

# OUTSULITE™ PANEL SYSTEM



Prefabricated, Continuous Insulated, Light Gauge Steel Stud,  
Exterior Wall Panels with an Air/Water-Resistive Barrier

DS199

## Outsulite Panel System Specifications



**INTRODUCTION**

This manufacturer’s guide specification is intended for use by design and construction professionals in the development of project specifications. By referring to the manufacturer’s edit notes **(in parentheses and bolded)**, the specifier may easily elect the portions of the comprehensive guide specification which are pertinent to his or her project. This guide specification follows the Construction Specification Institute’s MasterFormat and SectionFormat protocols.

It will be prudent to place certain parts of the Dryvit Outsulite Panel System Specification in other parts of the project’s total specification, such as sheathing, air and water-resistive barrier membrane, accessory materials, sealants, and framing. The project design professionals are responsible for verifying that the project specifications are suitable for the project. For assistance in preparing your specification, please contact your Dryvit Distributor or Dryvit

**UNITS**

Standard International Units (SI) are included in parentheses after the English equivalents thus:

1/2 in (12.7 mm)            1.0 pcf (16 Kg/m<sup>3</sup>)

Please note that the conversions may not be exact but rather represent commonly used equivalents.

**WARNING**

The Outsulite Panel System is designed and detailed to prevent water from entering the system. If specifications are not followed and proper details not adhered to, water may intrude the system, resulting in possible damage to the system and other building elements in the wall.

**DESIGN RESPONSIBILITY**

It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The Panel Fabricator or Panel Erector selected by the purchaser shall be responsible for coordinating with the building designer all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. Dryvit has prepared guidelines in the form of specifications, installation details, and product data sheets to facilitate the design process only. Dryvit is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings, or the like, whether based upon the information prepared by Dryvit or otherwise, or for any changes which purchasers, specifiers, designers, or their appointed representatives may make to Dryvit’s published comments.

**DISCLAIMER**

Information contained in this specification conforms to standard detail and product recommendations for the installation of the Dryvit Outsulite Panel System products as of the date of publication of this document and is presented in good faith. Dryvit assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, visit our website at [www.dryvit.com](http://www.dryvit.com) or contact Dryvit, at

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**DRYVIT**  
**MANUFACTURER'S SPECIFICATION**  
**CSI MASTERFORMAT SECTION 07 46 00**  
**OUTSULATE PANEL SYSTEM**

**PART I GENERAL****1.01 SUMMARY**

- A. This document is to be used in preparing specifications for a Prefabricated Panel System defined as follows:
1. An engineered, shop fabricated, continuous insulated, reinforced lamina coated and prefinished wall panel including air/water-resistive barrier, sheathing and steel stud framing assembly and attachment onto a building structural system.
  2. Where additionally specified, the Panel System may include proprietary joint sealant.
- B. Related Sections:
1. Concrete – Sections 03 00 00
  2. Unit Masonry – Section 04 20 00
  3. Cold-Formed Metal Framing – Section 05 40 00
  4. Wood Framing – Section 06 11 00
  5. Water-Resistive Barriers – Section 07 25 00
  6. Vapor Retarders – Section 07 26 13
  7. Air Barriers – Section 07 27 26
  8. Flashing – Section 07 60 00
  9. Joint Protection – Section 07 90 00

**1.02 REFERENCES**

- A. Section Includes:
1. AATCC 127 Water resistance Test: Hydrostatic pressure test
  2. ASTM B 117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
  3. ASTM C 150 Standard Specification for Portland Cement
  4. ASTM C 177 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission
  5. ASTM C 203 Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal
  6. ASTM C 272 Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions
  7. ASTM C 297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
  8. ASTM C 303 Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation
  9. ASTM C 518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the HeatFlow Meter Apparatus
  10. ASTM C 1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
  11. ASTM C 1325 Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
  12. ASTM C 1396 (formerly C 79) Standard Specification for Gypsum Board
  13. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
  14. ASTM D 1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics
  15. ASTM D 1622 Standard Test Method for Apparent Density of Rigid Cellular Plastics
  16. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
  17. ASTM D 2863 Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
  18. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
  19. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
  20. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
  21. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
  22. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
  23. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference

24. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
25. ASTM E 2098 Test Method for Determining the Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to Sodium Hydroxide Solution
26. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
27. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish System (EIFS)
28. ASTM E 2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water-Resistive Barrier Coatings
29. ASTM E 2486 (formerly EIMA Std. 101.86) Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
30. ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems
31. ASTM E 2570 Standard Test Method for Evaluating Water-Resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage
32. ASTM G 154 Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
33. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials
34. UBC Std 26-4 (Formerly UBC 17-6) Multi-Story Fire Evaluation of Exterior Non Load-Bearing Foam Plastic Insulated Wall Systems
35. NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
36. NFPA 285 Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus
37. ULC S101 Standard Methods of Fire Endurance Tests of Building Construction Materials

### 1.03 SYSTEM DESCRIPTION

- A. General: The Panel System is a prefabricated exterior continuous insulated (CI) wall panel which is erected and connected to a building structural system.
- B. Methods of Installation:
1. Panelized: The Panel System is erected and connected to a structurally sound and acceptable building structural system using engineered clips, welds, anchors and/or connections as listed in the approved engineered project shop drawings and in accordance with contract documents.
- C. Design Requirements:
1. Acceptable Substrates: Acceptable integral sheathing substrates within the Panel System assembly include:
    - a. Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water-resistant core or Type X core.
    - b. Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
    - c. Exterior fiber reinforced cement or calcium silicate boards meeting ASTM C 1325
  2. Deflection of the substrate system shall not exceed L/240.
  3. The substrate shall be flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
  4. The slope of inclined surfaces shall not be less than 6:12 (27°) and the length shall not exceed 12 in (305 mm).
  5. All areas requiring an impact resistance classification higher than “standard”, as defined by ASTM E 2486 (formerly EIMA Std. 101.86), shall be as detailed in the drawings and described in the contract documents.
  6. Expansion Joints
    - a. Design and location of expansion joints in the Panel System is the responsibility of the project designer, shall be noted on the project drawings and identified within the approved engineered shop drawings. As a minimum, expansion joints shall be placed at the following locations:
      - 1) Where prefabricated panels abut one another or dissimilar materials.
      - 2) Where expansion joints occur in the substrate system.
      - 3) Where significant structural movement occurs such as floor lines, changes in roofline, building shape or structural system.

7. Terminations
  - a. Openings within the Panel System shall be prepared and flashed in accordance manufacturer Installation Details.
  - b. The Panel System shall be held back from abutting materials a minimum of 3/4 in (19 mm) for sealant application in accordance with manufacturer Installation Details.
  - c. See the Panel System Installation Details.
  - d. Spaces between panels shall be minimum 3/4 in (19 mm) to allow for erection tolerances and sealant joint installation.
  - e. The Panel System shall terminate a minimum of 8 in (203 mm) above finished grade or 2 in (51 mm) above pavement.
8. The Panel System shall be held back from adjoining materials around openings and penetrations such as windows, doors, and other penetrations a minimum of 1/2" in (12.7 mm) for sealant application.
9. The Panels System shall be terminated a minimum of 2 in (51 mm) above hardscape and 8 in (203 mm) above softscape.
10. Vapor Retarders: The use and location of vapor retarders within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. The type and location shall be noted on the project drawings and specifications. Vapor retarders may be inappropriate in certain climates and can result in condensation within the wall assembly.
11. Dark Colors: The use of dark colors must be considered in relation to wall surface temperature as a function of local climatic conditions. Use of dark colors in high temperature climates can affect the performance of the system.
12. The maximum service temperature of the EPS insulation is 165°F (74°C). The Panel System shall be protected from direct exposure to heating appliances, reflective surfaces and other conditions that may cause the product temperature to exceed this value.
13. Flashing: Shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies and other areas as necessary to prevent water from entering behind the Panel System.
14. Joint Sealants:
 

**(Note to Specifier: Coordinate additional joint sealant requirements in Section 1.09.A.2 and 2.03.H.1.)**

  - a. Shall be approved by Panel System component manufacturer and compatible with the Panel System components.
  - b. The sealant backer rod shall be closed cell.

D. Performance Requirements:

1. The Panel System and/or components shall have been tested as follows:
  - a. Air/Water-Resistive Barrier Coating

| TEST                            | TEST METHOD           | CRITERIA   | RESULTS  |
|---------------------------------|-----------------------|--|--|
| <b>Tensile Bond</b>             | ASTM C 297/E 2134*    | Minimum 15 psi (104 kPa)                                   | Substrate:<br>Minimum 19 psi (131 kPa) (Backstop NT)<br>Minimum 24.1 psi (166 kPa) (Backstop DMS)<br><br>Flashing:<br>Minimum 431 psi (2970 kPa) (Backstop NT)<br>Minimum 140 psi (967 kPa) (Backstop DMS) |
| <b>Freeze-thaw</b>              | ASTM E 2485 Method B* | No deleterious effects after 10 cycles                     | Passed - No deleterious effects after 10 cycles  |
| <b>Water Resistance</b>         | ASTM D 2247*          | No deleterious effects after 14 days exposure <sup>1</sup> | No deleterious effects after 14 days exposure  |
| <b>Water Vapor Transmission</b> | ASTM E 96 Proc. B*    | Vapor Permeable  | Vapor Permeable<br><br>Backstop DMS: 30 Perms  |
| <b>Air Leakage</b>              | ASTM E 283            | No ICC or ANSI/EIMA Criteria                               | 0.002 cfm/ft <sup>2</sup> (0.01 l/sec/m <sup>2</sup> ) (Backstop NT)   |
| <b>Air Permeance</b>            | ASTM E 2178           | No ICC or ANSI/EIMA Criteria                               | 1.2x10 <sup>-4</sup> cfm/ft <sup>2</sup> @ 1.6 psf (0.0006 l/s/m <sup>2</sup> @ 75 Pa) (Backstop NT)   |

|   |                       |  |   |
|---|-----------------------|--|---|
| <b>Air Barrier Assembly</b>   | ASTM E 2357           | No ICC or ANSI/EIMA Criteria   | <0.001 cfm/ft <sup>2</sup> @ 6.24 psf (0.05 l/sec m <sup>2</sup> @300 Pa) (Backstop NT) |
| <b>Nail Sealability</b>   | ASTM D 1970           | No ICC or ANSI/EIMA Criteria   | Passed ABAA Criteria  |
| <b>Structural Performance</b>   | ASTM E 1233 Proc. A*  | Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing | Passed  |
| <b>Racking</b>  | ASTM E 72*            | No cracking in field, at joints or interface with flashing at net deflection of 1/8 in (3.2 mm)            | Passed  |
| <b>Restrained Environmental</b>   | ICC-ES Procedure*     | 5 cycles; No cracking in field, at joints or interface with flashing                                       | Passed  |
| <b>Water Penetration</b>  | ASTM E 331*           | No water penetration beyond the inner-most plane of the wall after 15 minutes at 2.86 psf (137 Pa)         | Passed  |
| <b>Weathering UV Exposure</b>   | ASTM D 2898 Method B* | 210 hours of exposure  | Passed  |
| <b>Accelerated Aging</b>  | ICC-ES Procedure*     | 25 cycles of wetting and drying  | Passed  |
| <b>Hydrostatic Pressure Test</b>  | AATCC 127*            | ICC: 21.6 in (549 mm) water column for 5 hours   | Passed  |
| <b>Surface Burning Characteristics</b>  | ASTM E 84             | Flame Spread < 25<br>Smoke Developed < 450   | Passed  |
| <p>* ASTM E 2570 Standard Test Method for Evaluating Water-Resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage, also referred to as AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing</p> <p>1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification</p> |                       |  |   |

b. Durability

| TEST                          | TEST METHOD             | CRITERIA  | RESULTS  |
|-------------------------------|-------------------------|---|--|
| <b>Abrasion Resistance</b>    | ASTM D968               | No deleterious effects after 528 quarts (500 liters)                                      | No deleterious effects after 1056 quarts (1000 liters) |
| <b>Accelerated Weathering</b> | ASTM G155 Cycle 1       | No deleterious effects after 2000 hours   | No deleterious effects after 5000 hours                |
|                               | ASTM G 54 Cycle 1 (QUV) |   | No deleterious effects after 5000 hours                |
| <b>Freeze-Thaw</b>            | ASTM E2485 Method       | No deleterious effects after 60 cycles  | Passed - No deleterious effects after 90 cycles        |
|                               | ASTM C67 modified       | No deleterious effects after 60 cycles  | Passed - No deleterious effects after 60 cycles        |
|                               | ASTM E2485 Method B     | No deleterious effects after 10 cycles  | Passed - No deleterious effects after 10 cycles        |
| <b>Mildew Resistance</b>      | ASTM D3273              | No growth during 28 day exposure period   | No growth during 60 day exposure period                |
| <b>Water Resistance</b>       | ASTM D2247              | No deleterious effects after 14 days exposure   | No deleterious effects after 42 days exposure          |
| <b>Taber Abrasion</b>         | ASTM D4060              | N/A   | Passed 1000 cycles                                     |
| <b>Salt Spray Resistance</b>  | ASTM B117               | No deleterious effects after 300 hours exposure   | No deleterious effects after 1000 hours exposure       |
| <b>Water Penetration</b>      | ASTM E331               | No water penetration beyond the inner-most plane of the wall 2 hours at 6.24 psf (299 Pa) | Passed   |

|  |                      |  |  |                                     |
|--|----------------------|--|--|-------------------------------------|
| <b>Water Vapor Transmission</b>  | ASTM E96 Procedure B | Vapor permeable  | EPS Base Coat <sup>1</sup> Finish <sup>2</sup> | 5 perm-inch<br>40 Perms<br>40 Perms |
| <b>Reinforcing Mesh Alkali Resistance of Reinforcing Mesh</b>                                      | ASTM E2098           | 120 pli (> 21dN/cm) retained tensile strength after exposure | Passed   |                                     |
| <b>EPS (Physical Properties) Density</b>   | ASTM C303, D 1622    | 0.95-1.25 lb/ft <sup>3</sup> (15.2-20.0 kg/m <sup>3</sup> )  | Passed   |                                     |
| <b>Thermal Resistance</b>  | ASTM C177, C 518     | 4.0 @ 40 °F (4.4 °C)<br>3.6 @ 75 °F (23.9 °C)                | Passed<br>Passed                               |                                     |
| <b>Water Absorption</b>  | ASTM C272            | 2.5 % max. by volume   | Passed   |                                     |
| <b>Oxygen Index</b>  | ASTM D2863           | 24% min. by volume   | Passed   |                                     |
| <b>Compressive Strength</b>  | ASTM D 621 Proc. A   | 10 psi (69 kPa) min.   | Passed   |                                     |
| <b>Flexural Strength</b>   | ASTM C203            | 25 psi (172 kPa) min.  | Passed   |                                     |
| 1. Base Coat perm value based on Dryvit Genesis®<br>2. Finish perm value based on Dryvit Quarzputz |                      |  |  |                                     |

c. Impact Resistance: In accordance with ASTM E 2486

| Reinforcing Mesh <sup>1</sup> /Weight<br>oz/yd <sup>2</sup> (g/m <sup>2</sup> )  | Minimum Tensile Strengths | EIMA Impact Classification | EIMA Impact Range |          | Impact Test Results |          |
|--|---------------------------|----------------------------|-------------------|----------|---------------------|----------|
|  |                           |                            | in-lbs            | (Joules) | in-lbs              | (Joules) |
| Standard - 4.3 (146)   | 150 lbs/in (27 g/cm)      | Standard                   | 25-49             | (3-6)    | 36                  | (4)      |
| Standard Plus - 6 (203)  | 200 lbs/in (36 g/cm)      | Medium                     | 50-89             | (6-10)   | 56                  | (6)      |
| Intermediate™ - 12 (407)   | 300 lbs/in (54 g/cm)      | High                       | 90-150            | (10-17)  | 108                 | (12)     |
| Panzer® 15 <sup>2</sup> - 15 (509)   | 400 lbs/in (71 g/cm)      | Ultra High                 | >150              | (>17)    | 162                 | (18)     |
| Panzer 20 <sup>2</sup> - 20.5 (695)  | 550 lbs/in (98 g/cm)      | Ultra High                 | >150              | (>17)    | 352                 | (40)     |
| Detail Mesh® Short Rolls - 4.3 (146)   | 150 lbs/in (27 g/cm)      | n/a                        | n/a               | n/a      | n/a                 | n/a      |
| Corner Mesh™ - 7.2 (244)   | 274 lbs/in (49 g/cm)      | n/a                        | n/a               | n/a      | n/a                 | n/a      |
| 1. Colored blue and bear the Dryvit logo for product identification<br>2. Used in conjunction with Standard Mesh (recommended for areas exposed to high traffic) |                           |                            |                   |          |                     |          |

d. Fire Performance

| TEST                                    | TEST METHOD                   | CRITERIA  | RESULTS                        |
|---|-------------------------------|---|--------------------------------|
| <b>Fire Resistance</b>                  | ASTM E 119                    | No effect on the fire resistance of a rated wall assembly   | Passed 1 hour<br>Passed 2 hour |
| <b>Ignitability</b>                     | NFPA 268*                     | No ignition at 12.5 kw/m <sup>2</sup> at 20 minutes   | Passed                         |
| <b>Full Scale Multi-Story Fire Test</b> | UBC Std. 26-4 (formerly 17-6) | 1. Resist vertical spread of flame within the core of the panel from one story to the next<br>2. Resist flame propagation over the exterior surface<br>3. Resist spread of vertical flame over the interior surface from one story to the next<br>Resist significant lateral spread of flame from the compartment of fire origin to adjacent spaces | Passed                         |

|   |                             |  |               |
|---|-----------------------------|--|---------------|
| <p><b>Intermediate Multi- Story Fire Test</b></p> | <p>NFPA 285* (UBC 26-9)</p> | <p>1. Resist flame propagation over the exterior surface<br/>                 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next<br/>                 3. Resist vertical spread of flame over the interior surface from one story to the next<br/>                 Resist lateral spread of flame from the compartment of fire origin to adjacent spaces</p> | <p>Passed</p> |
| <p><b>Surface Burning Characteristics</b></p>     | <p>ASTM E84</p>             | <p>All components shall have a:<br/>                 Flame Spread <math>\leq</math> 25<br/>                 Smoke Developed <math>\leq</math> 450</p>  | <p>Passed</p> |

**1.04 SUBMITTALS**

- A. Product Data: The Panel System fabricator, partner fabricator or erector shall submit to the owner/architect the Panel System and related component manufacturer’s product data sheets describing products, which will be used on this project.
- B. Shop Drawings: The Panel System fabricator shall prepare and submit to the owner/architect complete engineered drawings showing wall layout, connections, fastener calculations, details, expansion joints, and installation sequence.
- C. Samples: The Panel System fabricator or erector shall submit to the owner/architect samples as required in the contract documents for each finish, texture and color to be used on the project. The same tools and techniques proposed for the actual applications shall be used. Samples shall be of sufficient size to accurately represent each color and texture being utilized on the project.
- D. Test Reports: When requested, the panel fabricator shall submit to the owner/architect copies of selected test reports verifying the performance of the Panel System.

**1.05 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Panel System and Related Components: All components shall be manufactured or sold by the Panel System component manufacturer and shall be purchased from the Panel System components manufacturer or its authorized distributors.
    - a. The Panel System components shall be manufactured at a facility covered by a current ISO 9001:2008 and ISO 14001:2004 certification. Certification of the facility shall be done by a registrar accredited by the American National Standards Institute, Registrar Accreditation Board (ANSI-RAB).
  - 2. Insulation Board Manufacturer: Shall be listed by the Panel System manufacturer, shall be capable of producing the Expanded Polystyrene (EPS) in accordance with the current Panel System component manufacturer Specification for Insulation Board, and shall subscribe to the Panel System component manufacturer Third Party Certification and Quality Assurance Program.
  - 3. Panel Fabricator or Partner Fabricator: Shall be a contractor experienced and competent in the fabrication of architectural wall panels and shall be trained and listed by the Panel System component manufacturer.
  - 4. Panel Erector: Shall be experienced and competent in the installation of architectural wall panel systems.
  - 5. Joint Sealant Contractor: Where specified herein below, shall be experienced and competent in the installation of commercial sealants.
- B. Regulatory Requirements:
  - 1. The EPS insulation board shall be separated from the interior of the building by a minimum 15-minute thermal barrier in accordance with local building code requirements.
  - 2. The use and maximum thickness of EPS shall be in accordance with the applicable building code(s).
- C. Mock-Up:



1. The panel fabricator, partner fabricator or erector shall, before the project commences, provide the owner/architect with a mock-up for approval.
2. The mock-up shall be of suitable size as required to accurately represent the products being installed, as well as each color and texture to be utilized on the project as defined by the contract documents.
3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual applications. The finish used shall be from the same batch that is being used on the project.
4. The approved mock-up shall be available and maintained at the jobsite or panel fabricator as defined by contract documents.

#### 1.06 DELIVERY, STORAGE, HANDLING AND PROTECTION

##### A. Delivery and Storage:

1. Related components shall be delivered to the fabrication location in the original, unopened packages with labels intact.
2. Upon delivery, the Panel System components shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.
3. Panels and related components shall be stored at the fabrication location in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be 40 °F (4 °C) or as otherwise required by the Panel System component manufacturer.
4. Panel and related component storage temperature shall not exceed 100 °F (38 °C).

##### B. Panel System Protection:

1. Panels and related component shall be protected at the fabrication location and job site, stored under cover, well ventilated, with entire panel protected from weather, excessive heat, dust, dirt, and ponding water.
2. Panels shall be numbered in accordance with the approved engineered shop drawings visible on the panel edge and backside.
3. Panels and related components shall be stored to prevent damage or distortion.
4. Panels shall be packaged in crates or on skids to protect from damage during shipping to the job site.
5. Panels edges shall be properly protected from damage during handling and transport.

#### 1.07 PROJECT CONDITIONS

- A. Project Site Requirements: The panel erector shall have access to electric power, and a clean work area with adequate space to deliver, handle, store and erect the Panel System in a safe manner in accordance with approved engineered shop drawings at the project site.

#### 1.08 SEQUENCING AND SCHEDULING

- A. Installation of the Panel System shall be coordinated with other construction trades and as directed by the general contractor or owner.

#### 1.09 WARRANTY

##### A. Manufacturers' Limited Panel System Warranty:

**(Note to Specifier: The warranty terms below are applicable to a Panel Fabricator. Where a Partner Fabricator is preferred, amend warranty terms below as outlined.)**

1. Manufacturer shall offer a limited material defect and labor to repair or replace defective material warranty stating the Products will be free from manufacturing defect and will perform as warranted in the manner specified for the stated term measured from the Date of Project Substantial Completion.
  - a. A pre-construction meeting, including representatives of the Manufacturer, the Fabricator or Erector, the Owner, and the Consultant (if applicable), shall be required prior to installation of the Panel System.
  - b. The term of this warranty may be extended for an additional 2 years with involvement on the project of a Manufacturer-approved, third-party consultant ("Consultant") engaged by the Owner or its authorized representative, at the Owner's sole expense. Inspection reports generated by the Consultant shall be made available to the Manufacturer and the Owner.
  - c. The warranty is available upon written request.

2. The Panel System warranty shall additionally include the following for the term of the warranty or as specifically noted hereunder.

**(Note to Specifier: An additional 2-year warranty term extension is available where Tremco (Company) Joinery and Sealants referenced in Section 2.03.H.1 are integrated. Amend warranty term below to 12-years.)**

**(Note to Specifier: For a Partner Fabricator, the warranty term is 15-years. An additional 2-year warranty term extension is available where Tremco (Company) Joinery and Sealants referenced in Section 2.03.H.1 are integrated. Amend warranty term below to 17-years.)**

3. The Panel System warranty term shall be 10 years **[12-years] [15-years] [17-years]**.
  - a. The Panel System will remain in a watertight condition when the Panel System is used in conjunction with approved Company Joinery and Sealants.
  - b. Finish will be UV fade resistant for 10 years, except for specially produced colors.
    - 1) Specially produced colors will be UV fade resistant for 5 years when high-performance colorants are used to formulate.

**B. Fabricator and Erector Warranty:**

1. The Panel or Partner Fabricator and Panel Erector shall provide a separate warranty in accordance with contract documents for all workmanship related to the proper design, detailing, engineering, shop drawings, fabrication, protection, transportation, craning, erection, installation and performance respectfully for the Panel System application. The Panel System component manufacturer shall not be responsible for workmanship associated with the engineering, fabrication or installation of the Panel System.

**1.10 MAINTENANCE**

A. The Panel System is designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning may be required. Refer to the Panel System component manufacturer’s recommendation and guideline documentation on Cleaning and Recoating.

B. Sealants and Flashings shall be inspected on a regular basis and repairs made as necessary.

**PART II PRODUCTS**

**2.01 MANUFACTURER**

A. Basis of Design: The “Outsulite Panel System” composed of components as manufactured or supplied by Dryvit, 3735 Green Road, Beachwood, OH 44122, 800-556-7752, www.dryvit.com.

B. All components of the Outsulite Panel System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of components other than specified will void the warranty.

**2.02 MATERIALS**

A. Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.

B. Water: Shall be clean and free of foreign matter.

**2.03 COMPONENTS**

A. Air/Water-Resistive Barrier Components (when specified):

1. Dryvit Backstop NTX: A vapor permeable, flexible, polymer-based non-cementitious water-resistive and air barrier coating available in Texture, Smooth, and Spray. See [DS180](#) and [DS181](#).
2. Dryvit Backstop NT-VB: A Class 1 vapor retarder, available in trowel and spray versions. When specified, consider having a WVT analysis performed. See [DS830](#) and [DS831](#).
3. Dryvit Grid Tape™: An open weave fiberglass mesh tape with pressure sensitive adhesive. used in combination with Dryvit Backstop NT Texture.

B. Flashing/Transition membrane: Used to protect substrate edges at terminations.

1. Shall be AquaFlash and AquaFlash Mesh: A waterproof, flexible, water-based polymer material and reinforcing fabric.
- C. Insulation Board: Expanded Polystyrene meeting Dryvit Specification for Insulation Board, [DS131](#).
1. Thickness of insulation board shall be minimum 2 in (50.8 mm).
  2. The insulation board shall be manufactured by a board supplier listed by Dryvit
- D. Adhesives: Used to adhere the Fedderlite panels to the substrate or air/water-resistive barrier, shall be compatible with the substrate, water-resistive barrier and the EPS.
1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
    - a. Shall be Primus, or Genesis
  2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
    - a. Shall be Primus<sup>®</sup> DM, Genesis<sup>®</sup> DM, Genesis<sup>®</sup> DMS, Rapidry DM 35-50 or Rapidry DM 50-75
- E. Base Coat: Shall be compatible with the EPS insulation board and reinforcing mesh(es).
1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
    - a. Shall be Primus, or Genesis
  2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
    - a. Shall be Primus DM, Genesis DM, Genesis DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
- F. Reinforcing Mesh: A balanced, open weave, glass fiber fabric treated for compatibility with other system components.
- (Note to Specifier: Reinforcing meshes are classified by impact resistance and specified by weight and tensile strength as listed in Section 1.04.D.1.c.)**
1. Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail and Corner Mesh
  2. Shall be colored blue for product identification bearing the Dryvit logo.
  3. Shall provide for ultra-high impact assembly incorporating Dryvit Standard Mesh over **[Panzer 15 oz./sy. mesh] [Panzer 20 oz./sy. mesh]** for all Outsulite Panel wall areas within 8'-0" of finish grade, balcony floor or as additional outlined in approved engineered shop drawings and in accordance with contract documents.
- G. Finish: Shall be the type, color and texture as selected by the architect/owner and shall be one or more of the following:
- (Note to Specifier: Numerous finishes, textures, specialty finishes, coatings, aesthetics, and performance enhancement are available. Select and retain those that apply and delete those that do not apply to the project.)**
1. Standard DPR (Dirt Pickup Resistance): Water-based, acrylic coating with integral color and texture and formulated with DPR chemistry:
    - a. Quarzputz<sup>®</sup> DPR: Open-texture
    - b. Sandblast<sup>®</sup> DPR: Medium texture
    - c. Freestyle<sup>®</sup> DPR: Fine texture
    - d. Sandpebble<sup>®</sup> DPR: Pebble texture
    - e. Sandpebble<sup>®</sup> Fine DPR: Fine pebble texture
  2. Hydrophobic (HDP™) Finishes: 100% acrylic coating with integral color and texture and formulated with hydrophobic properties:
    - a. Quarzputz<sup>®</sup> HDP
    - b. Sandblast<sup>®</sup> HDP
    - c. Sandpebble<sup>®</sup> HDP
    - d. Sandpebble<sup>®</sup> Fine HDP
    - e. Limestone™ HDP
    - f. Finesse™ HDP
  3. **E**: Water-based, lightweight acrylic coating with integral color and texture and formulated with DPR chemistry:
    - a. Quarzputz<sup>®</sup> **E**
    - b. Sandpebble<sup>®</sup> **E**
    - c. Sandpebble<sup>®</sup> Fine **E**
  4. Specialty Finishes and Veneers:
    - a. Ameristone: Multi-colored quartz aggregate with a flamed granite appearance.

- b. Stone Mist®: Ceramically colored quartz aggregate.
  - c. Custom Brick: Acrylic polymer-based finish used in conjunction with a proprietary template system to create the look of stone, brick, slate or tile.
  - d. TerraNeo: 100% acrylic-based finish with large mica chips and multi-colored quartz aggregates.
  - e. Limestone: A premixed, 100% acrylic-based finish designed to replicate the appearance of limestone blocks.
  - f. Reflectit: 100% acrylic coating providing a pearlescent appearance.
  - g. Finesse™: A smooth 100% acrylic-based dirt pickup resistance finish.
  - h. Tibur Stone™: A smooth 100% acrylic-based dirt pickup resistance finish with the appearance of travertine stone.
  - i. NewBrick®: A lightweight insulated brick veneer for use on exterior walls.
  - j. Ferros™ Finish: - a water-based finish properties that replicates the look of rusting metal.
  - k. Wood Grain: A 100% acrylic-based finish created with a textured finish, a coating, a graining tool and a sealer providing an authentic woodgrain appearance.
5. Elastomeric DPR (Dirt Pickup Resistance): Water- based, elastomeric acrylic coating with integral color and texture and formulated with DPR chemistry:
- a. Weatherlastic® Quarzputz
  - b. Weatherlastic® Sandpebble
  - c. Weatherlastic® Sandpebble Fine
  - d. Weatherlastic® Adobe
6. Medallion Series PMR™ (Proven Mildew Resistance): Water-based, acrylic coating with integral color and texture and formulated with PMR chemistry:
- a. Quarzputz® PMR
  - b. Sandblast® PMR
  - c. Freestyle® PMR
  - d. Sandpebble® PMR
  - e. Sandpebble® Fine PMR
7. Coatings, Primers and Sealers:
- a. Demandit® Smooth
  - b. Demandit® Sanded
  - c. Demandit® Advantage™
  - d. HDP™ Water-Repellent Coating
  - e. Weatherlastic® Smooth
  - f. Tuscan Glaze™
  - g. Color Prime
  - h. Prymit®
  - i. SealClear™

H. Joint Sealants:

**(Note to Specifier: Where the additional 2-year warranty extension for use of Tremco (Company) Joinery and Sealants is desired, retain [Required] below in section 2.03.H.1. and delete section 2.03.H.2)**

1. Silicone Sealant: **[Required]**
- a. Tremco Spectrem 1: An ultra low modulus, high-performance, one-part, moisture-curing silicone joint sealant with physical properties making it an ideal sealant for sealing dynamic joints.
  - b. Tremco Spectrem 3: A general-purpose, low-modulus, high performance, one-part, neutral-cure, non-staining, low dirt pickup, construction-grade silicone sealant.
  - c. Tremco Spectrem 4-TS: A multi-component, neutral-curing, non-staining, low dirt pick up, low-modulus silicone sealant specially formulated for use in dynamically moving building joints. Spectrem 4-TS offers color flexibility with the opportunity to tint the material on site.
  - d. Coordination for custom sealant colors is required.
  - e. Where deemed necessary, use TREMprime Silicone Porous Primer.
  - f. Backer materials shall be close cell type.
2. Polyurethane Sealant:
- a. Tremco Dymonic FC: A one component hybrid polyurethane sealant. Where deemed necessary, use TREMprime Silicone Porous Primer for porous surfaces and TREMprime Silicone Metal Primer for metals or plastics. Coordinate for primer use as indicated.
  - b. Backer materials shall be closed cell type.

**I. Reference Documents:**

1. Dryvit Outsulite Panel System Installation Details, DS198
2. [Dryvit Outsulite Panel System Typical Connection Details DS928](#)
3. Dryvit Outsulite Fabrication and Installation Instructions, DS866
4. Dryvit EIFS Repair Procedures, DS498

**PART III EXECUTION****3.01 EXAMINATION**

- A. Prior to installation of the Outsulite Panel System, the panel erector shall verify that the building structure is of a type that can accommodate attachment and connection of the Outsulite Panels:
- B. Prior to installation of the Outsulite Panel System, the architect or general contractor shall ensure that all required flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulite Panel installation. Additionally, the erector shall ensure that:
  1. Metal roof flashing has been installed in accordance with the manufacturer's requirements, Asphalt Roofing Manufacturers Association (ARMA) Standards and Dryvit Outsulite Panel System Installation Details, DS198, or as otherwise necessary to maintain a watertight envelope.
  2. Openings are flashed in accordance with the contract documents, Outsulite Panel System Installation Details DS198 or as otherwise necessary to prevent water penetration.
  3. Chimneys, balconies and decks have been properly flashed.
  4. Windows, doors, etc. are installed and flashed per contract documents, manufacturer's requirements and the Outsulite Panel System Installation Details DS198.
- C. Prior to the installation of the Outsulite Panel System, the erector contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

**3.02 PREPARATION**

- A. The Outsulite Panels shall be protected by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following installation until all permanent flashings and sealants are installed.
- B. Protect adjoining work and property during Outsulite Panel System installation.

**3.03 INSTALLATION**

- A. The Outsulite panels shall be installed in accordance with current Dryvit Outsulite Fabrication and Installation Instructions DS866, approved engineered shop drawings and contract documents.
- B. When installing the EPS insulation, the notched trowel method of adhesive application shall be applied in a vertical configuration.
- C. High impact meshes shall be installed to the panel face as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage.
- D. Panel edge base coat surfaces in contact with sealant shall be coated with Dryvit Demandit Smooth or Color Prime. Refer to Dryvit DS153 for approved sealant options. Sealants shall not be applied directly to textured finish.

**3.04 FIELD QUALITY CONTROL**

- A. The panel fabricator shall be responsible for the proper storage and application of the Outsulite Panel System components at the fabrication site.
- B. A. The panel erector shall be responsible for the proper storage, protection and installation of the Outsulite Panel System components at the project site

- C. Dryvit assumes no responsibility for on-site inspections or application of its products.
- D. If required, the panel fabricator or erector shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
- E. If required, the EPS supplier shall certify in writing that the EPS meets Dryvit's specifications.
- F. Where required, the joint sealant contractor shall certify in writing that the joint sealant application is in accordance with the joint sealant manufacturer's and Dryvit's recommendations.

**3.05 CLEANING**

- A. All excess Outsulite Panels, components, related materials, packaging and debris shall be removed from the job site by the contractor in accordance with contract provisions.

**3.06 PROTECTION**

- A. The Outsulite Panel System and building envelope shall be protected from inclement weather and other sources of damage until permanent protection in the form of flashings, sealants, etc. are installed.

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For more information on [Dryvit Systems](#) or [Continuous Insulation](#), visit these links.

