



Guide Specification

THERMAX XARMOR™ (ci), THERMAX™ ci, THERMAX™ Sheathing Insulation for Inverted Wall Assembly

DISCLAIMER: The manufacturer has reviewed the product information contained in this short form specification. The information is organized and presented to assist the specification writer working on a construction project to select the appropriate products and to save time in writing the project specification Section. The specification writer is responsible for product selection as well as the use and application of this information, and should contact the manufacturer to ensure that all options are available and that the associated specification information is valid and correct.

SPEC NOTE: Insert the required paragraphs into the Section under the noted Articles, and make any required selections. Where selection is indicated with an [OR] statement, select the appropriate paragraph and delete the inappropriate statement. Delete all SPEC NOTES and [OR] statements prior to final printing.

NOTE: This is NOT the specification for the THERMAX Wall System. See "THERMAX Wall System" guide specifications for complete thermal, air, water, and vapor barrier system.

01 4100: CONTINUOUS ENVELOPE AIR BARRIER

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. *Administrative and procedural requirements to create an airtight building enclosure that controls infiltration / exfiltration of air.*
 - 1. *The Prime Contractor shall ensure that the continuous air barrier around the building enclosure is achieved with the following characteristics:*
 - a. *It must be continuous, with all joints, penetrations, and air paths sealed.*
 - b. *It must be structurally supported.*
 - c. *It must be connected and continuous between foundation & walls, walls & windows/doors, different wall systems, wall & roof.*

1.02 RESPONSIBILITIES

- A. *Prime Contractor Responsibilities: Unless otherwise indicated, the Prime Contractor shall provide coordination of the trades, and the sequence of construction to ensure continuity of the air barrier system joints, junctures and transitions between materials and assemblies of materials and products, from substructure to walls to roof.*

PART 2 – PRODUCTS – [not used]

PART 3 – EXECUTION – [not used]

END OF SECTION

SECTION 07 2100

THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. THERMAX™ Brand Polyisocyanurate Board Insulation.

1.02 REFERENCE STANDARDS

- A. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2016.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- C. ASTM E2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies; 2011.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.



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- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Warranty: Provide Manufacturer's Limited Thermal Warranty for polyisocyanurate insulation.
- D. NFPA 285 Compliance: Submit third party documentation showing wall assembly compliance with NFPA 285.

1.04 QUALITY ASSURANCE

- A. Source Limitations: Obtain exterior building insulation through one source from a single manufacturer.

1.05 FIELD CONDITIONS

- A. Application Temperatures: Comply with Manufacturer's recommendations for product applications.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Inverted Insulation at Exterior Walls: Polyisocyanurate.

2.02 FOAM BOARD INSULATION MATERIALS

- A. Polyisocyanurate Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289; Type I, aluminum foil both faces; Class 2, glass fiber-reinforced core.
 - 1. Basis of Design:
 - a. Dow Chemical Company; **THERMAX XARMOR™ ci**: www.dowbuildingsolutions.com.
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 4. Front Facer: 4.0 mil gray acrylic coated embossed aluminum.
 - 5. Back Facer: 1.25 mil embossed aluminum.
 - 6. Board Size: 48 by 96 inch (1220 by 2440 mm).
 - 7. Board Thickness: inch (mm).
 - 8. Board Edges: Shiplap on 1.5" and thicker boards.
 - 9. Sustainability: Third party listed Environmental Product Declaration certificate.

[OR]

- B. Polyisocyanurate Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289; Type I, aluminum foil both faces; Class 2, glass fiber-reinforced core.
 - 1. Basis of Design:
 - a. Dow Chemical Company; **THERMAX™ ci**: www.dowbuildingsolutions.com.
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 4. Front Facer: 1.25 mil blue acrylic coated embossed aluminum.
 - 5. Back Facer: 1.0 mil smooth aluminum.
 - 6. Board Size: 48 by 96 inch (1220 by 2440 mm).
 - 7. Board Thickness: inch (mm).
 - 8. Board Edges: Shiplap on 1.5" and thicker boards.
 - 9. Sustainability: Third party listed Environmental Product Declaration certificate.

[OR]

- B. Polyisocyanurate Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289; Type I, aluminum foil both faces; Class 2, glass fiber-reinforced core.



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1. Basis of Design:
 - a. Dow Chemical Company; **THERMAX™ Sheathing**: www.dowbuildingsolutions.com.
2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
4. Front Facer: 1.0 mil smooth aluminum.
5. Back Facer: 1.0 mil smooth aluminum.
6. Board Size: 48 by 96 inch (1220 by 2440 mm).
7. Board Thickness: _____ inch (_____ mm).
8. Board Edges: Square.
9. Sustainability: Third party listed Environmental Product Declaration certificate.

2.03 ACCESSORIES

- A. Fasteners: Provide insulated sheathing Manufacturer's recommended polymer or other corrosion protective coated steel screw fasteners for anchoring sheathing to metal wall framing. Fastener length and size based on wall sheathing thickness.
 1. Acceptable Products:
 - a. Rodenhouse, Inc. 2 inch diameter "THERMAL-GRIP ci Prong Washers" plastic washers which can be installed using either bulk Grip-Deck self-drilling screws or collated Grip-Deck screws [Use the Grip-Lok auto-feed fastening system for high speed application (recommended for wall assemblies up to 2 inches in thickness).] Contact Rodenhouse, Inc. for more information at 616-454-3100.
- B. Penetration and Gap Filler
 1. Acceptable Products:
 - a. The Dow Chemical Company; GREAT STUFF PRO™ Gaps & Cracks for gaps ¼" to 3".
 - b. The Dow Chemical Company; GREAT STUFF PRO™ Window & Door for gaps ¼" to 3".
 - c. The Dow Chemical Company; FROTH-PAK Foam Insulation two component, quick-cure polyurethane foam for gaps 2" to 4".
- B. Exterior Insulation Joint Treatment (Optional)
 1. Acceptable Products:
 - a. The Dow Chemical Company; LIQUIDARMOR™ CM spray flashing and sealant (for gaps < ¼").
 - b. The Dow Chemical Company; LIQUIDARMOR™ LT flexible single component silicone flashing (for gaps < ¼").
 2. For joints >1/4", use Gap Filler prior to sealing joint.
- D. Roof/Wall Juncture Sealing
 1. Maintain continuity of air barrier by sealing the roof/wall juncture.
 2. Acceptable Products:
 - a. The Dow Chemical Company; FROTH-PAK™ Foam Insulation (Class A).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

3.02 BOARD INSTALLATION IN INVERTED EXTERIOR WALLS

- A. Install insulation board directly to studs per Manufacturer's installation instructions.



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- B. Fasten at 16 inches (406 mm) on center in the field, vertically and horizontally, and 12 inches on center at perimeter of wall, with manufacturer recommended mechanical fasteners.
- C. Install boards horizontally on walls, stagger the joints.
- D. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
 - 1. Seal around penetrations using Penetration and Gap Filler material.
 - 2. Maintain continuity of air barrier by sealing the roof/wall juncture with Roof/Wall Juncture Sealing material.
- E. If using insulation as air/water barrier: Seal board joints with Manufacturer's recommended sealant product, consistent with ASTM E2357 tested assembly.
- F. Install exterior gypsum board over the insulation per gypsum Manufacturer's recommendations per specification section [REDACTED].
- G. Install water/air barrier on exterior gypsum per water/air barrier Manufacturer's recommendations per specification section [REDACTED].

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.04 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION



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STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and (Material) Safety Data Sheet ((M)SDS) carefully before use. Wear protective clothing (including long sleeves), gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

GREAT STUFF PRO™ Insulating Foam sealant and adhesive products contain isocyanate and a flammable blowing agent. Read all instructions and (Material) Safety Data Sheet ((M)SDS), carefully before use. Eliminate all sources of ignition before use. Cover all skin. Wear long sleeves, gloves, and safety glasses or goggles. Not for use in aviation, or food/beverage contact, or as structural support in marine applications. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure. Not to be used for filling closed cavities or voids such as behind walls and under tub surrounds.

CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

Dow Polyurethane Foam Insulation and Sealant

CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

LIQUIDARMOR™

Read the instructions and (Material) Safety Data Sheets ((M)SDS) carefully before use. It is recommended that spray applicators and those working in the spray area wear eye protection. Contact with exposed skin may cause skin discoloration and dryness. Gloves are recommended for prolonged exposures. Ensure adequate ventilation during spray applications.

THERMAX™ Brand Polyisocyanurate Insulation

CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583), or contact your local building inspector. In an emergency, call 1-989-636-4400.

STYROFOAM™ Extruded Polystyrene Foam Insulation

CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult (Material) Safety Data Sheet ((M)SDS), call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.

References to "DOW" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted.

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