LEGACY REPORT

NER-681

Reissued September 1, 2006

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Legacy report on the 2000 *International Building Code*®, 2000 *International Residential Code*®, the *2002 Accumulative Supplement to the International Codes*™, 1998 *International One- and Two-Family Dwelling Code*®, BOCA® *National Building Code*®/1999, 1999 *Standard Building Code*© and 1997 *Uniform Building Code*™

DIVISION 07—THERMAL AND MOISTURE PROTECTION
Section 07210—Building Insulation
Section 07220—Roof and Deck Insulation

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1.0 SUBJECT

Thermax® Boards:

1.1 Thermax® Sheathing
1.2 Thermax® Light Duty Insulation/Finish Board
1.3 Thermax® Heavy Duty Insulation/Finish Board
1.4 Thermax® Heavy Duty Plus Insulation/Finish Board
1.5 Thermax® Metal Building Board
1.6 Thermax® Ag-Therm Insulation/Finish Board

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

2.1 Surface-Burning Characteristics - Foam Core
2.2 Interior Finish Classification

3.0 DESCRIPTION

3.1 General

Thermax® boards are nonstructural, rigid board insulation products. The boards consists of rigid polyisocyanurate foam plastic core reinforced with a glass fiber mat, and bonded to aluminum facers on both sides (See Table 1 for product descriptions). The foam plastic core has a nominal density of 1.8 lb/ft³ (28.8 kg/m³). The boards are produced in widths of 16, 24 and 48 inches (406, 610 and 1219 mm), lengths of 96 and 108 inches (2439 and 2743 mm), and thicknesses of $^1/_2$ to $4^1/_4$ inches (12.7 to 108 mm).

Thermax® boards are intended for use as a nonstructural rigid insulation within or on the interior or exterior side of wall and roof assemblies in buildings of combustible and non-combustible construction. The boards are also intended for use at the perimeter of concrete slab-on grade floors, and exposed installations in attics and on the interior side of basement foundation walls, and crawl space walls, without a thermal barrier.

3.2 Surface Burning Characteristics - Foam Core

Thermax® boards core materials were tested for surface-burning characteristics in accordance with ASTM E 84 and demonstrated a flame spread index of less than 25 and a smoke-developed index of less than 450 at a maximum thickness of $4^1/_4$ inches (108 mm). The panels are classified as a (Class I) (Class A) Interior Finish Material.

4.0 INSTALLATION

4.1 General

Thermax® boards shall be installed in accordance with the manufacturer's published installation instructions and this report.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the jobsite during installation. The instructions within his report govern if there are any conflicts between the manufacturer's published installations instructions and this report.

4.2 Wood Construction in Areas of Very Heavy Termite Infestation

In jurisdictions that have adopted the *Standard Building Code*, *International One-and Two- Family Dwelling Code*, and the *International Residential Code*, where foam plastic insulation is used with wood construction in areas of very heavy termite infestation, the foam plastic shall be installed in accordance with Sections 1916.7.5 and 2603.3 of the *Standard Building Code*, Section 323.4 of the *International One-and Two-Family Dwelling Code* and Section R324.4 of the *International Residential Code*. Areas of very heavy termite infestation shall be determined in accordance with Figure 2304.1.4 *SBC*, Figure 301.2(6) *IOTFDC* and Figure R301.2 (6) *IRC*.

5.0 IDENTIFICATION

Thermax® products described in this report are identified on the packaging, by a label bearing the manufacturer's name and/or trademark, the third party agencies name and/or trademark (Intertek Testing Services NA/ETL Testing Laboratories (IAS AA647-2), the flame spread and smoke-developed indicies and this ICC-ES legacy report number NER-681 for field identification.

6.0 EVIDENCE SUBMITTED

6.1 Manufacturer's descriptive literature and specifications.

6.2 Quality Manual, The Dow Chemical Company, rev. July 25, 2002, signed by John Carmichael for The Dow Chemical Company April 25, 2002 and Dan Striebel for Intertek Testing Services NA, Inc. April 26, 2002.

6.3 Test report on surface-burning characteristics under ASTM E 84 for foil facer material, Factory Mutual Research, Project ID. 3011516 Class 4880, dated February 25, 2002.

6.4 Test report on surface-burning characteristics under ASTM E 84 of foamed plastic, Underwriters Laboratories, Inc., Reference No. R5622/01NK29978, dated September 12, 2002.

6.5 Test Report on room corner fire testing, Factory Mutual Research Corporation, Project ID. 3011516 Class 4880, dated February 25, 2002.

6.6 Test Report on intermediate-scale, multistory testing of Dow Thermax boards in accordance with NFPA 285, Southwest Research Institute, Project No. 01.05805.01.001, dated November 2002.

7.0 CONDITIONS OF USE

The ICC-ES Subcommittee for the National Evaluation Service finds that Thermax® insulation boards as described in this report comply with or are suitable alternates to those specified in the 2000 *International Building Code*®, 2000 *International Residential Code*®, the *2002 Accumulative Supplement to the International Codes*™, 1998 *International One- and Two-Family Dwelling Code*®, BOCA® *National Building Code*®/1999, 1999 *Standard Building Code*© and 1997 *Uniform Building Code*™, subject to the following conditions:

7.1 Application of the Thermax® boards listed in this report shall be in accordance with the manufacturer's installation instructions, subject to the limitations of this report.

7.2 Application of the Thermax® boards listed in this report shall be limited to a maximum thickness of $4^1/_4$ inches (108 mm).

7.3 A thermal barrier is not required to separate Thermax® boards from the interior of the building or structure.

7.4 Thermax® boards shall not be used as a nailing base. All nailing shall be made through the insulation into a nailable substrate or framing. When installed on the exterior face of exterior walls, the boards shall be covered with an approved exterior wall covering.

7.5 When used as insulating sheathing, a vapor retarder should be provided in accordance with the applicable code.

7.6 Thermax® boards shall not be used structurally to resist transverse, racking-shear or vertical loads.

7.7 Use of Thermax® boards as a component of fire-resistance-rated construction is outside the scope of this report.

7.8 When Thermax® boards is used in roofing application, additional data substantiating the wind uplift and fire classification of the roof assembly of which it is a component shall be submitted to the code official.

7.9 Evaluation for seismic performance of the Thermax® boards as a component of an exterior wall is outside the scope of this report.

7.10 This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.

TABLE 1

THERMAX® BOARD DESIGNATION	ALUMINUM FACER DESCRIPTION
Thermax® Sheathing	0.0009 in. reflective
Thermax® Light Duty	0.00125 in. white embossed
Thermax® Heavy Duty	0.004 in. white embossed
Thermax® Heavy Duty Plus	0.016 in. white embossed
Thermax® Metal Building Board	0.00125 in. embossed
Thermax® Ag-Therm	0.00125 in. white embossed