Outsulation System Specifications

INTRODUCTION

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

TAILORING THE DRYVIT MANUFACTURER'S SPECIFICATIONS TO YOUR PROJECT

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

UNITS

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

1/2 in (12.7 mm) 1.0 pcf (16 Kg/m^3)

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

WARNING

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

DISCLAIMER

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

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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 13
OUTSULATION 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 System. For complete product description and usage refer to:
   1. Dryvit Outsulation System Data Sheet, DS447
   2. Dryvit Outsulation System Application Instructions, DS204
   3. Dryvit Outsulation System Installation Details, DS107

B. Related Sections
   1. Unit Masonry – Section 04 20 00
   2. Concrete – Sections 03 00 00
   3. Cold Formed Metal Framing – Section 05 40 00
   4. Wood Framing – Section 06 11 00
   5. Joint Protection – Section 07 90 00
   6. Flashing – Section 07 60 00
   7. Air Barrier – Section 07 27 26

1.02. REFERENCES

A. Section Includes
   1. ASTM B 117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
   2. ASTM C 150 Standard Specification for Portland Cement
   3. ASTM C 297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
   4. ASTM C 1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
   5. ASTM C 1396 (formerly C 79) Standard Specification for Gypsum Board
   6. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
   7. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
   8. ASTM D 2898 Standard Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
   9. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
   10. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
   11. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
   12. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
   13. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
   14. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
   15. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
   16. ASTM E 2098 Test Method for Determining the Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to Sodium Hydroxide Solution
   17. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
   18. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish System (EIFS)
   19. ASTM E 2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water-Resistive Barrier Coatings
   20. ASTM E 2486 (formerly EIMA Std. 101.86) Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
   21. ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems
   22. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials

23. DS131, Dryvit Expanded Polystyrene Insulation Board Specification
24. DS135, Specification for Outsulation System with Mechanical Fasteners
25. DS151, Custom Brick™ Polymer System Specifications for Use on Vertical Walls
26. DS152, Dryvit Cleaning and Recoating
27. DS153, Dryvit Expansion Joints and Sealants
28. DS159, Dryvit Water Vapor Transmission
29. DS456, Rapidry DM™ 35-50 or DS457, Rapidry DM™ 50-75 Data Sheets
30. DS494, Dryvit AquaFlash® System
31. DS455, Backstop® NT™
32. DS705, Reflectit™
33. Mil Std E5272 Environmental Testing
34. Mil Std 810B Environmental Test Methods
35. UBC Std 26-4 (Formerly UBC 17-6) Multi-Story Fire Evaluation of Exterior Non Load-Bearing Foam Plastic Insulated Wall Systems
36. NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source
37. 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
38. ULC S101 Standard Methods of Fire Endurance Tests of Building Construction Materials
39. ANSI FM 4880 Evaluating Insulated Wall or Wall and Roof/Ceiling Assemblies; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems

1.03 DEFINITIONS

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

1.04 SYSTEM DESCRIPTION

A. General: The Dryvit Outsulation System is an Exterior Insulation and Finish System, Class PB, consisting of an adhesive, expanded polystyrene insulation board, base coat, reinforcing mesh(es) and finish. Mechanically attached systems shall conform to Dryvit specification DS135.
B. Methods of Installation
   1. Field Applied: The Outsulation System is applied to the substrate system in place.
   2. Panelized: The Outsulation System is shop-applied to the prefabricated wall panels.
C. Design Requirements
   1. Acceptable substrates for the Outsulation 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 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. **Note: Fire retardant treated plywood requires the use of Backstop NT. Refer to DS181 Backstop NT Application Instructions.**

f. APA Exposure 1 Rated Oriented Strand Board (OSB) nominal 1/2 in (12.7 mm), minimum. **Note: Applications over OSB sheathing requires a minimum of 2 coats of Backstop NT – Smooth or Spray. Backstop NT – Texture is not recommended for the field of wall application over OSB.**

g. Unglazed brick, cement plaster, concrete, or masonry.

h. Galvanized expanded metal lath 2.5 or 3.4 lbs/yd^2 (1.4 or 1.8 kg/m^2) installed over a solid substrate.

i. Pre-engineered metal building panels with an acceptable substrate as noted in Section 1.04.C.1.a through f.

j. Backstop NT applied over an acceptable substrate as noted in Section 1.04.C.1.a through f.

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 in 12 (27°), and the length shall not exceed 12 in (305 mm).
5. All areas requiring an impact resistance classification higher than “standard”, as defined by ASTM E 2486 (formerly EIMA Std. 101.86), shall be as detailed in the drawings and described in the contract documents. Refer to Section 1.04.D.1.c of this specification.
6. Expansion Joints
   a. Design and location of expansion joints in the Outsulation System is the responsibility of the project designer and shall be noted on the project drawings. As a minimum, expansion joints shall be placed at the following locations:
      1) Where expansion joints occur in the substrate system
      2) Where building expansion joints occur
      3) At floor lines in wood frame construction
      4) At floor lines of non-wood framed buildings where significant movement is expected
      5) Where the Outsulation System 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 System, wall openings shall be treated with Dryvit AquaFlash System or Flashing Tape. Refer to Dryvit Outsulation System Installation Details, DS107.
   b. The Outsulation System shall be held back from adjoining materials around openings and penetrations such as windows, doors and mechanical equipment a minimum of 3/4 in (19 mm) for sealant application. See Dryvit's Outsulation System Installation Details, DS107.
   c. The system shall be terminated a minimum of 8 in (203 mm) above finished grade.
   d. Sealants
      1) Shall be manufactured and supplied by others.
      2) Shall be compatible with Outsulation System materials. Refer to current Dryvit Publication DS153 for listing of sealants tested by sealant manufacturer for compatibility.
      3) The sealant backer rod shall be of closed cell.
8. Vapor Retarders – The use and location of vapor retarders within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. The type and location shall be noted on the project drawings and specifications. Vapor retarders may be inappropriate in certain climates and can result in condensation within the wall assembly. Refer to Dryvit Publication DS159 for additional information.
9. 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 System.

D. Performance Requirements

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

a. Durability

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

b. Structural

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa) substrate or insulation failure	Minimum 19.1 psi (132 kPa)
Transverse Wind Load	ASTM E 330*	Withstand positive and negative wind loads as specified by the building code	Minimum 90 psf (4.3 kPa)[1] 16 in o.c. framing, 1/2 in sheathing screw attached at 8 in (203 mm) o.c.
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems 1. All Dryvit components remain intact – for higher wind loads contact Dryvit Systems, Inc.			

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

Reinforcing Mesh[1]/Weight oz/yd² (g/m²)	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range in-lbs	(Joules)	Impact Test Results in-lbs	(Joules)
Standard - 4.3 (146)	150 lbs/in (27 g/cm)	Standard	25-49	(3-6)	36	(4)
Standard Plus - 6 (203)	200 lbs/in (36 g/cm)	Medium	50-89	(6-10)	56	(6)
Intermediate™ - 12 (407)	300 lbs/in (54 g/cm)	High	90-150	(10-17)	108	(12)
Panzer® 15[1] - 15 (509)	400 lbs/in (71 g/cm)	Ultra High	>150	(>17)	162	(18)
Panzer 20[1] - 20.5 (695)	550 lbs/in (98 g/cm)	Ultra High	>150	(>17)	352	(40)
Detail Mesh® Short Rolls - 4.3 (146)	150 lbs/in (27 g/cm)	n/a	n/a	n/a	n/a	n/a
Corner Mesh™ - 7.2 (244)	274 lbs/in (49 g/cm)	n/a	n/a	n/a	n/a	n/a
* It shall be colored blue and bear the Dryvit logo for product identification 1. Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)						

d. Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
Fire Resistance	ASTM E 119	No effect on the fire resistance of a rated wall assembly	Passed 1 & 2 hour non-load bearing Passed 2-hour load bearing over wood framing
Ignitability	NFPA 268*	No ignition at 12.5 kw/m^2 at 20 minutes	Passed
Full Scale Multi-Story Fire Test	UBC Std. 26-4 (formerly 17-6)	1. Resist vertical spread of flame within the core of the panel from one story to the next 2. Resist flame propagation over the exterior surface 3. Resist spread of vertical flame over the interior surface from one story to the next 4. Resist significant lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed over steel framing and wood framing
Intermediate Multi-Story Fire Test	NFPA 285* (UBC 26-9)	1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed
Full Scale Multi-Story[1] (corner test)	ANSI FM 4880	Resist flame propagation over the exterior surface.	Passed; No height restrictions*****
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems [1] Dryvit FM products must be specified			

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

TEST	TEST METHOD	CRITERIA	RESULTS
Surface Burning Characteristics	ASTM E 84*	All components shall have a: Flame Spread $\leq$ 25 Smoke Developed $\leq$ 450	Passed
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems			

b. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Reinforcing Mesh Alkali Resistance of Reinforcing Mesh	ASTM E 2098*	> 120 pli (21dN/cm) retained tensile strength after exposure	Passed
EPS (Physical Properties) Density	ASTM C 303, D 1622	0.95-1.25 lb/ft^3 (15.2-20.0 kg/m^3)	Passed
Thermal Resistance	ASTM C 177, C 518	4.0 @ 40 °F (4.4 °C) 3.6 @ 75 °F (23.9 °C)	Passed Passed
Water Absorption	ASTM C 272	2.5 % max. by volume	Passed
Oxygen Index	ASTM D 2863	24% min. by volume	Passed
Compressive Strength	ASTM D 1621 Proc. A	10 psi (69 kPa) min.	Passed
Flexural Strength	ASTM C 203	25 psi (172 kPa) min.	Passed
Flame Spread **Smoke Developed**	ASTM E 84* ASTM E 84*	25 max. 450 max.	Passed Passed
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.			

1.05 SUBMITTALS

A. Product Data – The contractor shall submit to the owner/architect the manufacturer's product data sheets describing products, which will be used on this project.

B. Shop Drawing for Panelized Construction: The panel fabricator shall prepare and submit to the owner/architect complete drawings, showing: wall layout, connections, details, expansion joints and installation sequence.

C. Samples: The contractor shall submit to the owner/architect two (2) samples of the Outsulation System for each finish, texture and color to be used on the project. The same tools and techniques proposed for the actual installation shall be used. Samples shall be of sufficient size to accurately represent each color and texture being utilized on the project.

D. Test Reports – When requested, the contractor shall submit to the owner/architect copies of selected test reports verifying the performance of the Outsulation System.

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

C. Certification

1. The Outsulation System shall be recognized for the intended use by the applicable building code(s).

D. Mock-Up

1. The contractor shall, before the project commences, provide the owner/architect with a mock-up for approval.
2. The mock-up shall be of suitable size as required to accurately represent the products being installed, as well as each color and texture to be utilized on the project.
3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual application. The finish used shall be from the same batch that is being used on the project.
4. The approved mock-up shall be available and maintained at the job site.
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, TerraNeo and Lymestone) thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.

B. Existing Conditions - The contractor shall have access to electric power, clean water, and a clean work area at the location where the Dryvit materials are to be applied.

1.09 SEQUENCING AND SCHEDULING

A. Installation of the Outsulation System shall be coordinated with other construction trades.

B. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffold lines, texture variations, etc.

1.10 LIMITED MATERIALS WARRANTY

A. Dryvit Systems, Inc. shall provide a written limited materials warranty against defective material upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit does not warrant workmanship. Full details are available from Dryvit Systems, Inc.

B. The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with installation of the Outsulation System.

1.11 DESIGN RESPONSIBILITY

A. It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. Dryvit has prepared guidelines in the form of specifications, installation details and product data sheets to facilitate the design process only. Dryvit is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings, or the like, whether based upon the information prepared by Dryvit or otherwise, or for any changes which purchasers, specifiers, designers, or their appointed representatives may make to Dryvit's published comments.

1.12 MAINTENANCE

A. Maintenance and repair shall follow the procedures noted in Dryvit Outsulation Application Instructions, DS204.

B. All Dryvit products are designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning may be required. See Dryvit publication DS152 on Cleaning & Recoating.

C. Sealants and flashings should be inspected on a regular basis and repairs made as necessary.

PART II – PRODUCTS

2.01 MANUFACTURER

A. All components of the Outsulation System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

2.02 MATERIALS

A. Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
B. Water: Shall be clean and free of foreign matter.
C. Mechanical Fasteners (required when installing in accordance with DS135): Shall be Wind-lock's Wind Devil™ plates, or equivalent, used in conjunction with corrosion resistant fasteners appropriate for the substrate system.

2.03 COMPONENTS

A. Flashing Materials: Used to protect substrate edges at terminations.
  1. Liquid Applied: An extremely flexible water-based polymer material, ready for use.
    a. Shall be AquaFlash and AquaFlash Mesh
  2. Sheet Type:
    a. Shall be Flashing Tape and Surface Conditioner
      1) Dryvit Flashing Tape™: A high density polyethylene film backed with a rubberized asphalt adhesive available in rolls 4 in (102 mm), 6 in (152 mm) and 9 in (229 mm) wide by 75 ft (23 m) long.
      2) Dryvit Flashing Tape Surface Conditioner™: A water-based surface conditioner and adhesion promoter for the Dryvit Flashing Tape.
B. Air/Water-Resistive Barrier Components (when specified):
  1. Dryvit Backstop NT: A flexible, polymer-based noncementitious water-resistive coating and air barrier available in Texture and Smooth. See DS180 and DS181; DS830 and DS831.
  2. Dryvit Grid Tape™: An open weave fiberglass mesh tape with pressure sensitive adhesive available in rolls 4 in (102 mm) wide by 100 yds (91 m) long.
  3. Dryvit Backstop DMS: A sprayable single step water-resistive membrane/air barrier and adhesive. See DS704.

  NOTE: Backstop DMS is not approved for use over wood based substrates.
C. Adhesives: Used to adhere the EPS to the substrate, shall be compatible with the substrate and the EPS.
  1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement for use over non wood-based substrates.
    a. Shall be Primus®, Genesis® or Genesis® FM
  2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water for use over non wood-based substrates.
    a. Shall be Primus® DM, Genesis® DM, Genesis® DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
  3. Noncementitious: A factory-mixed, fully formulated water-based adhesive for use over wood-based substrates.
    a. Shall be ADEPS®.
D. Insulation Board: Expanded polystyrene meeting Dryvit Specification for Insulation Board, DS131.
  1. Thickness of insulation board shall be minimum 3/4 in (19 mm) and shall be maintained at all locations. **Note: Dryvit recommends that a minimum of 1 in (25 mm) thick insulation board be installed to maintain the minimum thickness after rasping, reveals are installed, etc.**
  2. The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.
E. Base Coat: Shall be compatible with the EPS insulation board and reinforcing mesh(es).
  1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
    a. Shall be Primus, Genesis or Genesis FM.
  2. Noncementitious: A factory-mixed, fully formulated, water-based product.
    a. Shall be NCB™.
  3. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
    a. Shall be Primus DM, Genesis DM, Genesis DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
F. Reinforcing Mesh: A balanced open weave, glass fiber fabric treated for compatibility with other system materials. **Note: Reinforcing meshes are classified by impact resistance and specified by weight and tensile strength as Section 1.04.D.1.c.**
  1. Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail and Corner Mesh.
G. Finish: Shall be the type, color and texture as selected by the architect/owner and shall be one or more of the following:
  1. Standard DPR (Dirt Pickup Resistance): Water-based, acrylic coating with integral color and texture and formulated with DPR chemistry:
    a. Quarzputz® DPR: Open-texture.
    b. Sandblast® DPR: Medium texture.
    c. Freestyle® DPR: Fine texture.
    d. Sandpebble® DPR: Pebble texture.
    e. Sandpebble® Fine DPR: Fine pebble texture.

2. Hydrophobic (HDP™) Finishes: 100% acrylic coating with integral color and texture and formulated with hydrophobic properties:
   a. Quarzputz® HDP
   b. Sandblast® HDP
   c. Sandpebble® HDP
   d. Sandpebble® Fine HDP
   e. Lymestone™ HDP
   f. Finesse™ HDP
3. **E**: Water-based, lightweight acrylic coating with integral color and texture and formulated with DPR chemistry:
   a. Quarzputz® **E**
   b. Sandpebble® **E**
   c. Sandpebble® Fine **E**
4. FM: Water-based, acrylic coating with integral color and texture, formulated with PMR chemistry:
   a. Sandpebble® FM
   b. Sandpebble® Fine FM
5. Specialty: Factory mixed, water-based acrylic:
   a. Ameristone: Multi-colored quartz aggregate with a flamed granite appearance.
   b. Stone Mist®: Ceramically colored quartz aggregate.
   c. Custom Brick: Acrylic polymer-based finish used in conjunction with a proprietary template system to create the look of stone, brick, slate or tile.
   d. TerraNeo: 100% acrylic-based finish with large mica chips and multi-colored quartz aggregates.
   e. Lymestone: A premixed, 100% acrylic-based finish designed to replicate the appearance of limestone blocks.
   f. Reflectit: 100% acrylic coating providing a pearlescent appearance.
   g. Finesse™: A smooth 100% acrylic-based dirt pickup resistance finish.
6. Elastomeric DPR (Dirt Pickup Resistance): Water-based elastomeric acrylic coating with integral color and texture and formulated with DPR chemistry:
   a. Weatherlastic® Quarzputz
   b. Weatherlastic® Sandpebble
   c. Weatherlastic® Sandpebble Fine
   d. Weatherlastic® Adobe
7. Medallion Series PMR™ (Proven Mildew Resistance): Water-based acrylic coating with integral color and texture and formulated with PMR chemistry:
   a. Quarzputz® PMR
   b. Sandblast® PMR
   c. Freestyle® PMR
   d. Sandpebble® PMR
   e. Sandpebble® Fine PMR
8. Coatings, Primers and Sealers:
   a. Demandit® Smooth
   b. Demandit® Sanded
   c. HDP™ Water-Repellent Coating
   d. Weatherlastic® Smooth
   e. Tuscan Glaze™
   f. Color Prime
   g. Prymit®
   h. SealClear™

PART III – EXECUTION

3.01 EXAMINATION

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

B. Prior to the installation of the Outsulation System, the architect or general contractor shall insure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulation application. Additionally, the Contractor shall ensure that:
   1. Metal roof flashing has been installed in accordance with the manufacturer's requirements, Asphalt Roofing Manufacturers Association (ARMA) Standards and Dryvit Outsulation System Installation Details, DS107, or as otherwise necessary to maintain a watertight envelope.
   2. Openings are flashed in accordance with the Outsulation System Installation Details, DS107, or as otherwise necessary to prevent water penetration.
   3. Chimneys, balconies, and decks have been properly flashed.
   4. Windows, doors, etc. are installed and flashed per manufacturer's requirements and the Outsulation System Installation Details, DS107.

C. Prior to the installation of the Outsulation System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

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

3.03 INSTALLATION

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

3.04 FIELD QUALITY CONTROL

A. The contractor shall be responsible for the proper application of the Outsulation materials.
B. Dryvit assumes no responsibility for on-site inspections or application of its products.
C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
D. If required, the EPS supplier shall certify in writing that the EPS meets Dryvit's specifications.
E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Dryvit's recommendations.

3.05 CLEANING

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

3.06 PROTECTION

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

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For more information on Dryvit Systems or Continuous Insulation, visit these links.

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