

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

CERAMIC FIBER MAT, MOLDABLE

ESE-M96B68-A1
ESE-M96B68-A2

1. SCOPE

The material defined by this specification is a moldable ceramic fiber supplied as a moistened sheet. After forming into its final configuration it is cured by air drying to retain the expected shape. The dried fiber material is suitable for noise and vibration damping and high temperature insulation up to 1260 °C.

2. APPLICATION

This specification was released originally for material used as a noise and vibration damper between the heat shield and shell of the catalytic converter.

3. REQUIREMENTS

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 CONSTRUCTION

The fiber mat material is composed of an aqueous slurry of inorganic alumina-silica fibers, precipitating agents, inorganic binders and flocculating agents. The fiber mat is formed by processing the slurry through a multiple small opening cavity fixture which forms a continuous wet fibrous matrix. The fibrous mat is cut or molded to a specific size and packaged in a moist state in aluminum foil. This provides a flexible sheet that can be hand molded to the desired shape, then cured in service.

3.3 ORIGINAL PROPERTIES

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Moisture, %	42 – 62	42 - 62
Organic Binder, %	2 – 5	4 - 8
Inorganic Fibers, %	42 – 48	38 - 50

Test Method: Place 10 g sample into a previously weighed and ignited porcelain crucible. Heat in a mechanical convection oven at 102 – 106 °C for 3 h. Cool in desiccator, weigh and calculate % moisture (weight loss). Heat same crucible in a muffle furnace at 810 °C for 4 h. Cool in desiccator, weigh and calculate % organic binder (weight loss) and % inorganic fibers (residue).

Date	Action	Revisions
2002 08 15	Revised	Updated and renumbered
1986 12 10	CE34RD863100221	Revised & Retyped
1979 04 11	CAH3-DR741280-E	Released

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3.4 CURED PROPERTIES

3.4.1 Chemical Composition (Emission Spectrographic Analysis)

	ESE-M96B68-A1	ESE-M96B68-A2
SiO ₂	50 - 56	48 - 58
Al ₂ O ₃	44 - 50	37 - 45
Fe ₂ O ₃	1.5 max	1.2 max
CaO	0.2 max	1.0 max
MgO	0.5 max	0.7 max
3.4.2 Density, kg/m ³	192 - 255	232 - 248

Test Method: Using test method and sample size per ASTM C 167, determine density of the inorganic fiber mat, after ignition loss of moisture and organic binder.