

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

CERAMIC FIBER MAT, EXPANDED

WSE-M96B69-A2

1. SCOPE

The material defined by this specification is a composite blend of alumina-silica ceramic fibers, unexpanded vermiculite and an acrylic latex binder.

2. APPLICATION

This specification was released originally for material used as a support and seal for the ceramic monolith used in the catalytic converter.

This specification replaces and supersedes ESE-M96B69-A2. When ESE-M96B69-A2 is shown on other documents, the requirements of this specification apply.

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).

3.1 COMPOSITION, %

3.1.1	Alumina-silica Fibers (See test method below)	30 - 45
3.1.2	Expanded Vermiculite (See test method below)	45 - 60
3.1.3	Loss on Ignition (See test method below)	6 - 13

Test Method: Qualitative determination of the alumina-silica fibers and expanded vermiculite is accomplished by ICP analysis. Quantitative analysis is determined by placing 645 mm² samples in an oven set at 110 °C for 24 h. Remove and weigh samples. Place in furnace set at 900 °C for 1 h. Remove from furnace and weigh fired samples.

$$\% \text{ Loss on Ignition} = \frac{D - F}{D} \times 100$$

Date	Action	Revisions
2003 03 14	Revised	Para 3.0 inserted ; Para 3.3, 3.4, 3.5, 4 deleted
1994 08 26	NE01E10127076136	Revised 3.1.3, 3.2.2, Updated J.C. Webster
1983 09 13	CE3NRD863100E91	Released

Printed copies are uncontrolled

D = Dried sample weight

F = Fired sample weight

Pour contents onto clean white paper. Manually separate expanded vermiculite from ceramic fibers. Weigh the separated expanded vermiculite.

$$\% \text{ Vermiculite} = \frac{V}{D} \times 100$$

V = Expanded vermiculite weight

% Alumina + silica fibers = 100 - (% loss on ignition + % vermiculite)

3.2 ORIGINAL CHEMICAL PROPERTIES

3.2.1 Alumina-silica Fibers, %

Al₂O₃ 42 - 55

SiO₂ 44 - 57

3.2.2 Expanded Vermiculite, %

Al₂O₃ 7 - 20

SiO₂ 32 - 45

MgO 17 - 27

Fe₂O₃ 2 - 12

Other 0 - 27