

OUTSULATION[®] SYSTEM FOR PRE-ENGINEERED METAL BUILDINGS



DS857

A Mechanically Fastened Exterior Wall Insulation and Finish System

Outsulation System For Pre-Engineered Metal Buildings Specifications

INTRODUCTION

This document contains the Manufacturer's Standard Specification for the Outsulation System installed on pre-engineered metal buildings. These specifications follow the Construction Specification Institute's MasterFormat.

TAILORING THE DRYVIT MANUFACTURER'S SPECIFICATIONS TO YOUR PROJECT

These specifications cover all the common ways of using the Outsulation System. Most projects use only a few of the possible combinations of these materials and methods. To tailor the specifications to your project, simply use those sections which apply. Also, it may be prudent to place certain parts of the Dryvit Outsulation Specification in other parts of the project's total specification, such as sealants and framing. The project design professionals are responsible for ensuring that the project specifications are suitable for the project. For assistance in preparing your specification, contact your Dryvit Distributor or Dryvit Systems, Inc.

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/m³)

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

WARNING

The Outsulation 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 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

One Energy Way
West Warwick, RI 02893
(401) 822-4100
www.dryvit.com

DRYVIT SYSTEMS, INC.
MANUFACTURER'S SPECIFICATION
CSI MASTERFORMAT SECTION 07 24 13
OUTSULATION EXTERIOR INSULATION AND FINISH SYSTEM CLASS PB
FOR PRE ENGINEERED METAL BUILDINGS

PART I – GENERAL**1.01 SUMMARY**

A. This document is to be used in preparing specifications for projects utilizing the Dryvit Outsulation System installed over pre-engineered metal buildings. For complete product description and usage refer to:

1. Dryvit Outsulation System Data Sheet, DS447
2. Dryvit Outsulation System For Pre-Engineered Metal Buildings Application Instructions, DS858
3. Dryvit Outsulation System Installation Details, DS107

B. Related Sections

1. Light Gauge Cold Formed Steel Framing – Section 05 40 00
2. Sealant – Section 07 90 00
3. Flashing – Section 07 60 00

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 2898 Standard Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
9. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
10. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
11. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
12. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
13. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
14. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
15. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
16. 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
17. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
18. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish System (EIFS)
19. 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
20. 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)
21. ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems
22. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials
23. DS131, Dryvit Expanded Polystyrene Insulation Board Specification

- 24. DS151, Custom Brick™ Polymer System Specifications for Use on Vertical Walls
- 25. DS152, Dryvit Cleaning and Recoating
- 26. DS153, Dryvit Expansion Joints and Sealants
- 27. DS159, Dryvit Water Vapor Transmission
- 28. DS456, Rapidry DM™ 35-50 or DS457, Rapidry DM™ 50-75 Data Sheets
- 29. DS494, Dryvit AquaFlash® System
- 30. Mil Std E5272 Environmental Testing
- 31. Mil Std 810B Environmental Test Methods

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. Contractor: The contractor that installs the Outsulation System to the pre-engineered metal building.
- D. Dryvit: Dryvit Systems, Inc., the manufacturer of the Outsulation System, a Rhode Island corporation.
- E. Expansion Joint: A structural discontinuity in the Outsulation System.
- F. Finish: An acrylic-based coating, available in a variety of textures and colors that is applied over the base coat.
- G. Insulation Board: Expanded polystyrene (EPS) insulation board, which is affixed to the substrate and creates a layer of continuous insulation.
- H. Reinforcing Mesh: Glass fiber mesh(es) used to reinforce the base coat and to provide impact resistance.
- I. Substrate System: The total wall assembly including the pre-engineered metal building siding to which the Outsulation System is affixed.
- J. System: Consists of base coat, reinforcing mesh and finish applied over expanded polystyrene (EPS) supplied by others,

1.04 SYSTEM DESCRIPTION

- A. General: The Dryvit Outsulation System installed over Pre-Engineered Metal Building Siding is an Exterior Insulation and Finish System, Class PB, consisting of expanded polystyrene insulation board, base coat, reinforcing mesh(es), and finish and is secured with approved plastic washers and corrosion resistant fasteners.
- B. Design Requirements
 - 1. Deflection of substrate systems shall not exceed 1/240 times the span.
 - 2. The Pre-Engineered Metal Building siding shall be flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
 - 3. The metal siding profile shall provide a minimum 50% raised rib area to provide adequate support for expanded polystyrene (EPS). All vertical EPS edges shall be supported on a raised rib.
NOTE: Substrates not meeting these requirements or otherwise questionable may require a leveling sheathing installed over pre-engineered metal building siding prior to EIFS installation.
 - 4. The slope of inclined surfaces shall not be less than 6 in 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. Refer to Section 1.04.C.1.c of this specification.
 - 6. Expansion Joints
 - a. Design and location of expansion joints in the Outsulation 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 expansion joints occur in the substrate system.
 - 2) Where building expansion joints occur.
 - 3) At floor lines where significant movement is expected.
 - 4) Where the Outsulation System abuts dissimilar materials.
 - 5) Where the substrate type changes.
 - 6) In continuous elevations at intervals not exceeding 75 ft (23 m).
 - 7) Where significant structural movement occurs such as changes in roofline, building shape or structural system.
 - 7. Terminations
 - a. Prior to applying the Dryvit Outsulation System, wall openings shall be treated with Dryvit AquaFlash System or Flashing Tape. Refer to Dryvit Outsulation System Installation Details, DS107.

- b. The Outsulation 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 System Installation Details, DS107.
- c. The system shall be terminated a minimum of 8 in (203 mm) above finished grade.
- d. Sealants
 - 1) Shall be manufactured and supplied by others.
 - 2) Shall be compatible with Outsulation 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. Maximum Service Temperature – The in-service temperature of EPS Insulation shall not exceed 160 °F (71°C). **NOTE: Insulated Metal Building Siding Panel substrates can exhibit higher heat build-up than other substrates and must be evaluated by the designer to ensure that the EPS service temperature is not exceeded.**
- 10. 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.
- 11. 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 System.

C. Performance Requirements

- 1. The Outsulation 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
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. 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

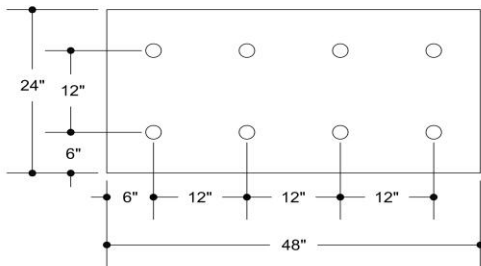
* It shall be colored blue and bear the Dryvit logo for product identification
 1. Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)

c. Structural

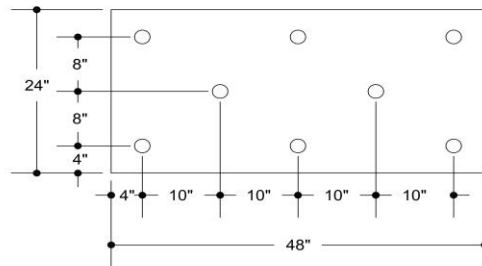
TEST	TEST METHOD	CRITERIA	RESULTS
Transverse Wind Load	ASTM E 330	Withstand positive and negative wind loads as specified by the building code	See Table below

Fastener Patterns:

NOTE: The Metal Building siding substrate system must be engineered to withstand all applicable loads. It is the responsibility of the architect and/or engineer to determine that the mechanical fastener and fastening pattern are acceptable for use with the project specific Metal Building Siding. The fastener patterns below are provided by Wind-lock Corporation.



Pattern A



Pattern B

EPS Foam Thickness	Ultimate Average Wind Load ^{1, 2} Pattern A	Ultimate Average Wind Load ^{1, 2} Pattern B
1 in (25 mm)	107 psf	85 psf
1 1/2 in (38 mm)	130 psf	103psf
2 in (51 mm)	144 psf	124 psf

¹ Loads shown are ultimate loads, appropriate safety factors should be applied to these values for design purposes.
² Fastener patterns and ultimate average wind loads provided by Wind-lock Corporation.

2. The Outsulation 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 \leq 25 Smoke Developed \leq 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.

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. Samples: The contractor shall submit to the owner/architect two (2) samples of the Outsulation 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.
- C. Test Reports – When requested, the contractor shall submit to the owner/architect copies of selected test reports verifying the performance of the Outsulation System.

1.06 QUALITY ASSURANCE

A. Qualifications

- 1. System Manufacturer: Shall be Dryvit Systems, Inc. All system 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 14001:2004 certification. Certification of the facility shall be done by a registrar accredited by the American National Standards Institute, Registrar Accreditation Board (ANSI-RAB).
- 2. Contractor: Shall be knowledgeable in the proper installation of the Dryvit Outsulation System and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. 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.

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 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 job site.

1.07 DELIVERY, STORAGE AND HANDLING

- A. All Dryvit materials shall be delivered to the job site 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®, and Genesis®: 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. Protect all products from inclement weather and direct sunlight.

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, and Genesis.
 - 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 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 written limited materials 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 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 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.

1.12 MAINTENANCE

- A. Maintenance and repair shall follow the procedures noted in Dryvit Outsulation System For Pre-Engineered Metal Buildings Application Instructions, DS858.
- B. All Dryvit products are designed to require minimal 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 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.
- C. Mechanical Fasteners: Shall be minimum No. 6 bugle head corrosion resistant screws. Screws shall be of sufficient length to penetrate the steel substrate a minimum of 3/8 in (9.5 mm).
- D. Approved Plastic Washer: A 2 in (51 mm) diameter polypropylene plastic washer specifically designed for use with Exterior Insulation and Finish Systems.
 - 1. Wind-lock Corporation: Wind Devil 2

2.03 COMPONENTS

- A. 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.
- B. Insulation Board: Expanded polystyrene meeting Dryvit Specification for Insulation Board, DS131.
 - 1. Thickness of insulation board shall be minimum 1 in (25 mm) and shall be maintained at all locations.
 - 2. The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.
- C. 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 Genesis.
 - 2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
 - a. Shall be Genesis DM
- D. 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 and Corner Mesh.
- E. 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
 - 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. 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.
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. 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 System, the contractor shall verify that the substrate:
 1. Is flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
 2. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere with the Outsulation System installation or performance.
- B. Prior to the installation of the Outsulation 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 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 System Installation Details, DS107, 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 System Installation Details, DS107.
- C. Prior to the installation of the Outsulation System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

- A. The Outsulation 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 installation.

3.03 INSTALLATION

- A. The system shall be installed in accordance with the current Dryvit Outsulation System For Pre-Engineered Metal Buildings Application Instructions, DS85.
- 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 System base coat surfaces in contact with sealant shall be coated with Demandit Smooth or Color Prime.
- D. Mechanical Fastening
 - 1. Install mechanical fasteners with approved plastic washers flush with the surface of the insulation board and not to exceed 1/16 in (1.6 mm) below the surface.
 - 2. Rasp the surface of the insulation board to remove any irregularities.
 - 3. Spot the fasteners with Genesis or Genesis DM mixture. Let pre-spotted areas take-up and install a full base coat of Genesis or Genesis DM mixture and reinforcing mesh over the entire wall surface. Reinforcing mesh shall be fully covered and not visible.
 - 4. Fastener patterns shall be as shown in Section 1.04.C.1.b.
- 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 FIELD QUALITY CONTROL

- A. The contractor shall be responsible for the proper application of the Outsulation materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. If required, the contractor 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.

3.05 CLEANING

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

3.06 PROTECTION

- A. The Outsulation 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.

