

OUTSULATION[®] RMD SYSTEM[™]
(formerly Residential MD System[®])



DS155

An Exterior Wall Insulation and Finish System with Drainage

Outsulation RMD System
(formerly Residential MD System)
Specification

DRYVIT SYSTEMS, INC.
ARCHITECTURAL SPECIFICATION
SECTION 07240
AN EXTERIOR INSULATION AND FINISH SYSTEM CLASS PB

PART I - GENERAL**1.01 SUMMARY:**

- A. This document is to be used in preparing specifications for projects utilizing the Dryvit Outsulation RMD System). For complete product description and usage refer to:
1. Dryvit Outsulation RMD System Data Sheet, DS440
 2. Dryvit Outsulation RMD System Application Instructions, DS143.
 3. Dryvit Outsulation RMD System Installation Details, DS106.
- B. Related Sections
1. Unit Masonry – Section 04200
 2. Concrete – Sections 03300 and 03400
 3. Light Gauge Cold Formed Steel Framing – Section 05400
 4. Wood Framing – Section 06100
 5. Sealant – Section 07900
 6. Flashing – Section 07600

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 D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
 5. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
 6. ASTM D 2898 Standard Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
 7. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
 8. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
 9. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
 10. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
 11. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
 12. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
 13. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
 14. 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.
 15. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
 16. ASTM E 2178 Standard Test Method for Air Permeance of Building Materials
 17. ASTM E 2273 Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies
 18. ASTM E 2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
 19. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish Systems (EIFS)
 20. ASTM E 2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS)
 21. 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)
 22. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials

23. DS106, Dryvit Outsulation RMD System Installation Details
24. DS131, Dryvit Expanded Polystyrene Insulation Board Specification
25. DS143, Dryvit Outsulation RMD System Application Instructions
26. DS151, Custom Brick™ Polymer System Specifications for Use on Vertical Walls
27. DS152, Dryvit Cleaning and Recoating
28. DS153, Dryvit Expansion Joints and Sealants
29. DS159, Dryvit Water Vapor Transmission
30. DS235, Dryvit Homeowner's Maintenance Guide
31. DS456, Rapidry DM™ 35-50 or DS457, Rapidry DM™ 50-75 Data Sheets
32. DS494, Dryvit AquaFlash® System
33. DS705, Reflectit™
34. DS706, Mojave E™ Finish
35. Mil Std E5272 Environmental Testing
36. 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 RMD System to the substrate.
- D. Dryvit: Dryvit Systems, Inc., the manufacturer of the Outsulation RMD System, a Rhode Island corporation.
- E. Expansion Joint: A structural discontinuity in the Outsulation RMD 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.
- H. Mechanical Fasteners: A combination of polypropylene washers and corrosion resistant fasteners used to secure the insulation board to the substrate.
- 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 RMD System is affixed.
- L. Substrate System: The total wall assembly including the attached substrate to which the water-resistive barrier is affixed.

1.04 SYSTEM DESCRIPTION

- A. General: The Dryvit Outsulation RMD System is an Exterior Insulation and Finish System (EIFS), Class PB, designed for use on IBC/IRC Type V construction. Outsulation RMD System is installed over a code approved water-resistive barrier and consists of a drainage medium and drainage accessories, expanded polystyrene insulation board, adhesive or mechanical attachment method, reinforced base coat and finish.
- B. Acceptable system configuration options include:

System Configuration	Water-Resistive Barrier	Drainage Medium	EPS Minimum Thickness	Attachment	Base Coat
1	Backstop® NT, or Sheet membrane	Drainage Mat	25 mm (1 in)	Mechanical Fasteners	Genesis® or Genesis® DM
2	Tyvek® StuccoWrap	N/A	25 mm (1 in)	Mechanical Fasteners	Genesis or Genesis DM
3	Backstop NT, or Sheet membrane	Grooved Insulation Board	38 mm (1 ½ in)	Mechanical Fasteners	Genesis or Genesis DM
4	Backstop NT	Notched Trowel Adhesive	25 mm (1 in)	Adhesive	All
5	Backstop NT, or Sheet membrane	Expanded Metal Lath	25 mm (1 in)	Adhesive	All

C. Design Requirements:

1. Acceptable substrates for the Outsulation RMD System shall be:
 - a. APA Exterior or Exposure 1 rated Plywood, Grade C-D or better, nominal 12.7 mm (1/2 in), minimum 4-ply.
 - b. APA Exposure 1 rated Oriented Strand Board (OSB), nominal 12.7 mm (1/2 in).
 - c. Unglazed brick, cement plaster, concrete, or masonry (water-resistive barrier not required).
 - d. Exterior grade fire retardant treated plywood.
2. Deflection of substrate systems shall not exceed 1/240 times the span.
3. The substrate shall be flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.
4. The slope of inclined surfaces shall not be less than 6:12 (27°). The length of inclined surfaces shall not exceed 305 mm (12 in).
5. At horizontal sealant joints and windowsills projecting 102 mm (4 in) or less, the slope shall not be less than 3:12.
6. All areas requiring an impact resistance classification higher than "standard", as defined by ASTM E 2486 (formerly EIMA Standard 101.86), shall be detailed in the drawings and described in the contract documents. Refer to Section 1.04.D.1.a.4 of this specification.
7. Expansion joints:
 - a. Design and location of expansion joints in the Outsulation RMD 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 in wood frame construction.
 - 4) At floor lines of non-wood framed buildings where significant movement is expected.
 - 5) Where the Outsulation RMD System abuts dissimilar materials.
 - 6) Where the substrate type changes.
 - 7) In continuous elevations at intervals not exceeding 23 m (75 ft).
 - 8) Where significant structural movement occurs such as changes in roofline, building shape or structural system.
8. Terminations:
 - a. Prior to applying the Dryvit Outsulation RMD System, wall openings shall be wrapped with Dryvit AquaFlash System or Flashing Tape. Refer to Dryvit Outsulation RMD System Installation Details, DS106.
 - b. The Outsulation RMD System shall be held back from adjoining materials around openings and penetrations such as windows, doors and mechanical equipment a minimum of 12.7 mm (1/2 in) for sealant application. **See Dryvit's Outsulation RMD System Installation Details, DS106, for exceptions and alternate methods.**
 - c. At the base of walls, the System shall extend a minimum of 25 mm (1 in) below the sill plate onto the foundation, and be terminated a minimum of 203 mm (8 in) above finished grade.
 - d. For slab-on-grade, the Outsulation RMD System shall extend a minimum 25 mm (1 in) onto the slab edge.
 - e. Sealants
 - 1) Shall be manufactured and supplied by others
 - 2) Shall be compatible with the Outsulation RMD 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 closed cell.
9. 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.
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: Flashing shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies, and other areas as necessary to prevent water from getting behind the Outsulation RMD System.

D. Performance Requirements:

1. The Outsulation RMD System shall have been tested as follows:

a. Durability

1) Air/Water-Resistive Barrier Coating

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E 2134 ICC ES (AC 212)*	Minimum 104 kPa (15 psi)	Substrate: Minimum 131 kPa (19 psi) Flashing Minimum 2970 kPa (431 psi)
Freeze-thaw	ASTM E 2485/ICC-ES Proc. ICC ES (AC 212)*	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Water Resistance	ASTM D 2247 ICC ES (AC 212)*	No deleterious effects after 14 days exposure ¹	No deleterious effects after 14 days exposure
Water Vapor Transmission	ASTM E 96 Proc. B ICC ES (AC 212)*	Vapor Permeable	7 perms ²
Air Leakage	ASTM E 283	No ICC or ANSI/EIMA Criteria	0.01 l/sec/m ² (0.002 cfm/ft ²)
Air Permeance	ASTM E 2178	No ICC or ANSI/EIMA Criteria	0.0006 l/s/m ² @ 75Pa (1.2x10 ⁻⁴ cfm/ft ² @ 1.6 psf)
Air Barrier Assembly	ASTM E 2357	No ICC or ANSI/EIMA Criteria	0.05 l/sec m ² @300 Pa (<0.001 cfm/ft ² @ 6.24 psf)
Structural Performance	ASTM E 1233 Proc. A ICC ES (AC 212)*	Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing	Passed
Racking	ASTM E 72 ICC ES (AC 212)*	No cracking in field, at joints or interface with flashing at net deflection of 3.2 mm (1/8 inch)	Passed
Restrained Environmental	ICC-ES Procedure ICC ES (AC 212)*	5 cycles; No cracking in field, at joints or interface with flashing	Passed
Water Penetration	ASTM E331 ICC ES (AC 212)*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 137 Pa (2.86 psf)	Passed
Weathering UV Exposure	ICC ES Proc. ICC ES (AC212)*	210 hours of exposure	Passed
Accelerated Aging	ICC ES Proc. ICC ES (AC212)*	25 cycles of wetting and drying	Passed
Hydrostatic Pressure Test	AATCC 127 ICC ES (AC212)*	ICC: 549 mm (21.6 in) water column for 5 hours	Passed
Surface Burning Characteristics	ASTM E 84	Flame Spread < 25 Smoke Developed < 450	Passed

* (AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing, also referred to as ASTM E 2570

1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification

2. Defined as a Class III vapor retarder per the 2009 IBC and IRC

2) System

TEST	TEST METHOD	CRITERIA	RESULTS
Abrasion Resistance	ASTM D 968	No deleterious effects after 500 liters (528 quarts)	No deleterious effects after 1000 liters (1056 quarts)
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 (formerly EIMA 101.01)	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/ICC-ES Proc. ICC ES (AC235)***	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 ICC ES (AC 235)***	No water penetration beyond the inner-most plane of the wall after 15 minutes at 137 Pa (2.86 psf)	Passed 15 minutes at 137 Pa (2.86 psf)
Water Vapor Transmission	ASTM E 96	Vapor permeable	EPS 5 perm-inch Base Coat* 40 Perms Finish** 40 Perms
Drainage Efficiency	ASTM E 2273 ICC ES (AC 235)***	Minimum Drainage Efficiency of 90%	Passed

* Base Coat perm value based on Dryvit Genesis

** Finish perm value based on Dryvit Quarzputz

*** AC 235 – Acceptance Criteria for EIFS Clad Drainage Wall Assemblies

3) Structural

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E2134	Minimum 104 kPa (15 psi) – substrate or insulation failure	Minimum 213.6 kPa (31 psi)
Transverse Wind Load	ASTM E 330	Withstand positive and negative wind loads as specified by the building code	Minimum 4.3 kPa (90 psf)*

* Adhesive attachment; mechanical fastener attachment results are based on fastener patterns – refer to Dryvit Application Bulletin 00-04.

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

Reinforcing Mesh ¹ /Weight g/m ² (oz/yd ²)	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range		Impact Test Results	
			Joules	(in-lbs)	Joules	(in-lbs)
Standard - 146 (4.3)	27 g/cm (150 lbs/in)	Standard	3-6	(25-49)	4	(36)
Standard Plus™ - 203 (6)	36 g/cm (200 lbs/in)	Medium	6-10	(50-89)	6	(56)
Intermediate Mesh™ - 407 (12)	54 g/cm (300 lbs/in)	High	10-17	(90-150)	12	(108)
Panzer® 15 * - 509 (15)	71 g/cm (400 lbs/in)	Ultra High	>17	(>150)	18	(162)
Panzer 20 * - 695 (20.5)	98 g/cm (550 lbs/in)	Ultra High	>17	(>150)	40	(352)
Detail Mesh® Short Rolls - 146 (4.3)	27 g/cm (150 lbs/in)	n/a	n/a	n/a	n/a	n/a
Corner Mesh™ - 244 (7.2)	49 g/cm (274 lbs/in)	n/a	n/a	n/a	n/a	n/a

*Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)

1. It shall be colored blue for product identification bearing the Dryvit logo.

2. The Outsulation RMD System components shall have been tested for:

a. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Reinforcing Mesh Alkali Resistance of Reinforcing Mesh	ASTM E 2098 (formerly EIMA 105.01)	> 21dN/cm (120 pli) retained tensile strength after exposure	Passed
EPS (Physical Properties) Density	ASTM C 303, D 1622	15.2-20.0 kg/m ³ (0.95-1.25 lb/ft ³)	Pass
Thermal Resistance	ASTM C 177, C 518	4.0 @ 4.4 °C (40 °F) 3.6 @ 23.9 °C (75 °F)	Pass
Water Absorption	ASTM C 272	2.5 % max. by volume	Pass
Oxygen Index	ASTM D 2863	24% min. by volume	Pass
Compressive Strength	ASTM D 1621 Proc. A	69 kPa (10 psi) min.	Pass
Flexural Strength	ASTM C 203	172 kPa (25 psi) min.	Pass
Flame Spread Smoke Developed	ASTM E 84	25 max. 450 max.	Pass

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 RMD 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 RMD 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 14001:2004 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 RMD System and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. Additionally, the contractor shall possess a current Outsulation RMD System Trained Contractor Certificate*, issued by Dryvit Systems, Inc.

3. Insulation Board Manufacturer: Shall be listed by Dryvit Systems, Inc., shall be capable of producing the Expanded Polystyrene (EPS) in accordance with the 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 code(s).
- C. Certification
1. The Outsulation RMD 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 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 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 jobsite 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. Demandit®, Revyvit®, Reflectit™: 7 °C (45 °F)
 - b. Ameristone™, TerraNeo® and Limestone™: 10 °C (50 °F)
 - c. DPR, PMR™, E Finishes™, Color Prime™, Primus®, Genesis and NCB™: 4 °C (40 °F)
 - d. Custom Brick™ Finish: Refer to Custom Brick Polymer Specification, DS151.
 - e. For other products, refer to specific product data sheets.
 2. Maximum storage temperature shall not exceed 38° C (100 °F). **NOTE: Minimize exposure of materials to temperatures over 32 °C (90 °F). Finishes exposed to temperatures over 43 °C (110 °F) 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 application, the minimum air and wall surface temperatures shall be as follows:
 - a. Demandit, Revyvit, Reflectit: 7 °C (45 °F)
 - b. Ameristone, TerraNeo and Limestone: 10 °C (50 °F)
 - c. DPR, PMR, E Finishes, Color Prime, Primus, Genesis and NCB: 4 °C (40 °F)
 - d. Custom Brick Finish: refer to Custom Brick Polymer Specification, DS151
 - e. 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 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 RMD 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 WARRANTY

- A. Dryvit Systems, Inc. shall provide a written moisture drainage and 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 RMD 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 their 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, application 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 shall follow the procedures noted in the Dryvit Homeowner's Maintenance Guide, DS235, and repair shall follow the procedures noted in the Dryvit Outsulation RMD System Application Instructions, DS143.
- 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 and Recoating.
- C. Sealants and Flashings shall be inspected on a regular basis and repairs made as necessary.

PART II-PRODUCTS

2.01 MANUFACTURER:

- A. All components of the Outsulation RMD System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of materials other than those 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. Water-Resistive Barrier Coating
 - a. Dryvit Backstop NT: A flexible, polymer-based, noncementitious water-resistive coating and air barrier available in Texture and Smooth.
 - b. 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.
 - 2. Sheet Type Membranes (by others)
 - a. Code approved water-resistive barrier such as but not limited to Dupont Tyvek StuccoWrap, Tyvek Home Wrap or Commercial Wrap, #15 Felt, Grade D Paper.
- 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 102 mm (4 in), 152 mm (6 in), and 229 mm (9 in) wide by 23 m (75 ft) long.
 - 2) Dryvit Flashing Tape Surface Conditioner™: A water-based surface conditioner and adhesion promoter for the Dryvit Flashing Tape.
- C. Dryvit AP Adhesive™: A moisture cure, urethane based adhesive used to adhere the Dryvit Drainage Strip™ and Drainage Track

D. Accessories

1. Drainage Track (Optional - not required when Drainage Strip is specified): UV treated PVC perforated "J" channel with weep holes, complying with ASTM D 1784 and ASTM C 1063. Shall be one of the following:
 - a. Starter Trac STWP - without drip edge by Plastic Components, Inc.
 - b. Starter Trac STDE - with drip edge by Plastic Components, Inc.
 - c. Universal Starter Track by Wind-lock Corporation
 - d. Sloped Starter Strip with Drip by Vinyl Corp.
2. Dryvit Drainage Strip™ (Optional - not required when Drainage Track is specified): A corrugated plastic material, which provides drainage. Required when using Tyvek StuccoWrap without the Drainage Track.

E. Drainage Medium Options

1. Dryvit Drainage Mat [System 1 (optional when Outsulation RMD System is installed over Tyvek StuccoWrap)]: A blue, 3.2 mm (1/8 in) thick mat composed of open weave polymer threads.
2. Tyvek StuccoWrap or equal (System 2), by others: A spunbonded high density polyethylene that is textured to provide vertical drainage channels.
3. Grooved Insulation Board (System 3): Expanded polystyrene meeting Dryvit specification for Insulation Board, DS131, minimum thickness 38 mm (1 1/2 in). The back side of the insulation board shall have factory cut vertical grooves measuring 6.4 mm (1/4 in) deep by 25 mm (1 in) wide spaced 102 mm (4 in) on center.
4. Notched Trowel Adhesive (System 4): One of Dryvit's approved adhesives applied in a vertical orientation for attaching the insulation board to Backstop NT.
5. Expanded metal Lath (System 5), by others: Shall be minimum 1.4 kg/sq m (2.5 lbs/sq yd), Galvanized Furred Diamond Mesh Metal Lath; not recommended for coastal areas and other corrosion environments.

F. Insulation Board: Expanded Polystyrene meeting the Dryvit Specification for Insulation Board, DS131, and the following requirements:

1. In the absence of specific wind load requirements, the thickness of the insulation board shall be minimum 25 mm (1 in); System 3 requires minimum 38 mm (1 1/2 in). Projects located in shoreline or other high wind load areas will require special consideration. Contact Dryvit Systems, Inc. for specific recommendations.
2. The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.

G. Mechanical Fasteners consist of a 51 mm (2 in) diameter polypropylene washer with key openings for base coat penetration and recessed chamber, used in conjunction with a corrosion resistant fastener.

1. Washer

- a. Shall be Wind-Lock Wind-Devil or Wind-Devil 2, or ITW Buildex Grid-Mate™ PB and Grid-Master washer.

2. Screws

- a. Wood Based Substrates and Light Gauge Metal (20 – 26 ga).
 - 1) Shall be minimum No. 6, bugle head corrosion resistant screws.
 - 2) The screws shall be of sufficient length to penetrate wood substrates a minimum of 19 mm (3/4 in), and metal framing a minimum of 9.5 mm (3/8 in).
- b. Steel Framing (12 – 20 ga)
 - 1) Shall be minimum No. 6 bugle head corrosion resistant screws, drill point.
 - 2) The screws shall be of sufficient length to penetrate the steel framing a minimum of 9.5 mm (3/8 in).

3. Brick, Block and Concrete

- a. Anchors shall be a minimum 4.8 mm (3/16 in) diameter and corrosion resistant.
- b. Anchors shall be of sufficient length to penetrate the substrate a minimum of 25 mm (1 in).
- c. Pullout values shall be substantiated for the particular substrate and fastener used.

H. Adhesive: For use in attaching insulation board to water-resistive barrier coating or expanded metal lath:

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.

I. Base Coat: Shall be compatible with the EPS insulation board and reinforcing mesh(es). **NOTE: When installing the system with mechanical fasteners (Systems 1, 2, 3), the base coat shall be either Genesis or Genesis DM.**

1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
 - a. Shall be Primus or Genesis.
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.

- J. 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 listed in Section 1.04.D.1.a.4.**
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.
- K. 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 finish 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. E: Water-based, lightweight acrylic finish with integral color and texture, and formulated with DPR chemistry:
 - a. Quarzputz[®] E
 - b. Sandpebble[®] E
 - c. Sandpebble[®] Fine E
 3. Finish with recycled content:
 - a. Mojave E: Water based, 100% acrylic finish containing 20% post consumer recycled content and formulated with DPR chemistry.
 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.
 - 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.
 5. Elastomeric DPR (Dirt Pickup Resistance): Water-based, elastomeric acrylic finish 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 finish 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
 - b. Weatherlastic[®] Smooth
 - c. Tuscan Glaze™
 - d. Revyvit
 - e. Color Prime
 - f. Prymit[®]
 - g. SealClear

PART III-EXECUTION

3.01 EXAMINATION

- A. Prior to installation of the Outsulation RMD System, the contractor shall verify that the substrate:
1. Is of a type listed in Section 1.04 C.1.
 2. Is flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.

3. Is sound, dry, clean, free of efflorescence, connections are tight, has no surface voids, projections, or other conditions that may interfere with the Outsulation RMD System installation or performance.
- B. Prior to installation of the Outsulation RMD 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 RMD System application. Additionally, the contractor shall ensure that:
 1. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards and Dryvit Outsulation RMD System Installation Details, DS106, or as otherwise necessary.
 2. Openings are flashed in accordance with the Dryvit Outsulation RMD System Installation Details, DS106, 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 RMD System Installation Details DS106.
 5. Sheet type membrane water-resistive barriers have been installed in a weatherboard fashion in accordance with building code and manufacturer's requirements.
- C. Prior to the installation of the Outsulation RMD System, the contractor shall notify the general contractor, and/or architect and/or owner of all discrepancies.

3.02 PREPARATION

- A. The Outsulation RMD System 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 RMD System installation.
- C. When Dryvit Backstop NT is specified as the water-resistive barrier, 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 may inhibit adhesion.

3.03 INSTALLATION

- A. The system shall be installed in accordance with the Dryvit Outsulation RMD System Application Instruction, DS143.
- 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 to textured finishes or uncoated base coat surfaces. Dryvit Outsulation RMD System surfaces in contact with sealant shall be coated with Demandit or Color Prime.
- D. 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 RMD System 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 the specific products used.
- D. If required, the EPS supplier shall certify in writing that the EPS meets Dryvit's specification.
- 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 RMD 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 Dryvit Outsulation RMD System has been applied, shall be left free of debris and foreign substances resulting from the contractor's work.

3.06 PROTECTION

- A. The Outsulation RMD 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.

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