

# RESIDENTIAL MD SYSTEM<sup>®</sup>



DS155

An Exterior Wall Insulation and  
Finish System with Drainage Mat

## Residential MD System Specifications

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

**PART I - GENERAL****1.01 SUMMARY:**

This document is to be used in preparing specifications for projects utilizing the Dryvit Residential MD System Exterior Insulation and Finish System (EIFS) Class PB. For complete product description and usage refer to:

- A. Dryvit Residential MD System Application Instructions, DS143.
- B. Dryvit Residential MD System Installation Details, DS106.

**1.02 SYSTEM DESCRIPTION**

A. The Dryvit Residential MD System is an Exterior Insulation and Finish System (EIFS), Class PB, designed for use on combustible type construction. Residential MD consists of a drainage medium, an expanded polystyrene insulation board, adhesive or mechanical attachment method, reinforced base coat and finish. The System is applied over a code approved secondary weather barrier such as #15 felt, Grade D paper, DuPont® Tyvek® or equal (by others). Approved drainage mediums include Dryvit Drainage Mat, expanded metal lath (by others), and Tyvek StuccoWrap™ (by others).

## 1. Design Requirements:

- a. Acceptable substrates shall include:
  - 1) APA Exterior or Exposure 1 rated Plywood, Grade C-D or better, nominal 3 mm (1/2 in), minimum 4-ply.
  - 2) APA Exposure 1 rated Oriented Strand Board (OSB), nominal 13 mm (1/2 in).
- b. Deflection of substrate systems shall not exceed L/240.
- c. The slope of inclined surfaces shall not be less than 6:12.
- d. The length of inclined surfaces shall not exceed 305 mm (12 in).
- e. Horizontal sealant joints and windowsills projecting 102 mm (4 in or less), the slope shall not be less than 3:12.
- f. All areas requiring an impact resistance classification

higher than Level 1, as defined by EIMA Standard 101.86, shall be detailed in the drawings and described in the contract documents. Refer to Section 2.02.F of this specification.

## g. Expansion joints:

- 1) Design and location is the responsibility of the designer. As a minimum, expansion joints are required at the following locations:
  - a) Where expansion joints occur in the substrate system.
  - b) Where building expansion joints occur.
  - c) At floor lines in wood frame construction.
  - d) Where the Residential MD System abuts dissimilar materials.
  - e) Where the substrate changes.
  - f) In continuous elevations at intervals not exceeding 23 m (75 ft).
  - g) Where significant structural movement occurs such as changes in roofline, building shape or structural system.

## h. Terminations

- 1) The System shall be held back from adjoining materials around penetrations such as windows, doors and mechanical equipment a minimum of 12 mm (1/2 in) for sealant application. **See Dryvit's Residential MD System Installation Details for exceptions and alternate methods.**
- 2) 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 200 mm (8 in) above finished grade.
- 3) For slab-on-grade, the minimum system shall extend a minimum

25 mm (1 in) onto the slab edge.

## i. Sealants

- 1) Shall be compatible with the Residential MD System materials. Refer to current Dryvit publication DS153 for listing of sealants tested by sealant manufacturer for compatibility. Shall be Dryvit DSI 320 Residential Sealant or equal by others.
- 2) The sealant backer shall be closed cell.

## j. Vapor Retarders

- 1) 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. Type and location shall be noted on the project drawings and specifications. Vapor retarders/barriers may be inappropriate in certain areas and can result in condensation within the wall assembly.
- k. The use of dark colors must be considered in relation to wall surface temperature as a function of local climate conditions.

l. 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 Residential MD System.

2. Performance Requirements: As a minimum, the Dryvit Residential MD System shall be tested in the following areas:

- a. Durability
- b. Structural
- c. Weather
- d. Drainage

**1.03 QUALITY ASSURANCE**

## A. Qualifications:

- 1. System Manufacturer: Shall be Dryvit Systems, Inc. All materials shall be obtained from Dryvit Systems, Inc. or its authorized distributors.
  - a. Materials shall be manufactured at a facility

covered by a current ISO 9001 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 Residential MD System and shall be experienced and competent in the installation of exterior insulation and finish systems. Additionally, the contractor shall possess a current Residential MD System trained\* contractor certificate, issued by Dryvit.
  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 codes.
- C. Certification
1. 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 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 as that being used for the project.
  4. The approved mock-up shall be available and maintained at the job site.

#### 1.04 DELIVERY, STORAGE AND HANDLING

- A. All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact. Questionable materials shall not be used.
- B. Minimum storage temperature shall be 7 °C (45 °F) for Demandit®, Revyvit®, and Color Prime™; 10 °C (50 °F) for Ameristone and 4 °C (40 °F) for other wet products. Protect all products from weather and direct sunlight.

#### 1.05 PROJECT CONDITIONS

- A. Application of materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are dry.
- B. Application of wet materials shall be at a minimum ambient temperature of 4 °C (40 °F), 7 °C (45 °F) or 10 °C (50 °F) depending on product, and rising. These temperatures shall be maintained for a minimum of 24 hours (48 hours for Ameristone) thereafter, or until completely dry.

#### 1.06 SEQUENCING AND SCHEDULING

- A. Installation of the Dryvit Residential MD System shall be coordinated with other construction trades.

#### 1.07 WARRANTY

- A. Dryvit Systems, Inc. shall provide a 10-year moisture drainage warranty combined with a ten (10) year 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.

#### 1.08 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.

#### 1.09 MAINTENANCE

- A. Maintenance and repair shall follow the procedures noted in the Dryvit Residential MD System Application Instructions, DS143.
- B. All Dryvit products are designed to minimize maintenance. However, as with all building products, depending on location, some maintenance 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 Residential MD System shall be obtained from Dryvit or its authorized distributors.

#### 2.02 MATERIALS

- A. Drainage Track (Optional): UV treated PVC perforated "J" channel with weep holes, complying with ASTM D1784 and ASTM C1063. Shall be one of the following:
  1. Starter Trac STWP - without drip edge by Plastic Components, Inc.
  2. Starter Trac STDE - with drip edge by Plastic Components, Inc.
  3. Universal Starter Track by Wind-lock Corporation
  4. Sloped Starter Strip with Drip by Vinyl Corp.
- B. Dryvit Drainage Strip™ (Optional): A corrugated plastic sheet material, which provides drainage. Required when using StuccoWrap without the Drainage Track.
- C. Weather resistive barrier (by others): StuccoWrap, #15 felt, Grade D paper or other code approved secondary weather barrier.
- D. Dryvit Drainage Mat (optional when Residential MD is installed over StuccoWrap): A blue, 3 mm (1/8 in) thick mat composed of open weave polymer threads.
- E. Expanded Metal Lath: Shall be minimum 1.4 kg/sq (2.5 lbs/sq yd), self-furred and galvanized.

**Residential MD Specifications**

**DS155**

- 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). 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 licensed by Dryvit Systems, Inc.
- G. Mechanical Fasteners consist of a 50 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 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 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 metal lath:
  - 1. Shall be Primus®, Primus DM™, Genesis®, or Genesis DM™
- I. Base Coat: Shall be compatible with the insulation board and reinforcing mesh.
  - 1. Cementitious
    - a. A field mixed, fiber reinforced polymer based material.
      - 1) Shall be: Genesis® or Genesis DM.
- J. Reinforcing Mesh: Shall be 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 as listed in Table 1 below.**

**Table 1**

Reinforcing Mesh/Weight g/m <sup>2</sup> (oz/yd <sup>2</sup> )	EIMA Impact Classification	EIMA Impact Range**		Impact Test Results**	
		Joules	(in-lbs)	Joules	(in-lbs)
Standard™ 146 (4.3)	Level 1	3-6	(25-49)	4	(36)
Standard Plus™ 203 (6)	Level 2	6-10	(50-89)	6	(56)
Intermediate® 407 (12)	Level 3	10-17	(90-150)	12	(108)
Panzer® 15*** 509 (15)	Level 4	>17	(>150)	18	(162)
Panzer 20*** 695 (20.5)	Level 4	>17	(>150)	40	(352)
Detail® Short Rolls 146 (4.3)	n/a	n/a	n/a	n/a	n/a
Corner Mesh 244 (7.2)	n/a	n/a	n/a	n/a	n/a

\*\* Tested in accordance with EIMA Standard 101.86

\*\*\* Shall be used in conjunction with Standard Mesh as a minimum to obtain impact results.

- K. Finish: Shall be the type, color and texture as selected by the architect/owner and shall be of the following types:
  - 1. Standard DPR (Dirt Pickup Resistance)
    - a. Quarzputz®, Sandblast®, Freestyle®, Sandpebble®, and Sandpebble Fine™
  - 2. Specialty
    - a. Ameristone™
    - b. Stone Mist®
    - c. Custom Brick™
  - 3. Elastomeric DPR (Dirt Pickup Resistance)
    - a. Weatherlastic™ Quarzputz, Weatherlastic Sandpebble, Weatherlastic SandpebbleFine, Weatherlastic Adobe™, and Weatherlastic Smooth™
  - 4. Medallion Series PMR™ (Proven Mildew Resistance)
    - a. Quarzputz, Sandblast, Freestyle, Sandpebble, Sandpebble Fine, and Demandit®
  - 5. Coatings, Primers and Sealers
    - a. Revyvit, Color Prime, Prymit®, and SealClear™.
- 3. The substrate is sound, connections are tight, there are no surface voids or projections, or other conditions that may interfere with the Residential MD System installation.
- 4. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards.
- 5. Openings are flashed in accordance with the Dryvit Residential MD System Installation Details, DS106, or as otherwise necessary to prevent water penetration.
- 6. Decks have been properly flashed.

**PART III-EXECUTION**

**3.01 EXAMINATION**

- A. Prior to installation of the system, it is the Contractor’s responsibility to ensure that:
  - 1. The substrate is of a type listed in section 1.02 A.1.a.
  - 2. The substrate is flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.

## Residential MD Specifications

7. The secondary weather barrier has been installed in a weatherboard fashion in accordance with building code and manufacturer's requirements.

### 3.02 PREPARATION

#### A. Protection

1. The Dryvit materials shall be protected by permanent or temporary means from weather and other damage prior to, during, and following application, until dry.
2. Protect adjoining work and property.

### 3.03 INSTALLATION

A. The system shall be installed in accordance with the Dryvit Residential MD System Application Instruction, DS143.

B. Dryvit Residential MD System finished surfaces in contact with sealant shall be coated with Demandit or Color Prime. Sealant shall not be applied to textured finishes.

### 3.04 FIELD QUALITY CONTROL

- A. The Contractor shall be responsible for the proper application of the Dryvit materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.

### 3.05 CLEANING

A. All excess Residential MD System materials shall be removed from the job site by the contractor in accordance with contract provisions.

## DS155

B. All surrounding areas, where the Dryvit Residential MD System has been applied, shall be left free of debris and foreign substances resulting from the contractor's work.

### 3.06 PROTECTION

A. The system shall be protected from weather and other damage until permanent protection in the form of flashings, sealants, etc. are installed.

## DISCLAIMER

Information contained in this specification conforms to standard detail and product recommendations for the installation of the Dryvit Residential MD 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, contact:

Dryvit Systems, Inc.  
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West Warwick, RI 02893  
(401) 822-4100

\* The Trained Contractor Certificate 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. 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.

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