

# **OUTSULATION® LCMD SYSTEMS 1 – 5™**



**DS171**

**Exterior Wall Insulation and Finish Systems With Moisture Drainage  
That Incorporates Continuous Insulation and a Water-Resistive Barrier  
for Light Commercial Construction**

## **Outsulation LCMD Systems 1 – 5 Specifications**

**INTRODUCTION**

This document contains the Manufacturer's Standard Specification for the Outsulation LCMD Systems 1-5. 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 LCMD Systems 1-5. 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 LCMD Systems 1-5 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/m<sup>3</sup>)

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

**WARNING**

The Outsulation LCMD Systems 1-5 is designed as a drainage wall cladding system and is detailed to discharge incidental moisture that may enter 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 envelope 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 LCMD Systems 1-5 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](http://www.dryvit.com) or contact Dryvit Systems, Inc., at

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\* The Trained Contractor Certificate referenced in Section 1.06.A.2 and 1.06.A.4 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 19**  
**OUTSULATION® LCMD SYSTEMS™ 1-5**  
**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 Light Commercial MD Systems. For complete product description and usage refer to:

1. Dryvit Outsulation LCMD Systems 1-5 Data Sheet, DS838
2. Dryvit Outsulation LCMD Systems 1-5 Application Instructions, DS172
3. Dryvit Outsulation LCMD Systems 1-5 Installation Details, DS170

B. Related Sections

1. Unit Masonry – Section 04 20 00
2. Concrete – Sections 03 30 00 and 03 40 00
3. Light Gauge Cold Formed Steel Framing – Section 05 40 00
4. Wood Framing – Section 06 10 00
5. Sealant – Section 07 90 00
6. Flashing – Section 07 60 00
7. Water-Resistive Barriers – Section 07 25 00
8. Vapor Retarders – 07 26 13
9. 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 1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
5. ASTM C 1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
6. ASTM C 1396 (formerly C 79) Standard Specification for Gypsum Board
7. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
8. ASTM D 1784 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
9. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
10. ASTM D 2898 Standard Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
11. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
12. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
13. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
14. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
15. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
16. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
17. 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
18. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
19. ASTM E 2273 Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies
20. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish Systems (EIFS)
21. 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

- 22. 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)
- 23. E 2568 Standard Specification for PB Exterior Insulation and Finish Systems
- 24. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials
- 25. Mil Std E5272 Environmental Testing
- 26. Mil Std 810B Environmental Test Methods
- 27. NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source
- 28. 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

**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 LCMD Systems 1-5 to the substrate.
- D. Dryvit: Dryvit Systems, Inc., the manufacturer of the Outsulation LCMD Systems 1-5, a Rhode Island corporation.
- E. Expansion Joint: A structural discontinuity in the Outsulation LCMD Systems 1-5.
- 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. 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 LCMD Systems 1-5 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 LCMD Systems 1-5 is an Exterior Insulation and Finish System (EIFS) Class PB, designed for use on noncombustible or combustible type construction. Outsulation LCMD Systems 1-5 is installed over a code approved water-resistive barrier (sheet type) and consists of a drainage medium and drainage accessories, expanded polystyrene insulation board, adhesive or mechanical attachment method, base coat, reinforcing mesh(es) and finish.
- B. Acceptable system configuration options include:

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

**C. Design Requirements:**

1. Acceptable substrates for the Outsulation LCMD 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 LCMD 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.
  - d. APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
  - e. APA Exterior or Exposure 1 Fire Retardant Treated (FRT) Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
  - f. APA Exposure 1 Rated Oriented Strand Board (OSB) nominal 1/2 in (12.7 mm), minimum.
  - g. Unglazed brick, cement plaster, concrete or masonry.
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. The length of inclined surfaces 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 Standard 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 LCMD Systems 1-5 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 LCMD Systems 1-5 abuts dissimilar materials
    - 6) Where the substrate type changes
    - 7) Where prefabricated panels abut one another
    - 8) In continuous elevations at intervals not exceeding 75 ft (23 m)
    - 9) Where significant structural movement occurs such as changes in roofline, building shape or structural system
7. Terminations
  - a. Prior to applying the Dryvit Outsulation LCMD Systems 1-5, wall openings shall be treated with Dryvit Flashing Tape. Refer to Dryvit Outsulation LCMD Systems 1-5 Installation Details, [DS170](#).
  - b. The Outsulation LCMD Systems 1-5 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 LCMD Systems 1-5 Installation Details, [DS170](#).
  - c. The systems 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 the Outsulation LCMD Systems 1-5 materials. Refer to current Dryvit publication [DS153](#) for a listing of sealants tested by sealant manufacturer for compatibility.
    - 3) The sealant backer rod shall be 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 LCMD Systems 1-5.

**D. Performance Requirements**

1. The Outsulation LCMD Systems 1-5 shall have been tested as follows:

**a. Durability**

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Abrasion Resistance</b>	ASTM D 968	No deleterious effects after 528 quarts (500 liters)	No deleterious effects after 1056 quarts (1000 liters)
<b>Accelerated Weathering</b>	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
<b>Freeze-Thaw</b>	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 B*	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
<b>Mildew Resistance</b>	ASTM D 3273	No growth during 28 day exposure period	No growth during 60 day exposure period
<b>Water Resistance</b>	ASTM D 2247*	No deleterious effects after 14 days exposure	No deleterious effects after 42 days exposure
<b>Taber Abrasion</b>	ASTM D 4060	N/A	Passed 1000 cycles
<b>Salt Spray Resistance</b>	ASTM B 117*	No deleterious effects after 300 hours exposure	No deleterious effects after 1000 hours exposure
<b>Water Penetration</b>	ASTM E 331*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 2.86 psf (137 Pa)	Passed
<b>Water Vapor Transmission</b>	ASTM E 96 Procedure B*	Vapor permeable	EPS 5 perm-inch Base Coat <sup>1</sup> 40 Perms Finish <sup>2</sup> 40 Perms
<b>Drainage Efficiency</b>	ASTM E 2273	Minimum Drainage Efficiency of 90%	Passed

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

1. Base Coat perm value based on Dryvit Genesis

2. Finish perm value based on Dryvit Quarzputz

**b. Structural**

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Tensile Bond</b>	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa) – insulation failure	Minimum 19.1 psi (132 kPa)
<b>Transverse Wind Load</b>	ASTM E 330*	Withstand positive and negative wind loads as specified by the building code	Systems 4 & 5: Minimum 90 psf (4.3 kPa) <sup>1</sup> 16 inch o.c. framing, 1/2 in sheathing screw attached at 8 inch (203 mm) o.c.

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

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

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

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

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

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

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

d. Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Fire Resistance</b>	ASTM E 119	No effect on the fire resistance of a rated wall assembly	Passed 1 hour
<b>Ignitability</b>	NFPA 268*	No ignition at 12.5 kw/m <sup>2</sup> at 20 minutes	Passed
<b>Intermediate Multi-Story Fire Test</b>	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

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

2. The Outsulation LCMD Systems 1-5 components shall be tested for:

a. Fire

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

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

b. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Reinforcing Mesh Alkali Resistance of Reinforcing Mesh</b>	ASTM E 2098*	120 pli (> 21dN/cm) retained tensile strength after exposure	Passed
<b>EPS (Physical Properties) Density</b>	ASTM C 303, D 1622	0.95-1.25 lb/ft <sup>3</sup> (15.2-20.0 kg/m <sup>3</sup> )	Passed
<b>Thermal Resistance</b>	ASTM C 177, C 518	4.0 @ 40 °F (4.4 °C) 3.6 @ 75 °F (23.9 °C)	Passed Passed
<b>Water Absorption</b>	ASTM C 272	2.5 % max. by volume	Passed
<b>Oxygen Index</b>	ASTM D 2863	24% min. by volume	Passed
<b>Compressive Strength</b>	ASTM D 1621 Proc. A	10 psi (69 kPa) min	Passed
<b>Flexural Strength</b>	ASTM C 203	25 psi (172 kPa) min.	Passed
<b>Flame Spread</b>	ASTM E 84*	25 max.	Passed
<b>Smoke Developed</b>	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 the products, which will be used on this project.
- B. Shop Drawings 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 contractor shall submit to the owner/architect two (2) samples of the Outsulation LCMD Systems 1-5 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 contractor shall submit to the owner/architect copies of selected test reports verifying the performance of the Outsulation LCMD Systems 1-5.
- E. Environmental Product Declaration: When requested, the contractor shall submit to the owner/architect copies of the Environmental Product Declaration (EPD) describing the estimated environmental impacts of the Outsulation LCMD 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 LCMD Systems 1-5 and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. Additionally, the contractor shall possess a current Trained Contractor Certificate\* issued by Dryvit Systems, Inc. for Moisture Drainage Systems.
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.
4. Panel Fabricator: Shall be a contractor experienced and competent in the fabrication of architectural wall panels and shall possess a current Trained Contractor Certificate\* issued by Dryvit Systems, Inc. for Moisture Drainage Systems.
5. 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 code(s).

### C. Certification

1. The Outsulation LCMD Systems 1-5 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 jobsite.
5. For panelized construction, the 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 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®, 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. 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, 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, and TerraNeo) 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 LCMD Systems 1-5 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 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 LCMD Systems 1-5.

**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, 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 the Dryvit Outsulation LCMD Systems 1-5 Application Instructions, [DS172](#).
- 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 LCMD Systems 1-5 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. 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. 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. 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. **Drainage Track usage is limited to the base of the system at finished grade level when installing system in noncombustible construction. All other horizontal terminations shall utilize the Dryvit Drainage Strip as shown in the Outsulation LCMD Systems 1-5 Installation Details, DS170.** 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 LCMD Systems 1-5 is installed over Tyvek StuccoWrap)]: A blue, 1/8 in (3.2 mm) thick mat composed of open weave polymer threads.
  - 2. Tyvek StuccoWrap [by others (System 2)] or equal: 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 1 1/2 in (38 mm). The back side of the insulation board shall have factory cut vertical grooves measuring 1/4 in (6.4 mm) deep by 1 in (25 mm) wide spaced 4 in (102 mm) on center.
  - 4. Expanded Metal Lath [by others (System 4)]: Shall be minimum 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) Galvanized Furred Diamond Mesh Metal Lath; not recommended for coastal areas and other corrosive environments.
  - 5. Ultra-Lath by Plastic Components [by others (System 5)]: An extruded polyolefin lath.
- 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 1 in (25 mm); System 3 requires minimum 1 1/2 in (38 mm). 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 2 in (51 mm) 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 3/4 in (19 mm) and metal framing a minimum of 3/8 in (9.5 mm).
    - 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 3/8 in (9.5 mm).
  - 3. Brick, Block and Concrete
    - a. Anchors shall be a minimum 3/16 in (4.8 mm) diameter and corrosion resistant.
    - b. Anchors shall be of sufficient length to penetrate the substrate a minimum of 1 in (25 mm).
    - c. Pullout values shall be substantiated for the particular substrate and fastener used.
- H. Adhesives: Used to adhere the EPS to Expanded Metal Lath or Ultra 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 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.c.**
  - 1. Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail and Corner Mesh
  - 2. Shall be colored blue for product identification bearing the Dryvit logo.

- 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 pattern.
    - 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 finish 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.
    - e. NewBrick™: Lightweight insulated brick veneer for use on exterior vertical walls.
  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® 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 LCMD Systems 1-5, 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 LCMD Systems 1-5 installation or performance.

- B. Prior to the installation of the Outsulation LCMD Systems 1-5, the architect or general contractor shall ensure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulation LCMD Systems 1-5 application. Additionally, the contractor shall ensure that:
  - 1. Metal roof flashing has been installed in accordance with the manufacturer's requirements, Asphalt Roofing Manufacturers Association (ARMA) Standards and Dryvit Outsulation LCMD Systems 1-5 Installation Details, [DS170](#), or as otherwise necessary to maintain a watertight envelope.
  - 2. Openings are flashed in accordance with the Outsulation LCMD Systems 1-5 Installation Details, [DS170](#), 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 LCMD Systems 1-5 Installation Details, [DS170](#).
  - 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 LCMD Systems 1-5, the contractor shall notify the general contractor and/or architect and/or owner of all discrepancies.

**3.02 PREPARATION**

- A. The Outsulation LCMD Systems 1-5 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 LCMD Systems 1-5 installation.

**3.03 INSTALLATION**

- A. The systems shall be installed in accordance with the Dryvit Outsulation LCMD Systems 1-5 Application Instructions, [DS172](#).
- 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 LCMD Systems 1-5 surfaces in contact with sealant shall be coated with Demandit Smooth 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 LCMD Systems 1-5 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 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 LCMD Systems 1-5 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 LCMD Systems 1-5 has been applied, shall be left free of debris and foreign substances resulting from the contractor's work.

**3.06 PROTECTION**

- A. Outsulation LCMD Systems 1-5 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.

