

HH-I-1972/2
August 12, 1981

FEDERAL SPECIFICATION

INSULATION BOARD, THERMAL, POLYURETHANE OR
POLYISOCYANURATE FACED WITH ASPHALT/ORGANIC
FELT, ASPHALT/ASBESTOS FELT OR ASPHALT/GLASS FIBER
FELT 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 faced with asphalt/organic felts, asphalt/asbestos felts or asphalt/glass felts. This specification does not cover cryogenic applications. For intended use see 6.1 of HH-I-1972/GEN.

1.2 Classification. The insulation boards shall be of the following classes as specified (see 6.2 of HH-I-1972/GEN) and meet the physical requirements of 3.3, table I.

- Class 1 - Compressive strength - 16 psi minimum.
- Class 2 - Compressive strength - 35 psi minimum.
- Class 3 - Compressive strength - 50 psi minimum.
- Class 4 - Compressive strength - 75 psi minimum.

2. APPLICABLE DOCUMENTS

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

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

FSC 5640

HH-I-1972/2

American Society for Testing and Materials (ASTM) Standards:

- D226 - Asphalt-Saturated Organic Roofing Felt for Use in Membrane Waterproofing and Built-up Roofing.
 D250 - Asphalt-Saturated Asbestos Roofing Felt for Use in Waterproofing and Constructing Built-up Roofs.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19102.)

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 be at the manufacturer's option one of the following, asphalt/organic, asphalt/asbestos, or asphalt/glass fiber felt on both sides of the foam. The facing material shall meet the requirements of 3.1.1.1 through 3.1.1.3.

3.1.1.1 Asphalt/organic felt. The asphalt/organic felt shall conform to the material and physical properties requirements specified in table I of ASTM D226, except that the minimum saturation level shall be 95 percent.

3.1.1.2 Asphalt/asbestos felt. The asphalt/asbestos felt shall conform to the material and physical properties requirements specified in ASTM D250 except that the minimum saturation level shall be 15 percent.

3.1.1.3 Asphalt/glass fiber felt. The asphalt/glass fiber felt shall consist of fibrous 21, glass felts saturated with asphalt or asphalt emulsion.

3.2 First article (see HH-I-1972/GEN).

3.3 Physical properties. The thermal insulation boards, when conditioned 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	Class 3	Class 4	Test Reqmt. Para.
Compressive strength (psi) minimum	16.0	35.0	50.0	75.0	4.5.3
Dimensional stability (L) at -40 deg F/ambient RH, (W) (percent change) maximum	2.0	2.0	2.0	2.0	4.5.4
Dimensional stability (L) at 158 deg F/97% RH, (W) (percent change) maximum	4.0	4.0	4.0	4.0	4.5.4
Dimensional stability (L) at 200 deg F/ambient RH, (W) (percent change) maximum	4.0	4.0	4.0	4.0	4.5.4

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 roofs, 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. Sizes - 3 feet by 4 feet, 4 feet by 4 feet by,
4 feet by 8 feet
Thicknesses - 3/4 to 4 inches.

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.

HH-I-1972/2
Amendment 1
3 October 1985

FEDERAL SPECIFICATION

INSULATION BOARD, THERMAL, POLYURETHANE OR POLYISOCYANURATE
FACED WITH ASPHALT/ORGANIC FELT, ASPHALT/ASBESTOS FELT
OR ASPHALT/GLASS FIBER FELT ON BOTH SIDES OF THE FOAM

This amendment, which forms a part of HH-I-1972, dated August 12, 1981, is approved by the Assistant Administrator, Office of Federal Supply and Services, General Services Administration, for the use of all Federal agencies.

PAGE 1

Title, delete and replace with:

"INSULATION BOARD, THERMAL, POLYURETHANE OR POLYISOCYANURATE FACED WITH ASPHALT/ORGANIC FELT, POLYMER/ORGANIC MAT, ASPHALT/GLASS MAT, OR POLYMER/GLASS MAT ON BOTH SIDES OF THE FOAM."

Paragraph 1.1, delete and replace with:

"1.1 Scope. This specification covers the requirements for faced insulation boards composed of rigid cellular polyurethane or polyisocyanurate faced with asphalt/organic felt, polymer/organic mat, asphalt/glass mat or polymer/glass mat on both sides of the foam. This specification does not cover cryogenic applications. For intended use see 6.1 of HH-I-1972/GEN."

Paragraph 1.2, delete and replace with the following:

"1.2 Classification. The insulation boards shall be class 1 and meet the physical requirements of 3.3, table I.

Class 1 - Compressive strength - 16 psi minimum."

PAGE 2

Paragraph 2.2, delete:

"D250 - Asphalt-Saturated Asbestos Roofing Felt for Use in Waterproofing and Constructing Built-Up Roofs."

FSC 5640

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

HH-I-1972/2

Paragraph 3.3.1, delete and replace with the following:

"3.1.1.1 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 be at the manufacturer's option one of the following, asphalt/organic felt, polymer/organic mat, asphalt/glass mat, or polymer/glass mat, or polymer/glass mat on both sides of the foam. The facing material shall meet the requirements of 3.1.1.1 through 3.1.1.3."

Paragraph 3.1.1.2, delete and replace with the following:

"3.1.1.2 Polymer/organic mat. The polymer/organic mat shall consist of a cellulosic and glass fiber matrix bonded with organic polymer binders."

Paragraph 3.1.1.3, delete and replace with the following:

"3.1.1.3 Asphalt/glass fiber felt. The asphalt/glass fiber felt shall consist of fibrous glass mats coated with asphalt or asphalt emulsion."

Delete:

"3.1.1.4 Polymer/glass fiber mat. The polymer/glass fiber mat shall consist of fibrous glass mats bonded with organic polymer binders."

Table 1, delete and replace with the following:

"TABLE 1. Physical properties.

Property	Class 1	Test reqmt. para.
Compressive strength (psi) min.	16.0	4.5.3
Dimensional stability (L) at -40 deg F/ambient RH, (W) (percent change) max.	2.0 2.0	4.5.4
Dimensional Stability (L) at 158 deg F/94 percent RH, (W) (percent change) max.	4.0 4.0	4.5.4
Dimensional Stability (L) at 200 deg F/ambient RH, (W) (percent change) max.	4.0 4.0	4.5.4

Custodians

Navy - YD
Air Force - 99

CIVIL AGENCY COORDINATING ACTIVITIES:

COM-NBS
GSA-PCD
GSA-FSS

Review Activity

Air Force - 84

Preparing Activity

Navy - YD

DoD Project 5640-0105

HH-I-1972/2(1)
NOTICE 1
7 February 1991

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INSULATION BOARD, THERMAL, POLYURETHANE OR POLYISOCYANURATE
FACED WITH ASPHALT/ORGANIC FELT, ASPHALT/ASBESTOS FELT
OR ASPHALT/GLASS FIBER FELT ON BOTH SIDES OF THE FOAM

HH-I-1972/2(1), dated 3 October 1985, has been reviewed and determined
to be valid for use in acquisition.

Custodians:

Army - ME

Navy - YD

Air Force - 99

Review Activities:

Army - CE

Air Force - 84

CIVIL AGENCY COORDINATING ACTIVITIES:

COM-NIST

GSA-FSS/7FXE

Preparing Activity:

Navy - YD