine built-up boards of good composition and suitable construction and may contain a maximum of 13% asphalt in the core ply. The ESB-M2E13-C and ∇ ESB-M2E13-D boards have outer plies of virgin kraft paper.

2. APPLICATION

These specifications were released originally for materials used for the construction of deck sides, luggage compartments, front and sides, and other applications specified by engineering. The materials shall be suitable for use as a base for ink decorated, pyroxylin or equivalent coated panel boards. The ESB-M2E13-C and ∇ ESB-M2E13-D specifications were released originally for materials used for the construction of luggage compartment front and sides where a better bending board was desired in the 1982 T-Bird and XR7 carlines.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

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 APPEARANCE
(FLTM BI 109-01)

The color, pattern and finish shall match the approved Design Center master sample, or shall be as specified on the engineering drawing, or trim patterns (generally one side gray, other side light brown).

3.4 WEIGHT, min

(SAE J 315, 0.070 - 0.075 in (1.78 - 1.91 mm))	260 lb/1000 ft^2 (1270 g/m^2)

3.5 SEASONING

To minimize warpage, distortions, and dimensional changes, the materials covered by this specification shall be properly seasoned for at least 5 days before being die cut.

Date	Action.	Revisions	
2003 01 29	Revised	Para 3.0 inserted ; Para 3.1, 3.2, 3.16, 4 deleted	
2002 03 07	Revised	Removed ∇ ESB-M2E13-B, renumbered & updated	D. Whyte
1963 06 28		Released ESB-M2E13-A	AS1-960

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3.6 MOISTURE CONTENT 4 - 9%
(ASTM D 644, 4 x 4 in
(100 x 100 mm) samples)

3.7 WATER ABSORPTION, max 25%
(SAE J 315, 1-1/2 h immersion)

3.8 WARP, max
(FLTM BS 002-01,1-1/2 h water immersion)

WMD	5%
AMD	9%

3.9 DIMENSIONAL STABILITY
(SAE J 315, Methods "A & C")

	Expansion, % max	Contraction, % max
WMD	+0.5	-0.5
AMD	+1.5	-1.5

3.10 BURSTING STRENGTH 4 psi/0.001 in
(ASTM D 2529, average of 5 bursts (1.1 MPa/mm)
on each side of the specimen)

3.11 STIFFNESS, min
(ASTM D 747, Tinius Olsen stiffness tester, direct load reading at 5 ° angle, 2 in (51 mm) span, 2-1/2 lb.in (0.28 N.m) load.)

WMD	70
AMD	18

3.12 FIBERBOARD CREASE BENDING TEST
(SAE J 119, 180 ° bend, for test purposes use flat face creasing rule (lightly remove sharp edges with a file to prevent cutting))

ESB-M2E13-C and
∇ ESB-M2E13-D — No evidence of fiberboard surface fracture

3.13 STAINING

CAUTION: This material may contain a percentage of asphalt and should not be employed in the construction of assemblies employing adhesives, vinyl's and fabrics as staining may result.

3.14 ESB-M2E13-A and ESB-M2E13-C FLAMMABILITY, max 4 in (101 mm)/min

In addition, the test specimen shall not exhibit any flashing or sudden flaming on either surface in excess of the above max value.

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