



SECTION 07 21 13.5

CONTINUOUS INSULATION XCI 286 WALL/CEILING PANELS

This specification is based on the continuous insulation products of Hunter Panels, located at:

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Portland, Maine 04101
Phone: (207) 761-5678
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As an industry leader in Polyiso Roof insulation panels for over 20 years – Hunter is proud to present our line for Commercial Wall Applications – Hunter XCI products are designed for use in commercial wall applications to provide “ci” continuous insulation within the building envelope.

This specification includes Xci 286; a high thermal resistive rigid insulation panel composed of rigid polyisocyanurate foam core bonded on-line during the manufacturing process to glass fiber reinforced foil facing material on both sides, one side reflective, one side white. XCI 286 is designed for use as exterior continuous insulation in a wall assembly capable of meeting NFPA 285 and NFPA 286 for exposed interior wall or ceiling use in commercial, residential, industrial, agricultural and metal building applications. For use in sheathing and underlayment, concrete and masonry wall and cavity wall applications.

Follow the instructions listed in the **SPECIFIER INSTRUCTIONS** included throughout the specification. Edit carefully to suit project requirements. Modify as necessary and delete paragraphs that are not applicable. Note that the **SPECIFIER INSTRUCTIONS** are included as “Hidden Text” in MS-Word. Display hidden notes to specifier by using “Tools”/”Options”/”View”/”Hidden Text”.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Continuous Exposed Interior Wall and Ceiling Insulation Panels
- B. Continuous Exposed Exterior Wall Panels

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast In Place Concrete: Concrete base wall.

- B. Section 03 40 00 - Pre-Cast Concrete: Pre-cast concrete base wall.
- C. Section 04 21 00 - Clay Masonry: Brick facing.
- D. Section 04 22 00 - Concrete Unit Masonry: Masonry base wall.
- E. Section 04 40 00 - Stone Facing.
- F. Section 05 40 00 - Cold Formed Metal Framing.
- G. Section 07 26 00 - Vapor Retarders: Vapor retarder materials over insulation to adjacent insulation.
- H. Section 07 27 00 - Air Barriers: Air seal materials over insulation to adjacent insulation.
- I. Section 09 20 00 - Plaster and Gypsum Board.
- J. Section 09 22 16 - Non-Structural Metal Framing.
- K. Section 09 24 23 - Stucco.

1.3 REFERENCES

- A. ASTM C 209 – Methods of Testing Insulating Board, Structural and Decorative.
- B. ASTM C 518 – Steady State Thermal Transmission by Means of the Heat Flow Meter Apparatus (R Value)
- C. ASTM C 1289 – Specifications for Faced Rigid Cellular Polyisocyanurate Thermal Insulating Board.
- D. ASTM D 1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
- E. ASTM D 1621 – Test Methods for Compressive Properties of Rigid Cellular Plastics.
- F. ASTM D 2126 - Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
- G. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- H. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials
- I. ASTM E 96 - Test Method for Water Vapor Transmission of Materials.
- J. ASTM E 283 – Standard Test Method for Determining Rate of Air Leakage through Exterior Window, Curtain Walls and Doors under specific Pressure differences across the specimen
- K. ASTM E 330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- L. ASTM E 331 – Standard Test Method for Water Penetration of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

- M. ASTM E 2178 – Standard Test Method for Air Permeance of Building Materials
- N. ASTM E 2357 – Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- O. ASHRAE 90.1-2010 - Energy Standard for Buildings Except Low-Rise Residential Buildings.
- P. IBC Chapter 26 – Foam Plastic Insulation.
- Q. NFPA 285 - Standard Fire Test Method For Evaluation Of Fire Propagation Characteristics Of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
- R. NFPA 286 - Standard Methods Of Fire Tests For Evaluating Contribution Of Wall And Ceiling Interior Finish To Room Fire Growth
- S. UL 1715 - Standard for Fire Test of Interior Finish Material.
- T. UL – Underwriters Laboratory Classified

1.4 SYSTEM DESCRIPTION

- A. Insulation: Hunter Xci 286 has passed the following:
 1. Meets the continuous insulation standards of ASHRAE 90.1-2010 and IECC 2012 for commercial exterior wall applications and IBC Building Code Chapter 26.
 2. NFPA 286 for exposed interior walls or ceilings applications.
 3. NFPA 286 Corner Burn Test for walls or ceilings only, with or without joint treatment, allowing product to be left exposed on interior application without a thermal barrier up to 3.5 inches thick.
 4. UL 1715 with up to 8 inches for ceilings only.
- B. NFPA 285 Exterior Wall Assembly – Concrete Masonry:
 1. Base Wall System: Concrete Masonry Wall.
 2. Approved Exterior Finish:
 - a. Masonry: Brick veneer anchors, standard types, installed maximum 24 inches (610 mm) o.c. vertically. Maximum 2 inch (51 mm) air gap between exterior insulation and brick. Standard nominal 4 inches (102 mm) thick or greater, clay brick.
 - b. Stucco: Minimum 3/4 inch (19 mm) thick, Exterior Cement Plaster and Lath.
 - c. Limestone or Natural Stone: Minimum 2 inch (51 mm) thick, Limestone or Natural Stone Veneer or minimum 1-1/2 inches (38 mm) thick Cast Artificial Stone Veneer. Any standard installation technique can be used.
 - d. Terra Cotta Cladding: Use any Terra Cotta Cladding System in which Terra Cotta is minimum 9/16 inch (14 mm). Any standard installation technique can be used.
 - e. Metal Composite Material: Use any Metal Composite Material system that has been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - f. Exterior Metal: Metal Exterior wall coverings such as Steel, Aluminum, Copper, etc. Any standard installation technique can be used.
 - g. Fiber Cement Board siding. Any standard installation technique can be used.
 - h. Stone Aluminum: Stone Aluminum Honeycomb Composite Panels that have been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - i. FunderMax M.Look Grey Core- minimum ¼” thick using any standard installation technique.
 3. Panel Thickness: 3.5 inches (89 mm) maximum.

4. Stud Cavity: Not Applicable.
5. Exterior Sheathing: Not Applicable.
6. Floorline Firestopping: 4 lb/cu ft mineral fiber based safing Insulation at each floor line, attached with Z Clips or equivalent.
7. Weather Resistive Membrane Applied to base wall: Acceptable products are:
 - a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A
 - 4) Fire Resist 705 VP
 - b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
 - c. GE:
 - 1) Momentive SEC 2500 SilShield
 - d. Henry:
 - 1) Air Bloc 17
 - 2) Air Bloc 21S
 - 3) Air Bloc 31
 - 4) Air Bloc 33
 - e. PolyGuard:
 - 1) Air Lok Flex VP
 - 2) Flexguard
 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)
 - f. Prosoco:
 - 1) R Guard Spray Wrap
 - 2) R Guard MVP
 - 3) R Guard CAT-5
 - 4) R Guard VB
 - g. StoCorp:
 - 1) EmeraldCoat
 - 2) GoldCoat
 - 3) StoGuard Vapor Shield
 - h. VaproShield:
 - 1) Wrap Shield SA
 - 2) Reveal Shield SA
 - i. WR Grace:
 - 1) Perm-a-barrier VPS
 - 2) Perm-a-barrier NPL
 - 3) Perm-a-barrier VPL
 - 4) Perm-a-barrier NP 20
 - 5) Perm-a-barrier Aluminum Wall Membrane
 - j. 3M:
 - 1) 3015 (with Hold Fast adhesive at a 6 mil thickness)
 - k. Pecora
 - 1) XL Perm Ultra VP
 - l. None
8. Weather Resistive Membrane Applied to Exterior Insulation: Acceptable products are:
 - a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A
 - 4) Fire Resist 705 VP
 - b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
 - c. GE:
 - 1) Momentive SEC 2500 SilShield

- d. Henry:
 - 1) Air Bloc 17
 - 2) Air Bloc 21S:
 - 3) Air Bloc 31
 - 4) Air Bloc 33
- e. PolyGuard
 - 1) Air Lok Flex VP
 - 2) Flexguard
 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)
- f. VaproShield:
 - 1) Wrap Shield SA
 - 2) Reveal Shield SA
- g. WR Grace:
 - 1) Perm-a-barrier NPL
 - 2) Perm-a-barrier VPL
 - 3) Perm-a-barrier NP 20
 - 4) Perm-a-barrier Aluminum Wall Membrane
- h. Pecora
 - 1) XL Perm Ultra VP
- i. None.

C. NFPA 285 Exterior Wall Assembly – Cast-in-Place or Precast Concrete:

1. Base Wall System: Concrete Masonry Wall.
2. Approved Exterior Finish:
 - a. Masonry: Brick veneer anchors, standard types, installed maximum 24 inches (610 mm) o.c. vertically. Maximum 2 inch (51 mm) air gap between exterior insulation and brick. Standard nominal 4 inches (102 mm) thick or greater, clay brick.
 - b. Stucco: Minimum 3/4 inch (19 mm) thick, Exterior Cement Plaster and Lath.
 - c. Limestone or Natural Stone: Minimum 2 inches (51 mm) thick, Limestone or Natural Stone Veneer or minimum 1-1/2 inches (38 mm) thick Cast Artificial Stone Veneer. Any standard installation technique can be used.
 - d. Terra Cotta Cladding: Use any Terra Cotta Cladding System in which Terra Cotta is minimum 9/16 inches (14 mm). Any standard installation technique can be used.
 - e. Metal Composite Material: Use any Metal Composite Material system that has been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - f. Fiber Cement Board siding. Any standard installation technique can be used.
 - g. Exterior Metal: Metal Exterior wall coverings such as Steel, Aluminum, Copper, etc. Any standard installation technique can be used.
 - h. Stone Aluminum: Stone Aluminum Honeycomb Composite Panels that have been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - i. FunderMax M.Look Grey Core- minimum 1/4" thick using any standard installation technique.
3. Panel Thickness: 3.5 inches (89 mm) maximum.
4. Stud Cavity: Not Applicable.
5. Exterior Sheathing: Not Applicable.
6. Floorline Firestopping: 4 lb/cu ft mineral fiber based safing insulation at each floor line, attached with Z Clips or equivalent.
7. Weather Resistive Membrane Applied to base wall: Acceptable products are:
 - a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A

- 4) Fire Resist 705 VP
- b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
- c. GE:
 - 1) Momentive SEC 2500 SilShield
- d. Henry:
 - 1) Air Bloc 17
 - 2) Air Bloc 21S
 - 3) Air Bloc 31
 - 4) Air Bloc 33
- e. PolyGuard:
 - 1) Air Lok Flex VP
 - 2) Flexguard
 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)
- f. Prosoco:
 - 1) R Guard Spray Wrap
 - 2) R Guard MVP
 - 3) R Guard CAT-5
 - 4) R Guard VB
- g. StoCorp:
 - 1) EmeraldCoat
 - 2) GoldCoat
 - 3) StoGuard Vapor Shield
- h. VaproShield:
 - 1) Wrap Shield SA
 - 2) Reveal Shield SA
- i. WR Grace:
 - 1) Perm-a-barrier VPS
 - 2) Perm-a-barrier NPL
 - 3) Perm-a-barrier VPL
 - 4) Perm-a-barrier NP 20
 - 5) Perm-a-barrier Aluminum Wall Membrane
- j. 3M:
 - 1) 3015 (with Hold Fast adhesive at a 6 mil thickness)
- k. Pecora
 - 1) XL Perm Ultra VP
- l. None
- 8. Weather Resistive Membrane Applied to Exterior Insulation: Acceptable products are:
 - a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A
 - 4) Fire Resist 705 VP
 - b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
 - c. GE:
 - 1) Momentive SEC 2500 SilShield
 - d. Henry:
 - 1) Air Bloc 17
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 - 4) Air Bloc 33
 - e. PolyGuard
 - 1) Air Lok Flex VP
 - 2) Flexguard
 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)

- f. VaproShield:
 - 1) Wrap Shield SA
 - 2) Reveal Shield SA
 - g. WR Grace:
 - 1) Perm-a-barrier NPL
 - 2) Perm-a-barrier VPL
 - 3) Perm-a-barrier NP 20
 - 4) Perm-a-barrier Aluminum Wall Membran
 - h. Pecora
 - 1) XL Perm Ultra VP
 - i. None.
- D. NFPA 285 Exterior Wall Assembly – Steel Stud:
1. Base Wall System: Steel Stud, 1 layer 5/8 inch (16 mm) thick Type X or 1/2 inch (12.5 mm) thick Type X Gypsum wallboard on interior, installed over steel studs: minimum 3-5/8 inches (92 mm) depth, minimum 22 gauge at a maximum of 24 inches (610 mm) o.c. with lateral bracing every 4 feet (1220 mm) vertically.
 2. Approved Exterior Finish:
 - a. Masonry: Brick veneer anchors, standard types, installed maximum 24 inches (610 mm) o.c. vertically on each stud. Maximum 2 inch (51 mm) air gap between exterior insulation and brick. Standard nominal 4 inches (102 mm) thick or greater, clay brick.
 - b. Stucco: Minimum 3/4 inch (19 mm) thick, Exterior Cement Plaster and Lath.
 - c. Limestone or Natural Stone: Minimum 2 inch (51 mm) thick, Limestone or Natural Stone Veneer or minimum 1-1/2 inches (38 mm) thick Cast Artificial Stone Veneer. Any standard installation technique can be used.
 - d. Terra Cotta Cladding: Use any Terra Cotta Cladding System in which Terra Cotta is minimum 9/16 inches (14 mm). Any standard installation technique can be used.
 - e. Metal Composite Material: Use any Metal Composite Material system that has been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - f. Fiber Cement Board siding. Any standard installation technique can be used.
 - g. Exterior Metal: Metal Exterior wall coverings such as Steel, Aluminum, Copper, etc. Any standard installation technique can be used.
 - h. Stone Aluminum: Stone Aluminum Honeycomb Composite Panels that have been successfully tested by the panel manufacturer via the NFPA 285 test method. Any standard installation technique can be used.
 - i. FunderMax M.Look Grey Core- minimum 1/4" thick using any standard installation technique.
 3. Panel Thickness: 3.5 inches (89 mm) maximum.
 4. Stud Cavity:
 - a. Any non-combustible insulation.
 - b. Bayer: BaySeal CC X or CC XP.
 - c. BASF: Walltite.
 - d. None.
 5. Exterior Sheathing: 1/2 inch (12.5 mm) or 5/8 inch (16 mm) thick exterior type gypsum sheathing or none. Required with SPF insulation.
 6. Floorline Firestopping: 4 lb/cu ft mineral fiber based safing insulation in each stud cavity and at each floor line, attached with Z Clips or equivalent.
 7. Weather Resistive Membrane Applied to base wall: Acceptable products are:
 - a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A
 - 4) Fire Resist 705 VP

- b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
 - c. GE:
 - 1) Momentive SEC 2500 SilShield
 - d. Henry:
 - 1) Air Bloc 17
 - 2) Air Bloc 21S
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 - e. PolyGuard:
 - 1) Air Lok Flex VP
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 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)
 - f. Prosoco:
 - 1) R Guard Spray Wrap
 - 2) R Guard MVP
 - 3) R Guard CAT-5
 - 4) R Guard VB
 - g. StoCorp:
 - 1) EmeraldCoat
 - 2) GoldCoat
 - 3) StoGuard Vapor Shield
 - h. VaproShield:
 - 1) Wrap Shield SA
 - 2) Reveal Shield SA
 - i. WR Grace:
 - 1) Perm-a-barrier VPS
 - 2) Perm-a-barrier NPL
 - 3) Perm-a-barrier VPL
 - 4) Perm-a-barrier NP 20
 - 5) Perm-a-barrier Aluminum Wall Membrane
 - j. 3M:
 - 1) 3015 (with Hold Fast adhesive at a 6 mil thickness)
 - k. Pecora
 - 1) XL Perm Ultra VP
 - l. None
8. Weather Resistive Membrane Applied to Exterior Insulation: Acceptable products are:
- a. Carlisle:
 - 1) Fire Resist Barritech VP or VP LT
 - 2) Fire Resist Barritech NP
 - 3) Fire Resist 705 FR-A
 - 4) Fire Resist 705 VP
 - b. DuPont:
 - 1) Tyvec ComercialWrap or Commercial Wrap D
 - c. GE:
 - 1) Momentive SEC 2500 SilShield
 - d. Henry:
 - 1) Air Bloc 17
 - 2) Air Bloc 21S:
 - 3) Air Bloc 31
 - 4) Air Bloc 33
 - e. PolyGuard
 - 1) Air Lok Flex VP
 - 2) Flexguard
 - 3) Air Lok Flex (Please contact Hunter XCI for cladding options)
 - f. VaproShield:

- 1) Wrap Shield SA
- 2) Reveal Shield SA
- g. WR Grace:
 - 1) Perm-a-barrier NPL
 - 2) Perm-a-barrier VPL
 - 3) Perm-a-barrier NP 20
 - 4) Perm-a-barrier Aluminum Wall Membrane
- h. Pecora
 - 1) XL Perm Ultra VP
- i. None.

1.5 DESIGN REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Physical properties (Foam Core): XCI 286
 - 1. Flame Spread Index: ASTM E 84, less than 25.
 - 2. Smoke Developed: ASTM E 84, less than 250.
 - 3. Compressive Strength: ASTM D 1621; Type I, Grade 3 - 25 psi (172 kPa).
 - 4. Impact Resistance: ASTM D 1037, 40 Janka Ball Test.
 - 5. Dimensional Stability: ASTM D 2126, 2 percent linear change (7 days).
 - 6. Moisture Vapor Permeance: ASTM E 96, less than 0.04 perm (2.875ng/(Pa*s*m2)).
 - 7. Water Absorption: ASTM C 209, less than 0.05 percent by volume.
 - 8. Service Temperature: Minus 100 degrees to 250 degrees F (Minus 73 degrees C to 122 degrees C).
 - 9. Air Permeance of Building Material: ASTM E 2178, less than 0.001 L(s.m2) at 75 Pa
 - 10. Air Leakage of Air Barrier Assemblies: ASTM E 2357, no leakage
 - 11. Rate of Air Leakage: ASTM E 283, less than 0.04 cfm/ft2
 - 12. Structural Performance by Uniform Static Air Pressure Difference: ASTM E 330, less than 0.04 cfm/ft2
 - 13. Water Penetration by Static Air Pressure Difference: ASTM E 331, pass, no leakage
 - 14. Resistance to Mold: ASTM D 3273 Passed (10).
- C. Continuous insulation XCI Class A Foil wall panels shall meet the continuous insulation standards of ASHRAE 90.1-2010, ICB Chapter 26 and IECC 2012.

1.6 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Manufacturer's data sheets on wall panels and fasteners to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
 - 2. Environmental Product Declaration which conforms to ISO 14025.
- D. Manufacturer's Certificate: Certify panels will conform to specified performance requirements.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall be a company that regularly manufactures and assembles specified insulation in house with no outside fabrication operations.
- B. Pre-Installation Meeting: Convene minimum one week prior to commencing Work of this section. Review installation procedures and coordination required with Related Work and include the following:
 - 1. Participants: Authorized representatives of the Contractor, Architect, Installer, and Manufacturer.
 - 2. Review wall assemblies for potential interference and conflicts and coordinate layout and support provisions for interfacing work.
 - 3. Review continuous insulation wall panels installation methods and procedures related to application, including manufacturer's installation guidelines.
 - 4. Review firestopping requirements and weather resistive membrane requirements and placement locations.
 - 5. Review field quality control procedures.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Good construction practice dictates that all insulations should be protected from moisture and direct sunlight during job-site storage. Pallets of Hunter Panels Xci CG are double packaged in a UV resistant polyethylene bag. This moisture resistant package is designed for protection from the elements during flatbed shipment from our factories to the job-site. Outdoor storage for extended periods of time requires waterproof tarpaulins and elevated storage above ground level a minimum of 2". Additionally, we recommend slitting the bundle packaging vertically down the center of the two short sides to prevent moisture accumulation within the package.

1.9 SEQUENCING

- A. Coordinate with the installation of vapor retarders and air seal materials specified in Section 07 26 00 and Section 07 27 00.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Insulating panels shall be XCI products produced by Hunter Panels, 15 Franklin Street, Portland, Maine 04101. Phone: (207) 761-5678 or (888) 746-1114. Fax: (717) 960-1611. E-mail: www.hunterxci.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 BOARD INSULATION

- A. Board Insulation with Foil Facers: Hunter Panels XCI 286 complies with ASTM C 1289 and ASTM E 84 Class A. Panels are a high thermal resistive rigid insulation panel composed of a closed cell polyisocyanurate foam core bonded on both sides with reinforced foil facers, one side reflective, one side white.
1. Type: ASTM C 1289, Type I, Grade 3 (25 psi).
 2. Panel Size:
 - a. 4 feet by 8 feet (1220 mm by 2440 mm).
 3. Thickness / R Value: ASTM C 518 at 75 degrees F (23.9 degrees C).
 - a. 1.0 inches (25 mm) / R Value 6.3
 - b. 1.5 inches (38 mm) / R Value 9.5
 - c. 1.6 inches (41 mm) / R Value 10.1
 - d. 2.0 inches (51 mm) / R Value 13.0
 - e. 2.5 inches (64 mm) / R Value 16.0
 - f. 3.0 inches (76 mm) / R Value 19.0
 - g. 3.5 inches (89 mm) / R Value 22.0
 - h. Provide to the thickness indicated on the Drawings.

2.3 PANEL FASTENERS AND JOINTS

- A. Exposed Interior Joint Sealant and Fastener Options
1. XCI 286 Tape: Foil insulation flashing tape with a white enameled finish and butyl pressure sensitive adhesive.
 - a. Backing: 1.5 mil Fiber Reinforced Aluminum Foil.
 - b. Width: 3 inches
 - c. Thickness: 20 mils
 2. Caulking: As recommended by the panel manufacturer.
 3. Construction Adhesives: As recommended by the panel manufacturer.
 4. None
 5. Approved Fastening Methods:
 - a. Screw type with washers: Rodenhouse or WindLock
 - b. Powder or gas actuated fasteners with washers
 - c. Impalement type: Stick pins
 - d. Adhesive; any general construction grade adhesive, not recommended for ceiling application
 - e. Plastic Rail systems: Victory Bear
- B. Exterior Wall Assembly Joint Sealant and Fastener Options
1. Foil Grip 1402: Foil insulation flashing tape with a butyl pressure sensitive adhesive.
 - a. Backing: 2 mils Aluminum foil.
 - b. Width: 2 to 6 inches.
 - c. Thickness: 17 mils.
 2. Aluma Grip 701: Foil insulation flashing tape with a butyl pressure sensitive adhesive. Backing: 2 mils Aluminum foil.
 - a. Width: 2 to 6 inches.
 - b. Thickness: 30 mils.
 3. XCI 286 Tape: Foil insulation flashing tape with a white enameled finish and butyl pressure sensitive adhesive.
 - a. Backing: 1.5 mil Fiber Reinforced Aluminum Foil.
 - b. Width: 3 inches
 - c. Thickness: 20 mils
 4. Caulking: As recommended by the panel manufacturer.
 5. Construction Adhesives: As recommended by the panel manufacturer.
 6. None
 7. Approved Fastening Methods:
 - a. Screw type with washers: Rodenhouse or WindLock
 - b. Powder or gas actuated fasteners with washers

- c. Impalement type: Stick pins
- d. Adhesive; any general construction grade adhesive

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until exterior walls have been properly prepared.
- B. Verify that all exterior wall assembly construction has been completed to the point where the insulation may correctly be installed.
- C. Verify that mechanical and electrical services in walls have been installed and tested and, if appropriate, verify that adjacent materials and finishes are dry and ready to receive insulation.
- D. If wall assembly preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install with white side exposed.
- C. Install with reflective side exposed.
- D. Install without gaps or voids. Do not compress insulation.
- E. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- F. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within plane of insulation.
- G. Fasten insulation as recommended by the Hunter Panel Installation Guide.
- H. Exposed insulation must be protected from open flame and kept dry at all times.
- I. Install vapor retarders over insulation panels as specified in Section 07260.
- J. Install air barriers over insulation panels as specified in Section 07270.
- K. Exterior wall insulation is not intended to be left exposed for extended periods of time in excess of 45-60 days without adequate protection. If extended exposure is anticipated all exposed foam surfaces including corners, window and door openings, should be taped with a compatible waterproof tape.

- L. Install exterior cladding as recommended by the cladding manufacturer and as specified in other sections of this specification.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Cover the top and edges of unfinished wall panel work to protect it from the weather and to prevent accumulation of water in the cores of the panels.
- C. Do not leave panels exposed to moisture. Wet panels shall be removed or allowed to completely dry prior to application of vapor barrier and/or cladding.
- D. Repair or replace damaged products before Substantial Completion.

END OF SECTION