

OUTSULATION® PFP SYSTEM



A Panelized Exterior Wall Insulation and Finish System
That Incorporates Continuous Insulation With Backstop® NT™

DS199

Outsulation PFP System Specifications

INTRODUCTION

This document contains the Manufacturer's Standard Specification for the Outsulation PFP System. These specifications follow the Construction Specification Institute's MasterFormat.

UNITS

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

12.7 mm (1/2 in) 16 Kg/m³ (1.0 pcf)

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

WARNING

The Outsulation PFP System is designed as a barrier wall system and is detailed to prevent water from entering the system. Specifications should be followed and proper details adhered to, in order to prevent water intrusion, resulting in possible damage to the system or other building elements. Care should be taken to insure that all building elements, including without limitations, roof designs, windows, flashings, sealants, etc., are compatible with this system.

DISCLAIMER

Information contained in this specification conforms to standard detail and product recommendations for the installation of the Dryvit Outsulation PFP System products as of the date of publication of this document and is presented in good faith. Dryvit Systems, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To insure that you are using the latest, most complete information, visit our website at www.dryvit.com or contact Dryvit Systems, Inc., at

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* The Trained Contractor Certificate referenced in Section 1.06.A.3 indicates certain employees of the company have been instructed in the proper application of Dryvit products and have received copies of Dryvit's Application Instructions and Specifications. The Trained Contractor Program is not an apprenticeship or endorsement. Each trained contractor is an independent company experienced in the trade and bears responsibility for its own workmanship. Dryvit Systems, Inc. assumes no liability for the workmanship of a trained contractor.

DRYVIT SYSTEMS, INC.
MANUFACTURER'S SPECIFICATION
CSI MASTERFORMAT SECTION 07 24 13
OUTSULATION PANELIZED WITH BACKSTOP NT

PART I – GENERAL**1.01 SUMMARY**

- A. This document is to be used in preparing specifications for projects utilizing the Dryvit Outsulation PFP System in panelized construction. For complete product description and usage refer to:
1. Dryvit Outsulation PFP System Installation Details, DS198
 2. Dryvit Outsulation System Application Instructions, DS204
 3. Dryvit Backstop NT Application Instructions, DS181
- B. Related Sections
1. Cold-Formed Metal Framing – Section 05 40 00
 2. Joint Protection – Section 07 90 00
 3. Flashing – Section 07 60 00
 4. Water-Resistive Barriers – Section 07 25 00
 5. Vapor Retarders – 07 26 13
 6. Air Barriers – 07 27 26

1.02. REFERENCES

- A. Section Includes
1. ASTM B 117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
 2. ASTM C 150 Standard Specification for Portland Cement
 3. ASTM C 297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
 4. ASTM C 1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
 5. ASTM C 1396 (formerly C 79) Standard Specification for Gypsum Board
 6. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
 7. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
 8. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
 9. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
 10. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
 11. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
 12. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
 13. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
 14. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
 15. 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
 16. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
 17. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish System (EIFS)
 18. 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
 19. 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)
 20. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials
 21. DS198, Dryvit Outsulation PFP System Installation Details
 22. DS131, Dryvit Expanded Polystyrene Insulation Board Specification
 23. DS151, Custom Brick™ Polymer System Specifications for Use on Vertical Walls
 24. DS152, Dryvit Cleaning and Recoating
 25. DS153, Dryvit Expansion Joints and Sealants
 26. DS159, Dryvit Water Vapor Transmission
 27. DS204, Dryvit Outsulation System Application Instructions
 28. DS456, Rapidry DM™ 35-50 or DS457, Rapidry DM™ 50-75 Data Sheets

29. DS494, Dryvit AquaFlash® System
30. DS498 DryvitCARE EIFS Repair Procedures
31. Mil Std E5272 Environmental Testing
32. Mil Std 810B Environmental Test Methods
33. UBC Std 26-4 (Formerly UBC 17-6) Multi-Story Fire Evaluation of Exterior Non Load-Bearing Foam Plastic Insulated Wall Systems
34. NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
35. 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
36. ULC S101 Standard Methods of Fire Endurance Tests of Building Construction Materials
37. ANSI FM 4880 Evaluating Insulated Wall or Wall and Roof/Ceiling Assemblies; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems

1.03 DEFINITIONS

- A. Base Coat: Material used to encapsulate one or more layers of reinforcing mesh fully embedded that is applied to the outside surface of the EPS.
- B. Building Expansion Joint: A joint through the entire building structure designed to accommodate structural movement.
- C. Dryvit: Dryvit Systems, Inc., the manufacturer of the Outsulation PFP System, a Rhode Island corporation.
- D. Expansion Joint: A structural discontinuity in the Outsulation PFP System.
- E. Finish: An acrylic-based coating, available in a variety of textures and colors that is applied over the base coat.
- F. Insulation Board: Expanded polystyrene (EPS) insulation board, which is affixed to the substrate.
- G. Panel Erector: The contractor who installs the panelized Outsulation PFP System.
- H. Panel Fabricator: The contractor who fabricates the panelized Outsulation PFP System.
- I. Reinforcing Mesh: Glass fiber mesh(es) used to reinforce the base coat and to provide impact resistance.
- J. Sheathing: A substrate in sheet form.
- K. Substrate: The material to which the Outsulation PFP System is affixed.
- L. Substrate System: The total wall assembly including the attached substrate to which the Outsulation PFP System is affixed.

1.04 SYSTEM DESCRIPTION

- A. General: The Dryvit Outsulation PFP System is an Exterior Insulation and Finish System, Class PB, consisting of a water-resistive barrier coating, an adhesive, expanded polystyrene insulation board, base coat, reinforcing mesh(es) and finish which is shop applied to prefabricated wall panels.
- B. Methods of Installation
 1. Panelized: The Outsulation PFP System with Backstop NT is shop-applied to the prefabricated wall panels.
- C. Design Requirements
 1. Acceptable substrates for the Outsulation PFP System shall be:
 - a. Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water-resistant core or Type X core at the time of application of the Outsulation PFP System.
 - 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.
 2. Deflection of substrate systems shall not exceed 1/240 times the span.
 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, 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. Refer to Section 1.04.D.1.c of this specification.
 6. Expansion Joints
 - a. Design and location of expansion joints in the Outsulation PFP System is the responsibility of the project designer and shall be noted on the project 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. Prior to applying the Dryvit Outsulation PFP System, wall openings within panels shall be treated with the Dryvit AquaFlash System or Flashing Tape. Refer to Dryvit Outsulation PFP System Installation Details, DS198.
- b. The Outsulation PFP System shall be held back from adjoining materials around openings and penetrations such as windows, doors and mechanical equipment a minimum of 3/4 in (19 mm) for sealant application. See Dryvit's Outsulation PFP System Installation Details, DS198.
- c. Gaps between panels shall be minimum 3/4 in (19 mm) to allow for proper erection and sealant joint installation.
- d. The system shall be terminated a minimum of 8 in (203 mm) above finished grade.
- e. Sealants
 - 1) Shall be manufactured and supplied by others.
 - 2) Shall be compatible with Outsulation PFP System materials. Refer to current Dryvit Publication DS153 for listing of sealants tested by sealant manufacturer for compatibility.
 - 3) The sealant backer rod shall be of closed cell.

8. 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. Refer to Dryvit Publication DS159 for additional information.

9. 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.

10. 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 Outsulation PFP System.

D. Performance Requirements

- 1. The Outsulation PFP System shall have been tested as follows:
 - a. Durability

| TEST | TEST METHOD | CRITERIA | RESULTS |
|---------------------------------|--------------------------|---|---|
| Abrasion Resistance | ASTM D 968 | No deleterious effects after 528 quarts (500 liters) | No deleterious effects after 1056 quarts (1000 liters) |
| Accelerated Weathering | ASTM G 155 Cycle 1 | No deleterious effects after 2000 hours | No deleterious effects after 5000 hours |
| | ASTM G 154 Cycle 1 (QUV) | | No deleterious effects after 5000 hours |
| Freeze-Thaw | ASTM E 2485 Method A | No deleterious effects after 60 cycles | Passed - No deleterious effects after 90 cycles |
| | ASTM C 67 modified | No deleterious effects after 60 cycles | Passed - No deleterious effects after 60 cycles |
| | ASTM E 2485 Method A | No deleterious effects after 10 cycles | Passed - No deleterious effects after 10 cycles |
| Mildew Resistance | ASTM D 3273 | No growth during 28 day exposure period | No growth during 60 day exposure period |
| Water Resistance | ASTM D 2247* | No deleterious effects after 14 days exposure | No deleterious effects after 42 days exposure |
| Taber Abrasion | ASTM D 4060 | N/A | Passed 1000 cycles |
| Salt Spray Resistance | ASTM B 117* | No deleterious effects after 300 hours exposure | No deleterious effects after 1000 hours exposure |
| Water Penetration | ASTM E 331* | No water penetration beyond the inner-most plane of the wall after 2 hours at 6.24 psf (299 Pa) | Passed 2 hours at 6.24 psf (299 Pa) |
| Water Vapor Transmission | ASTM E 96 Procedure B | Vapor permeable | EPS 5 perm-inch Base Coat* 40 Perms Finish** 40 Perms |

* Base Coat perm value based on Dryvit Genesis®

** Finish perm value based on Dryvit Quarzputz

b. Structural

| TEST | TEST METHOD | CRITERIA | RESULTS |
|-----------------------------|-------------------|--|--|
| Tensile Bond | ASTM C 297/E 2134 | Minimum 15 psi (104 kPa) – substrate or insulation failure | Minimum 19.1 psi (132 kPa) |
| Transverse Wind Load | ASTM E 330 | Withstand positive and negative wind loads as specified by the building code | Minimum 90 psf (4.3 kPa)* 16 inch o.c. framing, ½ in sheathing screw attached at 8 in (203 mm) o.c. |

* All Dryvit components remain intact – for higher wind loads contact Dryvit Systems, Inc.

c. Impact Resistance: In accordance with ASTM E 2486 (formerly EIMA Standard 101.86).

| Reinforcing Mesh ¹ /Weight oz/yd ² (g/m ²) | Minimum Tensile Strengths | EIMA Impact Classificatio n | 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 ¹ - 15 (509) | 400 lbs/in (71 g/cm) | Ultra High | >150 | (>17) | 162 | (18) |
| Panzer 20 ¹ - 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 |

* It shall be colored blue and bear the Dryvit logo for product identification
 1. Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)

d. Fire performance

| TEST | TEST METHOD | CRITERIA | RESULTS |
|---|-------------------------------|--|---------------------------------|
| Fire Resistance | ASTM E 119 | No effect on the fire resistance of a rated wall assembly | Passed 1 hour Passed 2 hour |
| Ignitability | NFPA 268* | No ignition at 12.5 kw/m ² at 20 minutes | Passed |
| Full Scale Multi-Story Fire Test | 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 2. Resist flame propagation over the exterior surface 3. Resist spread of vertical flame over the interior surface from one story to the next 4. Resist significant lateral spread of flame from the compartment of fire origin to adjacent spaces | Passed |
| Intermediate Multi-Story Fire Test | NFPA 285* (UBC 26-9) | 1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces | Passed |
| Full Scale Multi-Story¹ (corner test) | ANSI FM 4880 | Resist flame propagation over the exterior surface. | Passed; No height restrictions* |

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems
 1 Dryvit FM products must be specified

- 2. The Outsulation PFP components shall be tested for:
 - a. Fire

| TEST | TEST METHOD | CRITERIA | RESULTS |
|--|-------------|--|---------|
| Surface Burning Characteristics | ASTM E 84 | All components shall have a: Flame Spread ≤ 25 Smoke Developed < 450 | Passed |

- b. Durability

| TEST | TEST METHOD | CRITERIA | RESULTS |
|---|---------------------|--|------------------|
| Reinforcing Mesh Alkali Resistance of Reinforcing Mesh | ASTM E 2098* | > 120 pli (21dN/cm) retained tensile strength after exposure | Passed |
| EPS (Physical Properties) Density | ASTM C 303, D 1622 | 0.95-1.25 lb/ft ³ (15.2-20.0 kg/m ³) | Passed |
| Thermal Resistance | ASTM C 177, C 518 | 4.0 @ 40 °F (4.4 °C) 3.6 @ 75 °F (23.9 °C) | Passed Passed |
| Water Absorption | ASTM C 272 | 2.5 % max. by volume | Passed |
| Oxygen Index | ASTM D 2863 | 24% min. by volume | Passed |
| Compressive Strength | ASTM D 1621 Proc. A | 10 psi (69 kPa) min. | Passed |
| Flexural Strength | ASTM C 203 | 25 psi (172 kPa) min. | Passed |
| Flame Spread | ASTM E 84* | 25 max. | Passed |
| Smoke Developed | ASTM E 84* | 450 max. | Passed |

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.xxx

1.05 SUBMITTALS

- A. Product Data – The contractor shall submit to the owner/architect the manufacturer’s product data sheets describing products, which will be used on this project.
- B. Shop Drawing for Panelized Construction: The panel fabricator shall prepare and submit to the owner/architect complete drawings, showing: wall layout, connections, details, expansion joints and installation sequence.
- C. Samples: The panel fabricator shall submit to the owner/architect two (2) samples of the Outsulation PFP System for each finish, texture and color to be used on the project. The same tools and techniques proposed for the actual installation 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 Outsulation PFP System.

1.06 QUALITY ASSURANCE

- A. Qualifications
 - 1. System Manufacturer: Shall be Dryvit Systems, Inc. All materials shall be manufactured or sold by Dryvit and shall be purchased from Dryvit or its authorized distributors.
 - a. Materials shall be manufactured at a facility covered by a current ISO 9001:2008 and ISO 14001 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 Dryvit Systems, Inc., shall be capable of producing the Expanded Polystyrene (EPS) in accordance with current Dryvit Specification for Insulation Board, DS131, and shall subscribe to the Dryvit Third Party Certification and Quality Assurance Program.
 - 3. Panel Fabricator: Shall be a contractor experienced and competent in the fabrication of architectural wall panels and shall possess a current Outsulation PFP System Contractor Certificate* issued by Dryvit Systems, Inc.
 - 4. Panel Erector: Shall be experienced and competent in the installation of architectural wall panel systems and shall be:
 - a. The panel fabricator, or
 - b. An erector approved by the panel fabricator or
 - c. An erector under the direct supervision of the panel fabricator
- B. Regulatory Requirements
 - 1. The EPS shall be separated from the interior of the building by a minimum 15-minute thermal barrier.
 - 2. The use and maximum thickness of EPS shall be in accordance with the applicable building codes.
- C. Certification
 - 1. The Outsulation PFP System shall be recognized for the intended use by the applicable building code(s).

D. Mock-Up

1. The contractor 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.
3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual application. 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 panel fabrication location.

1.07 DELIVERY, STORAGE AND HANDLING

- A. All Dryvit materials shall be delivered in the original, unopened packages with labels intact.
- B. Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.
 1. Materials shall be stored at the job site, and at all times, in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be as follows:
 - a. DPR, PMR™, HDP™, Weatherlastic® and E™ Finishes, Color Prime™, Primus®, Genesis® and NCB™: 40 °F (4 °C).
 - b. For other products, refer to specific product data sheets.
 2. Maximum storage temperature shall not exceed 100 °F (38 °C). **NOTE: Minimize exposure of materials to temperatures over 90 °F (32 °C). Finishes exposed to temperatures over 110 °F (43 °C) for even short periods may exhibit skinning, increased viscosity and should be inspected prior to use.**
- C. Panel fabrication location and job site the panels shall be stored under cover, well ventilated, with entire panel protected from inclement weather, dust, dirt and ponding water.

1.08 PROJECT CONDITIONS

- A. Environmental Requirements
 1. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
 2. At the time of Dryvit product application, the air and wall surface temperatures shall be from 40 °F (4 °C) minimum to 100 °F (38 °C) maximum for the following products:
 - a. DPR, PMR, HDP, Weatherlastic and E Finishes™, Color Prime, Primus, Genesis and NCB.
 - b. For other products, refer to specific product data sheets.
 3. These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours (48 hours for Weatherlastic Finishes, Ameristone, TerraNeo and Limestone) thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.
- B. Existing Conditions - The contractor shall have access to electric power, clean water, and a clean work area at the location where the Dryvit materials are to be applied.

1.09 SEQUENCING AND SCHEDULING

- A. Installation of the Outsulation PFP System shall be coordinated with other construction trades.
- B. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffold lines, texture variations, etc.

1.10 LIMITED MATERIALS WARRANTY

- A. Dryvit Systems, Inc. shall provide a limited warranty against defective material upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit does not warrant workmanship. Full details are available from Dryvit Systems, Inc.
- B. The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with installation of the Outsulation PFP System.

1.11 DESIGN RESPONSIBILITY

- A. It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for 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 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.

1.12 MAINTENANCE

- A. Maintenance and repair shall follow the procedures noted in DryvitCARE EIFS Repair Procedures, DS498.
- B. All Dryvit products are designed to minimize maintenance. However, as with all building products, depending on location, some cleaning may be required. See Dryvit publication DS152 on Cleaning & Recoating.
- C. Sealants and Flashings should be inspected on a regular basis and repairs made as necessary.

PART II – PRODUCTS

2.01 MANUFACTURER

- A. All components of the Outsulation PFP System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of materials 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
 - 1. Dryvit Backstop NT: A flexible, polymer-based noncementitious water-resistive barrier coating available in Texture and Smooth.
 - 2. Dryvit Grid Tape™: An open weave fiberglass mesh tape with pressure sensitive adhesive available in rolls 102 mm (4 in) wide by 91 m (100 yds) long.
- B. Flashing Materials: Used to protect substrate edges at terminations.
 - 1. Liquid Applied: An extremely flexible water-based polymer material, ready for use.
 - a. Shall be AquaFlash and AquaFlash Mesh
 - 2. Sheet Type:
 - a. Shall be Flashing Tape and Surface Conditioner
 - 1) Dryvit Flashing Tape™: A high density polyethylene film backed with a rubberized asphalt adhesive available in rolls 4 in (102 mm), 6 in (152 mm) and 9 in (229 mm) wide by 75 ft (23 m) long.
 - 2) Dryvit Flashing Tape Surface Conditioner™: A water-based surface conditioner and adhesion promoter for the Dryvit Flashing Tape.
- C. Adhesives: Used to adhere the EPS to the substrate, shall be compatible with the substrate and the EPS.
 - 1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement for use over non wood-based substrates.
 - a. Shall be Primus, Genesis or Genesis® FM
 - 2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water for use over non wood-based substrates.
 - a. Shall be Primus DM, Genesis DM, Genesis® DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
- D. Insulation Board: Expanded polystyrene meeting Dryvit Specification for Insulation Board, DS131.
 - 1. Thickness of insulation board shall be minimum 3/4 in (19 mm) and shall be maintained at all locations. **Note: Dryvit recommends that a minimum of 1 in (25 mm) thick insulation board be installed to maintain the minimum thickness after rasping, reveals are installed, etc.**
 - 2. The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.
- 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, Genesis or Genesis FM.
 - 2. Noncementitious: A factory-mixed, fully formulated, water-based product.
 - a. Shall be NCB.
 - 3. 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 materials.
 - Note: Reinforcing meshes are classified by impact resistance and specified by weight and tensile strength as Section 1.04.D.1.c.**
 - 1. Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail Mesh® and Corner Mesh.
 - 2. Shall be colored blue for product identification bearing the Dryvit logo.

G. Finish: Shall be the type, color and texture as selected by the architect/owner and shall be one or more of the following:

1. Standard DPR (Dirt Pickup Resistance): Water-based, acrylic coating with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® DPR: Open-texture.
 - b. Sandblast® DPR: Medium texture.
 - c. Freestyle® DPR: Fine texture.
 - d. Sandpebble® DPR: Pebble texture.
 - e. Sandpebble® Fine DPR: Fine pebble texture.
2. Hydrophobic (HDP™) Finishes: 100% acrylic coating with integral color and texture and formulated with hydrophobic properties:
 - a. Quarzputz® HDP
 - b. Sandblast® HDP
 - c. Sandpebble® HDP
 - d. Sandpebble® Fine HDP
 - e. Limestone™ HDP
3. E™: Water-based, lightweight acrylic coating with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® E
 - b. Sandpebble® E
 - c. Sandpebble® Fine E
4. FM: Water-based, acrylic coating with integral color and texture, formulated with PMR chemistry:
 - a. Sandpebble® FM
 - b. Sandpebble® Fine FM
5. Specialty: Factory mixed, water-based acrylic:
 - 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.
6. 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
7. 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
8. Coatings, Primers and Sealers:
 - a. Demandit® Smooth
 - b. Demandit® Sanded
 - c. HDP™ Water-Repellent Coating
 - d. Weatherlastic Smooth
 - e. Tuscan Glaze™
 - f. Color Prime
 - g. Prymit®
 - h. SealClear™

PART III – EXECUTION

3.01 EXAMINATION

A. Prior to installation of the Outsulation PFP System, the contractor shall verify that the substrate:

1. Is of a type listed in Section 1.04.C.1.
2. Is flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
3. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere with the Outsulation PFP System installation or performance.

- B. Prior to the installation of the Outsulation PFP System, the architect or general contractor shall insure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulation PFP application. Additionally, the contractor shall ensure that:
 - 1. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards.
 - 2. Openings are flashed in accordance with the Outsulation PFP 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 manufacturer's requirements and the Outsulation PFP System Installation Details, DS198.
- C. Prior to the installation of the Outsulation PFP System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

- A. The Outsulation PFP materials shall be protected by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following application until completely dry.
- B. Protect adjoining work and property during Outsulation PFP installation.
- C. The substrate shall be prepared as to be free of foreign materials, such as, oil, dust, dirt, form release agents, efflorescence, paint, wax, water repellants, moisture, frost and any other condition that inhibit adhesion.

3.03 INSTALLATION

- A. The system shall be installed in accordance with the current Dryvit Outsulation System Application Instructions, DS204.
- B. The overall minimum base coat thickness shall be sufficient to fully embed the mesh. The recommended method is to apply the base coat in two (2) passes.
- C. Sealant shall not be applied directly to textured finishes or base coat surfaces. Dryvit Outsulation PFP System base coat surfaces in contact with sealant shall be coated with Demandit Smooth or Color Prime.
- D. When installing the Outsulation PFP System, the notched trowel method of adhesive application shall be applied in a vertical configuration.
- E. High impact meshes shall be installed as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage.

3.04 PANEL STORAGE AND HANDLING

- A. At the panel fabrication location and job site, as well as during transport, the panels shall be under cover, well ventilated, with entire panel protected from weather, dust, dirt and ponding water.

3.05 FIELD QUALITY CONTROL

- A. The fabricator shall be responsible for the proper application of the Outsulation PFP System materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. If required, the fabricator 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.
- D. If required, the EPS supplier shall certify in writing that the EPS meets Dryvit's specifications.
- E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Dryvit's recommendations.

3.06 CLEANING

- A. All excess Outsulation PFP System materials shall be removed from the job site by the fabricator in accordance with contract provisions and as required by applicable law.
- B. All surrounding areas, where the Outsulation PFP System has been installed, shall be left free of debris and foreign substances resulting from the fabricator's work.

3.07 PROTECTION

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

