Ford Engineering Material Specification

Material Name

BATT, GLASS FIBER-SOUND ABSORPTION

Specification Number

ESB-M12G66-A1, A2, A3, A4
VESB-M12G66-B1, B2, B3, B4

1. SCOPE

The materials defined by this specification are fine fibered, flexible, resilient blankets of fibrous glass, bonded with a thermosetting resin.

2. APPLICATION

ESB-M12G66-A1, A2, A3, A4 were released originally for materials used as molded sound absorbers and thermal insulators for the 1977 Econoline engine compartment.

VESB-M12G66-B1, B2, B3, B4 were released originally for materials used as molded roof side sound and thermal insulators for the 1982 Versailles.

3. REQUIREMENTS

3.1 CONDITIONING

All test values indicated herein are based on materials conditioned in a controlled atmosphere of 23 ± 2°C and 50 ± 5% relative humidity for 24 h prior to testing and tested under the same controlled conditions.

3.2 COLOR

Black or neutral

3.3 THICKNESS
(FLTM BN 23-2)

As specified on engineering drawings with the following tolerances:

- Under 25 mm + 3.2 mm - 1.6 mm
- 25 mm and over: + 6.4 mm - 3.2 mm

3.4 CONSTRUCTION

Fiber Diameter: 3.8 - 5.1 um
Alternate: 7.1 - 13.0 um

Binder Content: Phenol formaldehyde 13 ± 3%

Test Method:

Cut 1-2 g of sample* into a previously ignited porcelain crucible. Condition in a drying oven at 100 ± 2°C to a constant weight and record. Heat in a muffle furnace at 535 ± 10°C until binder is burned off. Cool, weigh, and calculate % binder on basis of conditioned weight (Step 2).

*or 10-20 g sample on a previously ignited wire screen.

Date	Para. No.	Revisions
1984 06 08	3.5 3.6	Revised, Retyped CUØ1-PA525112 T. J. WALLACE/BCF
1980 08 20	3.12,13,14	Released B-series, Added Flammability ALI-6000-61
1977 02 24		Released A-series AGI-6000-199

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3.5 PHYSICAL PROPERTIES

ESB-M12G66-	Density (+20% -10%) kg/m^3	Specific Strength min Most Adverse Direction kPa	Compression % max	Recovery % min Dry	Recovery % min Wet	Firmness min
A1/VB1	16.00	28	80	70	60	27
A2/VB2	24.0	48	75	70	70	52
A3/VB3	32.0	104	70	80	80	73
A4/VB4	40.0	152	65	85	80	73

Test Methods:

Density - ASTM C 167 using the thickness test specified below
Thickness - FLTM BN 23-2
Specific Strength - ASTM D 461
Dry Compression - FLTM 15-2
Dry Recovery - FLTM BN 15-2
Wet Recovery - FLTM BN 15-1
Firmness - FLTM BN 23-1

3.6 ACOUSTICAL Properties, Initial approval only

ESB-M12G66-	Thickness mm	Min Sound Absorption Percent (ASTM C 384) Frequency in Hz 250	500	1000	2000
A1/VB1	38	9	20	45	70
	25	5	10	20	40
	13	3	7	10	25
A2/VB2	38	9	25	50	73
	25	5	10	25	60
	13	3	7	10	28
A3/VB3	38	10	30	60	75
	25	6	10	30	70
	13	3	7	12	30
A4/VB4	38	11	40	65	80
	25	7	15	45	75
	13	3	7	12	35

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