

HH-I-1972/1
August 12, 1981

FEDERAL SPECIFICATION

INSULATION BOARD, THERMAL, POLYURETHANE OR POLYISOCYANURATE, FACED WITH ALUMINUM FOIL ON BOTH SIDES OF THE FOAM

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

This specification forms a part of the latest issue of Federal Specification HH-I-1972/GEN.

1 SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for faced thermal insulation boards composed of rigid cellular polyurethane or polyisocyanurate foam faced with aluminum foil on both sides of the foam. This specification does not cover cryogenic applications. For intended use see 6.1 of HH-I-1972/GEN.

1.2 Classification. Unless otherwise specified (see 6.2 of HH-I-1972/GEN), the thermal insulation boards shall be at the manufacturer's option either class 1 or 2, and shall meet the physical requirements of 3.3, table I.

Class 1 - Nonreinforced polyurethane or polyisocyanurate foam.

Class 2 - Glass fiber reinforced polyurethane or polyisocyanurate foam.

2. APPLICABLE DOCUMENTS

2.1 Latest issue of HH-I-1972/GEN and documents referenced therein.

3. REQUIREMENTS

3.1 Materials. The thermal insulation boards shall conform to the material requirements of the basic specification HH-I-1972/GEN and 3.1.1.

3.1.1 Facing materials. Unless otherwise specified (see 6.2 of HH-I-1972/GEN), the facing material incorporated in the design of the faced thermal insulation board shall, at the manufacturer's option, be either supported aluminum foil or unsupported aluminum foil on both side of the foam. The facing material shall meet the requirements of 3.1.1.1 or 3.1.1.2.

3.1.1.1 Unsupported aluminum foil. The metallic composition of unsupported aluminum foil facing material shall not be less than 99 percent aluminum.

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3.1.1.2 Supported aluminum foil. The metallic composition of supported aluminum foil facing material shall not be less than 99 percent aluminum. Supporting material may be sheet, film or fibrous mat bonded to the foil. The aluminum foil shall be on the outside of the supporting material.

3.3 Physical properties. The thermal insulation boards, when conditioned, aged and tested in accordance with 4.5 through 4.5.7 of HH-I-1972/GEN shall meet the physical properties specified in table I.

TABLE I. Physical properties

Property	Class 1	Class 2	Test Reqmt. Para.
Compressive strength (psi) minimum	16.0	16.0	4.5.
Dimensional stability (L) at -40 deg F/ambient RH, (W) (percent change) maximum	2.0	1.5	4.5.4
Dimensional stability (L) at 158 deg F/97 % RH, (W) (percent change) maximum	2.0	1.5	4.5.4
Dimensional stability (L) at 200 deg F/ambient RH, (W) (percent change) maximum	4.0	1.5	4.5.4
Flexural Strength (psi) minimum	40.0	40.0	4.5.5
Water vapor transmission (perm-inch) maximum	0.1	0.1	4.5.7

4. QUALITY ASSURANCE PROVISIONS (See HH-I-1972/GEN).

5. PREPERATION FOR DELIVERY (see HH-I-1972/GEN).

6. NOTES

6.1 Intended use. The insulation material covered by this specification is intended for use as thermal insulation boards in ceilings, roofs, walls, and other applications where the insulation will not be subjected to temperatures below -40 deg F or above 200 deg F. The service temperature will vary depending on the application. This specification does not cover cryogenic applications. Consult manufacturer for recommendations and physical properties of faced polyurethane or polyisocyanurate insulation boards in cryogenic conditions.

6.2 Availability. 4 feet by 8 feet, 4 feet by 9 feet
Thickness - 3/8 to 3 inches.

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CUSTODIANS:

Army - ME
Navy - YD
Air Force - 99

Review activity.

Army - CE

CIVIL AGENCY COORDINATING ACTIVITIES:

COM - NBS
GSA - FSS, PCD

Preparing activity

Navy YD

Project No. 5640-0281

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See Section 2 of this specification to obtain extra copies and other documents referenced herein.

NOTICE
OF VALIDATION

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NOTICE 1
7 February 1991

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HH-I-1972/1, dated 12 August 1981, has been reviewed and determined to be valid
for use in acquisition.

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Army - ME
Navy - YD
Air Force - 99

CIVIL AGENCY COORDINATING ACTIVITIES:

COM - NIST
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Review activities:

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