



AEROSPACE MATERIAL SPECIFICATION

AMS3679**REV. C**

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Superseding AMS3679B

Insulation, Thermal
Ceramic Fiber

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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Documents

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1. SCOPE:

1.1 Form:

This specification covers alumina-silica, glass, and other ceramic fiber thermal insulation in the form of felt and fabric flat sheets, rolls, or molded non-pliable blocks. Nominal thickness is 0.1 to 2.0 inches (3 to 51 mm) and nominal density is 2 to 24 pounds mass per cubic foot (32 to 384 kg/m³).

1.2 Application:

This insulation has been used typically to provide thermal insulation at continuous hot-face temperatures from 500 to 2300 °F (260 to 1260 °C), but usage is not limited to such applications.

1.3 Classification:

Insulation shall be classified with a suffix system according to type, density, and thermal conductivity as shown in Table 2.

1.3.1 The type supplied shall be as specified.

1.4 Safety - Hazardous Materials:

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The applicable issue of referenced publications shall be the issue in effect on the date of the purchase order.

2.1 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM C 177	Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus
ASTM C 201	Thermal Conductivity of Refractories
ASTM C 892	High-Temperature Fiber Blanket Thermal Insulation
ASTM D 1682	Breaking Load and Elongation of Textile Fabrics

2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-B-5924	Batting, Insulation, Glass Fiber
MIL-STD-2073-1	DOD Materiel, Procedures for Development and Application of Packaging Requirements

3. TECHNICAL REQUIREMENTS:

3.1 Material and Fabrication:

Product specified by AMS 3679/1 and AMS 3679/2 shall be composed of alumina-silica fibers felted into a flexible, easily-handled blanket of substantially uniform thickness and density. The composition of the fibers shall conform to the percentages by weight shown in Table 1, determined by colorimetric methods or by other analytical methods acceptable to purchaser.

TABLE 1 - Composition

Component	min	max
Aluminum Oxide (Al_2O_3)	45.0	55.0
Silicon Dioxide (SiO_2)	45.0	55.0
Other Inorganics	--	5.0

- 3.1.1 The composition of AMS 3679/3 through AMS 3679/8 shall be as agreed upon by purchaser and vendor.