OUTSULATION® SMD SYSTEM™

(formerly Sprint® MD System®)

DS123

An Exterior Wall Insulation and Finish System with Drainage

OUTSULATION SMD SYSTEM
(formerly Sprint MD System)
Application Instructions

An RPM Company

OUTSULATION SMD SYSTEM

Dryvit Outsulation SMD System is an exterior insulation and finish system that provides for drainage of incidental moisture that may reach the plane between the insulation board and the water-resistive barrier. It is specifically designed for both residential and light commercial combustible type construction. Outsulation SMD consists of the following components:

1. Drainage Mat: A blue 3.2 mm (1/8 in) thick mat composed of open weave polymer threads.
2. Dryvit MD Spacer: A polyethylene foam spacer that is used to separate the insulation board from the substrate.
3. Drainage Strip: A corrugated plastic strip used at the base of wall to provide drainage.
4. Drainage Track: A PVC track used along the base of walls as a starter strip with weep holes for drainage.
5. Rigid polyisocyanurate foam core insulation faced with a special coated glass fiber.
6. Mechanical Fasteners: Corrosion resistant fasteners used in conjunction with polypropylene washer.
7. Reinforcing Mesh: Glass fiber reinforcing mesh for strength and impact resistance.
8. Base Coat: A polymer modified product (dry or wet).
9. Finish: Water-based, acrylic coatings with integral color and texture and formulated with Dirt Pickup Resistant (DPR) chemistry.

TOOLS FOR INSTALLATION OF THE OUTSULATION SMD SYSTEM

Necessary Tools

Hammer Stapler
Scissors
Rasp
Mixing Paddle (Goldblatt Jiffler Mixer 15311 H7 or Wind-lock®)
Tape Measure
Utility Knife
Level
Hawk & Trowel
Floats
T-Square (4 ft minimum)
Fillet Knife
1/2 in Heavy Duty Drill, 400-500 RPM
Corner Tools
Scaffolding

Suggested Tools

Screw Gun
Table Saw
Router with Large Bit
Hopper Gun & Compressor (spray application only)
Metal Snips
Mortar Mixer
Electrically Driven Rotor & Stator Pump (spray application only)

MATERIALS REQUIRED FOR THE INSTALLATION OF THE OUTSULATION SMD SYSTEM

Drainage Medium:
- Dryvit MD Spacer
- Drainage Mat
- Drainage Track
- Drainage Strip

Insulation Board:
- Celotex Quik-R Wall Insulation
- Atlas Stucco-Shield II

Approved Fasteners:
- Corrosion Resistant Ring Shank Nails, Screws or Masonry Anchors

Approved Washers:
- Wind-lock ULP - 302 & 402 Plates
- ITW Buildex Grid-Mate™ or Grid-Mate with stem washer

Base Coat:
- Genesis® DM
- Genesis®
- Type I or II Portland Cement (required for mixing with Genesis)

Dryvit Reinforcing Mesh:
- Standard, Standard Plus, Intermediate, Corner Mesh and Detail Mesh®

Dryvit Finish:
- Standard DPR, E™ Finishes, Specialty Finishes, Elastomeric DPR and Medallion Series PMR

Protective Covering

HELPFUL HINTS FOR INSTALLATION OF THE OUTSULATION SMD SYSTEM

A. Use experienced board hangers consisting of 2-3 man crews.
B. Place the insulation board at various job site locations to eliminate long walks for the insulation board.
C. Wear gloves or tape your fingers with electrical or first aid tape to help prevent small cuts from board edges.
D. Insulation board may be cut with a board (utility) knife by cutting one side, snapping and then cutting the other side.
E. Use a table when cutting the insulation board. **DO NOT USE A PALLET OF INSULATION BOARD AS A TABLE**. If the fiberglass facer is cut on the non-printed side, the system will crack.
F. For repetitive cuts, use a table saw with a carbide or masonry blade.
G. Use a fillet knife for trimming insulation board in place.
H. For cutting out openings such as windows and doors, use a router with a large bit such as a Porter Cable Bit No. 43218.
I. Installation of the Outsulation SMD materials requires that all surrounding areas be protected from damage. Not only do we suggest protection when the material is trowel applied, but it is especially important for spray applications.

I. PRE-APPLICATION INSPECTION

A. Roof
1. Ensure the roof has been installed and provides positive drainage, i.e., runoff shall be directed out and away from the structure.
2. Metal roof flashing shall be installed in accordance with the guidelines set by the Asphalt Roofing Manufacturers Association (ARMA).
3. Run-off diverters (i.e., kick-outs, crickets and saddles) must be installed where required. Particular attention must be paid to the eaves/chimney intersections and sloped roof/wall intersections. Refer to the Dryvit Outsulation SMD System Installation Details, DS163.

B. Walls
1. Substrates
   a. Acceptable substrates for application of the Dryvit Outsulation SMD System are listed in the Dryvit Outsulation SMD System Specification, DS158.
   b. Wall sheathing must be securely fastened per applicable building code requirements and manufacturer's instructions.
   c. The substrate must be structurally sound, free of loose material, voids, projections, etc.
   d. There shall be no planar irregularities greater than 6.4 mm (1/4 in) within any 1.2 m (4 ft) radius.
2. Flashing at openings
   a. Head, jambs and sills of all openings shall be flashed with Dryvit Flashing Tape or other approved flashing material prior to window/door, mechanical equipment, or louver attic vent installation. For proper application, refer to the Dryvit Outsulation SMD System Installation Details, DS163. **NOTE: Sill piece shall extend to the inside face of wall and continue a minimum of 305 mm (12 in) up at the jambs.**
   b. Heads of openings must have a continuous flashing. **NOTE: For windows or doors that do not have integral flashing, a field-applied flashing must be installed. Refer to the Dryvit Outsulation SMD System Installation Details, DS163.**
   c. For individual windows that are ganged to make multiple units, it is required that the heads be continuously flashed and the joints between the units must be fully sealed to prevent water from entering.
   d. Windows, doors, louvers, etc. shall be installed prior to system installation.
3. Decks
   a. Wood decks shall be properly flashed prior to system application. See the Dryvit Outsulation SMD System Installation Details, DS163.
   b. Provisions must be made to ensure that the system terminates above poured decks, patios, landings, etc. and that they are properly sloped to drain water away from the walls.
4. Utilities
   a. Provisions must be made to ensure that the system terminates properly at lighting fixtures, electrical outlets, hose bibs, dryer vents, etc. Refer to the Dryvit Outsulation SMD System Installation Details, DS163.
5. Water-Resistive Barrier
   a. The code approved water-resistive barrier shall be installed horizontally overlapping the course below in a weatherboard fashion in accordance with the manufacturer's installation instructions. The minimum overlap shall not be less than dictated by the applicable building code.

Notify the general contractor and/or builder and/or architect and/or owner of all discrepancies.
DO NOT PROCEED UNTIL ALL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

II. INSTALLATION OF DRAINAGE PLANE

A. There are three (3) options for installing the Dryvit Outsulation SMD System. One option is to install the insulation board directly over DuPont® Tyvek® StuccoWrap™. The second option is to install the Dryvit Drainage Mat™ over a water-resistive barrier such as #15 felt, Grade D building paper, or other code approved water-resistive barrier. The third option is to install the Dryvit MD Spacers over the water-resistive barrier.

NOTE: The selection of a specific water-resistive barrier is the responsibility of the specifier and is outside the scope of this specification. The specifier should be aware that issues have been raised regarding the varying ability of currently available water-resistive barriers to allow evaporation of water that may have penetrated to the wall side of the barrier. This may be a concern when installed on a project utilizing moisture sensitive substrates and framing.

B. StuccoWrap Option
1. Ensure that the StuccoWrap is installed over the sheathing per the manufacturer's requirements. Verify that all vertical and horizontal joints are properly lapped and ensure that the upper courses are lapped over the lower courses.
2. Verify that terminations at windows, doors and other openings are flashed and properly lapped as shown in Dryvit's Outsulation SMD Installation Details, DS163.
3. Install the StuccoWrap so that it extends into the Drainage Track, when used, at the base of the wall.

C. Dryvit Drainage Mat Option
1. The Dryvit Drainage Mat is available in rolls 76 m (249 ft) long by 991 mm (39 in) wide and is colored blue for product identification. Ensure that the material is undamaged and clearly labeled with the Dryvit name. **The Drainage Mat is installed over the water-resistive barrier so that the corrugated "V" pattern is oriented vertically. The "V" pattern runs parallel with the length of the roll.**
2. Using a sharp utility knife or scissors, cut the mat to a workable length and position vertically on the wall.
3. Fasten in place using, corrosion resistant, 9.5 – 12.7 mm (3/8 - 1/2 in) staples or roofing nails spaced 305 mm (12 in) vertically by 406 mm (16 in) horizontally.
4. To minimize bulging on the wall, install the Drainage Mat with a slight tension [approximately 4.5 kg (10 lbs)] as it is being fastened. The mat should be extended approximately 102 mm (4 in) for every 3 m (10 ft) of length. This will ensure the mat will lay flat and minimize bulging.
5. Continue until the entire wall being worked is covered. Adjacent pieces are abutted and cut along each corner. Do not lap the pieces or fold the mat around a corner.
6. Only apply enough mat that can be covered with insulation board during the same day or work period. Extended exposure may result in sags or slight bulging.

D. Dryvit MD Spacer Option
1. Secure the Dryvit MD spacer with corrosion resistant staples or roofing nails through the secondary barrier and into the substrate or framing. The spacer is 3.2 mm (1/8 in) thick by 76 mm (3 in) wide and is installed in continuous vertical strips spaced a maximum of 406 mm (16 in) on center. Additionally, install the spacer flush with the vertical edge of all system terminations and changes in wall direction. The vertical strips are positioned so that they align with the placement of the insulation board fasteners.
2. Install the spacer so that it extends into the Drainage Track (when used) at the base of the wall.

NOTE: The spacer must be installed such that the vertical edge of the insulation board is centered over the spacer. Failure to install the product in this manner may result in waviness in the wall.

E. System Terminations
1. At the base of walls, the System can be terminated using any of the following options:
   a. Back wrapping
      1) When back wrapping, install the StuccoWrap (Section II.E.1.b.1) below or Drainage Mat so that it extends minimum 51 mm (2 in) below the bottom edge of the insulation board. Using tape, mask to keep it free of base coat material. Trim flush after system is installed.
      2) Apply a strip of Dryvit Detail Mesh over the StuccoWrap or mat and staple to the substrate using corrosion resistant staples. Fasten every 305 mm (12 in) on center into the substrate to maintain position. Position the mesh so that a minimum of 64 mm (2 1/2 in) extends onto the face of the insulation board.
      3) Attach Detail Mesh at System terminations around the perimeter of all openings, penetrations and other system terminations in the same manner.
   b. Drainage Strip option
      1) The Dryvit Drainage Strip is required at terminations when StuccoWrap is used without the Drainage Track.
      2) Install the Drainage Strip over the secondary barrier, along the bottom of the System at foundations, heads of penetrations, floor line expansion joints and above roofs. Position on the wall and staple in place using corrosion resistant staples.
      3) Apply a strip of Dryvit Detail Mesh over the Drainage Strip and staple to the substrate using corrosion resistant staples. Fasten every 305 mm (12 in) on center into the substrate to maintain position. Position the mesh so that a minimum of 64 mm (2 1/2 in) extends onto the face of the insulation board.
   c. Drainage Track option
      1) The Dryvit Drainage Track is applied along the bottom of the System at foundations, heads of penetrations, floor line expansion joints and above roofs.
      2) The track is installed so that the secondary barrier, StuccoWrap, Drainage Mat and/or Dryvit MD Spacer are lapped into the track. Fasten to the substrate using galvanized roofing nails or corrosion resistant staples.

3) Drainage Track (Optional): UV treated PVC perforated "J" channel with weep holes, complying with ASTM D 1784 and ASTM C 1063. Shall be one of the following:
   a) Starter Trac STWP - without drip edge by Plastic Components, Inc.
   b) Starter Trac STDE - with drip edge by Plastic Components, Inc.
   c) Universal Starter Track by Wind-lock Corporation
   d) Sloped Starter Strip with Drip by Vinyl Corp.

NOTE: The water-resistive barrier and Drainage Mat or Dryvit MD Spacers must extend into the track.

III. INSULATION BOARD ATTACHMENT

A. Insulation Board

1. Prior to installation of the insulation board, it shall be checked to ensure that:
   a. It has been manufactured by either Celotex Corporation or Atlas Energy Products.
   b. It bears the label of Underwriters Laboratories, Inc. or SWRI.
   c. It meets the following tolerances:
      1) Thickness:
         a) 15.9 mm (5/8 in): + 2.5 mm (.10 in); – 0
         b) 19 mm (3/4 in): + 2.5 mm (.10 in); – 0
         c) 25 mm (1 in): + 3.1 mm (.122 in); – 0
         d) 38 mm (1 1/2 in): + 3.5 mm (.136 in); – 0
      2) Width: 1.2 m (4 ft): ± 1.6 mm (1/16 in)
      3) Length: 2.4 m, 3 m, and 3.7 m (8, 10, 12 ft): ± 6.4 mm (1/4 in)
      4) Squareness: Maximum 4.8 mm (3/16 in) off square (measured diagonally)

      WARNING: Any insulation board not meeting the above requirements should be rejected and not installed.
   d. Insulation boards must be kept dry at all times both in storage and during application.
      1) In the event of rain after the insulation has been installed, allow the insulation board to air dry before applying base coat.
   e. Insulation board shall be installed with vertical joints staggered and the printed board side in contact with the substrate.
   f. All insulation board joints shall be offset from sheathing joints a minimum of 203 mm (8 in).

B. Mechanical Fasteners

1. Mechanical fasteners are used to attach the insulation board to the structural substrate and consist of a plastic washer, used in conjunction with a corrosion resistant fastener.
2. The following washers are acceptable:
   a. Wind-lock ULP-302 and 402 plates.
   b. ITW Buildex Grid-Mate and Grid-Mate with stem washers.
3. Fasteners
   a. Wood Based Substrates and Light Gauge Metal (20 – 26 ga)
      1) Shall be minimum No. 6, bugle head corrosion resistant screws with a type S point.
      2) The screws shall be of sufficient length to penetrate wood substrates a minimum of 19 mm (3/4 in) and metal framing a minimum of 9.5 mm (3/8 in).
   b. Steel Framing (12 – 20 ga)
      1) Shall be minimum No. 6 bugle head corrosion resistant screws with a drill point.
      2) The screws shall be of sufficient length to penetrate the steel framing a minimum of 9.5 mm (3/8 in).
   c. Brick, Block and Concrete
      1) Anchors shall be a minimum 4.8 mm (3/16 in) diameter and corrosion resistant.
      2) Anchors shall be of sufficient length to penetrate the substrate a minimum of 25 mm (1 in). Pre-drilling a pilot hole 12.7 mm (1/2 in) deeper than the anchor embedment is necessary.

C. Installation of Insulation Board

1. To ensure that the insulation board fits easily into the Drainage Track, it may be necessary to notch the back of the insulation board along the bottom edge where it will be in contact with the Drainage Track.
   a. Using a utility knife score the fiberglass facer on the back of the insulation board [on the 1.2 m (4 ft) edge] at approximately 89 mm (3 1/2 in) from the edge.
   b. Peel the fiberglass facer from the polyisocyanurate core and rasp if necessary.
2. Position the insulation board in the drainage track with the long dimension edge of the insulation board running parallel to the framing members (i.e., vertical) and the printed side positioned toward the substrate.

3. Fastening Schedule
   a. Refer to the Outsulation SMD System Installation Details, DS163, for fastener pattern. **NOTE: Two pieces of insulation board are bridged at the board joints with the approved plastic washers and fasteners. To prevent the board joints from separating, install the fasteners in the field prior to those along the edges. NOTE: Be sure that the Dryvit MD Spacer is installed such that the vertical edge of the insulation board is centered over the spacer. Failure to install the product in this manner may result in waviness in the wall.**
   b. The fasteners must be installed through the insulation board and Dryvit MD Spacer or Drainage Mat.
   c. Install fasteners so that the face of the washer is flush or recessed a maximum of 1.6 mm (1/16 in) below the surface of the insulation board causing a slight dimple at each fastener location.
   d. Fasteners must penetrate the framing or substrate as defined in Section III.B.2.
4. Continue to install the insulation board in a running bond pattern (stagger vertical joints).
5. With factory edges exposed, stagger vertical joints at inside and outside corners. Make sure the corner is straight and plumb.
   NOTE: For crisp edges cut the insulation board with a power saw and a masonry blade. OSHA standards are to be followed when utilizing power tools.
6. Tightly butt all insulation boards. If for any reason the insulation board joints are not butted tightly, slivers of insulation board must be installed. **ALL GAPS GREATER THAN 1.6 mm (1/16 in) MUST BE SLIVERED.**
7. Windows, Doors, Mechanical Equipment and <u>all</u> wall penetrations
   a. At penetrations, align the insulation boards so that the edges do not coincide with the corners of the opening. This will help minimize the potential for cracking (refer to the Outsulation SMD System Installation Details, DS163).
   b. Place the reinforcing mesh around the perimeter of the opening and staple in place (concrete substrate requires adhesive attachment).
   c. Hold back the insulation board from the window/door frame or mechanical equipment a minimum of 12.7 mm (1/2 in). Refer to the Outsulation SMD System Installation Details, DS163, for exceptions.
8. Expansion Joints
   a. When abutting dissimilar materials the reinforcing mesh is used to construct the required expansion joint (refer to the Outsulation SMD System Installation Details, DS163). The reinforcing mesh shall be attached to the substrate as described in Section III.C.7.b.
   b. When the Outsulation SMD System is installed at a substrate transition, over floor lines in wood frame construction, etc. (refer to DS158 for specific locations), the reinforcing mesh is used to construct the expansion joint (refer to the Outsulation SMD System Installation Details, DS163). The reinforcing mesh shall be attached to the substrate as described in Section III.C.7.b.
9. Aesthetic Reveals
   a. To install a reveal, snap a straight line using a chalk line to mark the position.
   b. Position a straight edge such as a steel stud or track against the insulation board in the proper location to guide the appropriate cutting tool (router or hot groover).

   CAUTION: The thickness of the insulation board at the base of the reveal must not be less than 19 mm (3/4 in).
10. All roofing materials shall be distributed on the roof and interior wallboard shall be installed or distributed on the interior floors prior to applying the Dryvit coatings. This will help minimize cracks in the exterior wall system due to settling of the structure.
    NOTE: The insulation board must be coated with the Dryvit coatings within 14 days after installation. If the application of the Dryvit coatings will begin after 14 days, protect the insulation board from the weather. The insulation board must be dry, free of irregularities, dirt, grease, etc. prior to applying the Dryvit materials.

IV. BASE COAT APPLICATION

A. Mixing Instructions
   1. Genesis DM
      a. One bag of Genesis DM will produce approximately five (5) gallons of Genesis DM mixture.
      b. To a clean 19 L (5 gal) pail, add 5.7 L – 6.6 L (6-7 qts) of clean potable water. Add the Genesis DM slowly while constantly mixing with a Jiffler Mixer at 450-500 rpms. Thoroughly mix until uniformly wetted, adjusting consistency with a small amount of water or Genesis DM. Let set for ten (10) minutes. Retemper, adding a small amount of water, if necessary. Material must be free of lumps before using.

c. Genesis DM can be mixed in a mortar mixer by first adding 5.7 L – 6.6 L (6 – 7) quarts of water for each 23 kg (50 lb) bag. Add the Genesis DM while the mixer is running. Let mix 3-5 minutes, shut mixer off for 10 minutes, run mixer for another 2-3 minutes to break set and add a small amount of water, if necessary.

d. The pot life is 1-3 hours depending on weather. Small amounts of water can be added during this period to adjust workability.

2. Genesis

a. Open the bucket with a utility knife or lid-off.

b. Due to shipping and storage, there may be some settling of materials. Prior to splitting the material, mix thoroughly using a Wind-Lock B-M1 or B-M8, or equivalent, mixing blade powered by a 12.7 mm (1/2 in) drill, at 450-500 rpms. **CAUTION: Do not over mix or use other types of mixing blades as air entrapment and product damage may occur and result in workability and performance problems.**

c. The material is mixed in a 1:1 ratio, by weight, with Portland cement. Pour 1/2 of the freshly mixed material, 14 kg (30 lbs), into a clean 19 L (5 gal) plastic container. Add 14 kg (30 lbs) of fresh, lump-free Type I, II, or I-II Portland cement. Either white or gray cement is acceptable. Add the cement slowly and mix thoroughly. **Do not add large quantities of cement at one time or lumps may develop.**

d. Clean, potable water may be added to the mixture to adjust the workability. Add as little water as possible, in small increments, and only after the cement is thoroughly mixed. **CAUTION: Do not over water as this may degrade the performance of the product and promote efflorescence.**

e. Mix the product with Portland cement thoroughly, then wait five (5) minutes and mix again to break the initial set. Retempering with a small amount of water is permissible provided the mixture has not set. The mixture has a pot life similar to other Portland cement based materials. Mix only as much material as can be used during a work period. **WARNING: No additives such as sand, aggregates, rapid binders, anti-freeze, accelerators, etc., shall be added to any Dryvit materials under any circumstances. Such additives will adversely affect the performance of the material, and void all warranties.**

B. Installation of Reinforcing Mesh

1. Dryvit reinforcing mesh is available in the following weights, widths and lengths:

MESH TYPE	WEIGHT	WIDTH	LENGTH
Standard	146 g/m^2 (4.3 oz/yd^2)	1.2 m (48 in)	46 m (50 yds)
		1.8 m (72 in)	46 m (50 yds)
Standard Plus	203 g/m^2 (6.0 oz/yd^2)	1.2 m (48 in)	46 m (50 yds)
Intermediate	407 g/m^2 (12 oz/yd^2)	1.2 m (48 in)	22.86 m (25 yds)
Corner	244 g/m^2 (7.2 oz/yd^2)	235 mm (9-1/4 in)	46 m (50 yds)
Detail	146 g/m^2 (4.3 oz/yd^2)	191 mm (7-1/2 in)	46 m (50 yds)

C. Prior to applying the base coat mixture, inspect the wall surface and correct any irregularities.

D. Temperature for application of the base coat mixture must be 4 °C (40 °F) or higher and must remain so for a minimum of 24 hours.

E. Protect all surrounding areas and surfaces.

F. Mix the base coat as outlined in Section IV.A above.

G. Application of base coat mixture

1. All reinforcing mesh, which was previously installed for back wrapping the insulation board shall be embedded in the base material mixture at this time.

2. With a stainless steel trowel, apply the base coat mixture to the edge and face of the insulation board and embed the reinforcing mesh in the wet mixture.

3. Corners of all openings such as windows, doors and mechanical equipment shall be reinforced with additional pieces of Detail Mesh 191 mm x 305 mm (7 1/2 in x 12 in) placed diagonally to the opening.

4. The reinforcing mesh must be continuous through aesthetic joints. To ensure that the mesh is continuous, the joints shall be meshed using reinforcing mesh. The reinforcing mesh must lap a minimum of 64 mm (2 1/2 in) on each side of the joint.

a. Apply the base coat mixture in the joint and on the adjacent insulation board surface.

b. Embed the reinforcing mesh on one side of the joint only.

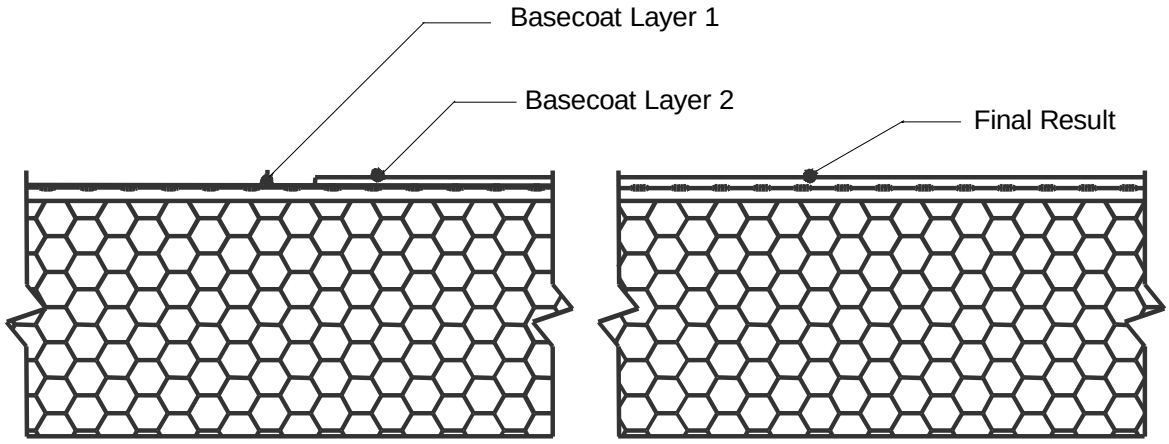
c. Using a sled or special tool for the joint, embed the reinforcing mesh into the joint being careful not to cut the mesh.

d. Embed the reinforcing mesh on the other side of the joint. Ensure that the mesh is fully embedded and that all excess material is removed from the joint.

e. Using a damp brush, smooth out any irregularities in the base coat.

CAUTION: If the mesh is cut in the joint, a new piece of mesh must be installed over the cut to ensure a 64 mm (2 1/2 in) overlap exists.

5. Standard base coat (single layer of reinforcing mesh) for Standard, Standard Plus or Intermediate Reinforcing Mesh; recommended for areas not exposed to high pedestrian traffic or high impact.
   a. The base coat shall be applied such that the resulting overall minimum base coat thickness is sufficient to fully embed the reinforcing mesh. The recommended method is to apply the base coat in two (2) passes.
   b. Mix the base material as described in Section IV.A above.
   c. With a stainless steel trowel, spot each fastener with the base mixture and allow to take up until firm.
   d. Double pass method (recommended)
      1) Using a stainless steel trowel, apply the base mixture on the entire surface of the insulation board, to an area slightly larger than the width and length of a piece of reinforcing mesh, in a uniform thickness of approximately 1.6 mm (1/16 in).
      2) Immediately place the reinforcing mesh against the wet base coat mixture. With the curve of the mesh against the wall, trowel from the center to the edges avoiding wrinkles until the mesh is fully embedded and not visible. Trowel smooth to a uniform thickness slightly more than the thickness of the reinforcing mesh. **NOTE: The reinforcing mesh may be installed either vertically or horizontally.**
      3) Allow the base material to take up until firm to the touch. Trowel a second tight coat of base mixture over the first coat to fully cover the reinforcing mesh (see detail below). The result should be such that the reinforcing mesh is approximately centered within the base coat thickness. Do not allow the first pass to completely dry prior to the second pass application or an excessive amount of base material will be necessary to fully coat the wall surface.
   e. Single pass method (optional)
      1) Using a stainless steel trowel, apply the base mixture on the entire surface of the insulation board, to an area slightly larger than the width and length of a piece of reinforcing mesh, in a uniform thickness of approximately 2.4 mm (3/32 in).
      2) Immediately place the reinforcing mesh against the wet base coat mixture. With the curve of the mesh against the wall, trowel from the center to the edges avoiding wrinkles until the mesh is fully embedded and not visible. Trowel smooth so that the reinforcing mesh is fully covered and there is no mesh pattern visible (see detail below).



   f. The reinforcing mesh edges shall be lapped not less than 64 mm (2 1/2 in).
   g. The reinforcing mesh shall run continuously around corners with no laps occurring within 203 mm (8 in) of any corner. **TIP: Corners and edges normally require light strokes with a small damp brush to smooth out irregularities.**
6. Double mesh base coat (Intermediate with Standard reinforcing mesh) recommended for areas exposed to pedestrian traffic and high impact.
   a. Mix the base coat material as described in Section IV.A above.
   b. With a stainless steel trowel spot each fastener with the base coat mixture.
   c. Allow the spotted areas to take-up (until firm).

d. Install the Intermediate reinforcing mesh as described in Section IV.G.5 a through g.
e. Examine the surface of the Intermediate Mesh layer to ensure there are no projections, loose strands, etc. Correct all irregularities to produce a flat surface.
f. A second layer consisting of the base coat mixture and Standard reinforcing mesh shall be applied over the Intermediate Mesh layer as described in Section IV.G.5 a through g. **NOTE: Final base coat thickness should not exceed 3.2 mm (1/8 in).**

7. Protect completed work from water penetration and run-off until dry.
8. Allow the base coat to cure a minimum of 24 hours before proceeding with application of the finish coat. Cool, damp conditions may require longer drying times. Do not apply finish to a wet or damp base coat.

V. APPLICATION OF EPS INSULATION BOARD SHAPES

A. Special shapes are easily incorporated as part of the Outsulation SMD System and require the use of expanded polystyrene insulation board manufactured in accordance to Dryvit's specification (DS131) or strips of approved polyisocyanurate insulation board.
B. Special shapes may be applied to a previously base coated surface or directly over the insulation board.
1. Using a stainless steel trowel, apply a ribbon of base coat mixture 51 mm (2 in) wide by 9.5 mm (3/8 in) thick around the entire perimeter of the shape and place dabs approximately 305 mm (12 in) apart on the remaining area. A 9.5 mm (3/8 in) notched trowel may also be used.
2. Immediately position the foam shape on the wall and allow the adhesive to cure a minimum of 24 hours.
3. Mix the base coat material as described in Section IV.A and trowel apply over the entire surface of the shape in a uniform thickness of approximately 1.6 mm (1/16 in). Immediately place the reinforcing mesh against the wet base mixture and fully embed the reinforcing mesh.
4. Ensure that the mesh overlap from the foam shape to the adjacent wall is a minimum of 64 mm (2 1/2 in).
5. Allow the base coat to cure a minimum of 24 hours prior to applying the Dryvit finish.

VI. Sealant Joint Preparation

A. All Dryvit surfaces, which will be in contact with sealant, must be coated with either Demandit or Color Prime coatings.
1. Air and surface temperatures must be 7 °C (45 °F) or above and must remain so for a minimum of 24 hours or until dry. Cool, damp weather may require longer drying times.
2. Stir Demandit or Color Prime to a smooth, homogeneous consistency.
3. Using a small brush, apply Demandit or Color Prime to the base coat surface that will be in contact with the sealant.
4. Allow Demandit or Color Prime to dry a minimum of 48 hours prior to sealing with recommended sealant and sealant primer as listed in DS153. Cool, damp weather will require longer drying times. Do not apply sealant until the coating is fully dried. **NOTE: Sealants shall not be applied to textured finishes.**
5. Refer to sealant manufacturer's instructions for proper sealant system installation.

VII. DRYVIT FINISH APPLICATION

A. The following Dryvit finishes are available for use as part of the Dryvit Outsulation SMD System.
1. Standard DPR (Dirt Pick-up Resistant) Finishes
a. Quarzputz®, Sandblast®, Sandpebble®, Sandpebble® Fine, and Freestyle®.
2. Elastomeric DPR (Dirt Pick-up Resistant) Finishes
a. Weatherlastic® Quarzputz, Weatherlastic® Sandpebble, Weatherlastic® Sandpebble Fine, Weatherlastic® Adobe, and Weatherlastic® Smooth.
3. Medallion Series PMR™ (Proven Mildew Resistance)
a. Quarzputz® PMR, Sandblast® PMR, Sandpebble® PMR, Sandpebble® Fine PMR and Freestyle® PMR.
4. Specialty Finish
a. Ameristone™, Stone Mist®, TerraNeo®, Custom Brick™ and Lymestone™.
5. Coatings, Primers, and Sealers
a. Revyvit®, Demandit, Color Prime™, Prymit®, SealClear™ and Tuscan Glaze™.

B. Prior to applying the Dryvit finish, the Genesis base coat shall have cured a minimum of 24 hours (Genesis DM, 10 hours) and shall be dry and hard. Cool, damp weather may require longer drying times.
C. Inspect the base coat for any irregularities such as trowel marks, board lines, rough corners and edges, and for proper reinforcing mesh embedment and correct all irregularities prior to applying the Dryvit finish.
D. Ensure that the base coat is clean and free of contaminants such as dirt, efflorescence, etc. Contaminants must be removed prior to application of the Dryvit finish. Refer to Dryvit publication on Cleaning and Recoating, DS152 for specific cleaning procedures.

E. 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.

F. Application

1. General
   a. Important: All Dryvit finishes must be installed continuously to a natural break such as corners, expansion joints, or to a tape line. Applicators must maintain a wet edge. Sufficient personnel and scaffolding must be provided to continuously finish a distinct wall area otherwise cold joints will result. Scaffolding must be spaced a minimum of 457 mm (18 in) from the wall to prevent staging lines. On hot windy days, the wall may be fogged with clean potable water to cool the wall and facilitate finish installation. As with other plaster materials, during hot weather, installation work should precede the sun. For example, work the shady or cool side of the building. If this is not possible, scaffold should be shaded with tarp or nursery shade cloth. Do not introduce water to the finish material once it is installed on the wall. This will cause color variations. Each applicator must use the same type of tool and hand motion to match the texture of the applicators above, below and on each side. Use finish from a single batch number whenever possible.
2. Quarzputz, Sandblast, and Weatherlastic Quarzputz
   a. Thoroughly mix the factory prepared Dryvit finish using a Wind-lock B-M1 mixing blade or equivalent powered by a 12.7 mm (1/2 in) variable speed drill. A small amount of clean potable water may be added to adjust workability. **Always add the same amount of water to each pail within a given lot.** Mix until a uniform consistency is attained.
   b. Using a clean stainless steel trowel, apply a coat of the Dryvit finish in a uniform thickness on the dry base coat. **NOTE: The Dryvit Quarzputz finish shall be applied and leveled to a uniform thickness no greater than the largest aggregate. The Sandblast finish is applied and leveled to a thickness of approximately 1 1/2 times the largest aggregate. CAUTION: Do not apply finish in sealant joints. Refer to Section VI for proper preparation of system terminations at sealant joints.**
   c. The texture is achieved by uniform hand motion and/or tool that produces the texture to match the approved sample. Each applicator must use the same tool and hand motion to ensure that the texture achieved is uniform over the entire wall area.
3. Sandpebble, Sandpebble Fine, Weatherlastic Sandpebble, and Weatherlastic Sandpebble Fine
   a. Mix the Dryvit finish as described in Section VII.F.2 a.
   b. Using a clean, stainless steel trowel, apply an even coat of the finish to a thickness slightly thicker than the largest aggregate size.
   c. Pull across using a horizontal trowel motion to develop a uniform thickness no greater than the largest aggregate of the material. **CAUTION: Do not apply finish in sealant joints. Refer to Section VI for proper preparation of system termination at sealant joints.**
   d. The texture is achieved by a uniform hand floating motion with a clean stainless steel trowel; frequently wipe the trowel and wet it lightly. Apply light pressure in a circular motion.
4. Freestyle
   a. Thoroughly mix the factory prepared Dryvit finish using a Wind-lock B-M1 mixing blade or equivalent powered by a 12.7 mm (1/2 in) variable speed drill. A small amount of clean potable water may be added to adjust workability. **Always add the same amount of water to each pail within a given lot.** Mix until a uniform consistency is attained.
   b. Using a clean, stainless steel trowel, apply the Freestyle finish on the base coat in a thickness greater than 1.6 mm (1/16 in). The texture is either pulled out of this base to a thickness of no greater than 6.4 mm (1/4 in), or the texture may be achieved by adding more Freestyle finish to the base coat using the same texturing motions that are used with other plaster materials - such as a skip trowel finish. Numerous textures can be created to match approved samples. **NOTE: The maximum thickness of any Freestyle finish texture shall not exceed 6.4 mm (1/4 in).**
5. Weatherlastic Adobe
   a. Using a brush, roller or airless spray equipment, apply a coat of color coordinated Color Prime at the recommended coverage to the cured base coat, and allow to dry.
   b. Thoroughly mix the factory prepared Dryvit finish using a Wind-lock B-M1 mixing blade or equivalent powered by a 12.7 mm (1/2 in) variable speed drill. A small amount of clean potable water may be added to adjust workability. **Always add the same amount of water to each pail within a given lot.** Mix until a uniform consistency is attained.
   c. Using a stainless steel trowel, apply a uniform coat of Adobe approximately 1.6 mm (1/16 in) in thickness to the wall surface. Allow the Adobe finish to take-up.

d. Using a stainless steel trowel, apply a second coat of Adobe finish to obtain the desired texture. **TIP: An atomizing spray bottle may be used to apply a mist of water to the surface in the finishing step. CAUTION: Do not apply Adobe finish in sealant joints. Refer to Section VI for proper preparation of system terminations at sealant joints.**

6. Ameristone - Refer to DS142 for complete application instructions.
   a. Using a brush, roller or airless spray equipment, apply a coat of color coordinated Color Prime at the recommended coverage to the cured base coat, and allow to dry.
   b. Mix the Ameristone finish no more than approximately 1 minute to ensure uniformity using a Goldblatt Jiffler powered by a 12.7 mm (1/2 in) drill at 400-500 rpm, just prior to application.
   c. Ameristone should only be applied by a skilled applicator experienced in the spraying of aggregated finishes.
   d. Apply Ameristone using a hopper gun or approved spray equipment. Apply two coats or passes (one horizontally, one vertically) to achieve uniformity. **CAUTION: Do not apply Ameristone in sealant joints. Refer to Section VI for proper preparation of system terminations at sealant joints.**
   e. Ameristone is a blend of natural aggregates and therefore a slight color variation may occur. Strict adherence to the Ameristone Application Instructions will minimize this effect. Refer to DS142 for complete instructions and tips for applying Ameristone finish.
7. Stone Mist - Refer to DS420 for complete application instructions.
   a. Using a brush, roller or airless spray equipment, apply a coat of color coordinated Color Prime at the recommended coverage to the cured base coat, and allow to dry.
   b. Mix the Stone Mist finish no more than 1 to 1 1/2 minutes to ensure uniformity using a Wind-lock B-M1 mixing blade or equivalent powered by a 12.7 mm (1/2 in) variable speed drill just prior to application.
   c. Stone Mist should only be applied by a skilled applicator experienced in the spraying of aggregated finishes.
   d. Using a stainless steel trowel, apply a tight coat of Stone Mist finish to the wall surface.
   e. While the trowel coat of Stone Mist finish is still wet, spray additional Stone Mist directly to the trowel coat until all small trowel lines are covered. Use a hopper gun or approved spray equipment.
   f. Using an airless sprayer or low-pressure hand pump garden-type sprayer, apply a liberal uniform coat of SealClear to the dry Stone Mist. **CAUTION: Do not apply Stone Mist in sealant joints. Refer to Section VI for proper preparation of system terminations at sealant joints.**
8. Custom Brick™
   a. For application of Custom Brick Finishes, refer to Custom Brick Application Instructions, DS154.
9. Demandit
   a. Mix the Demandit to a homogeneous consistency.
   b. Apply Demandit with either brush, roller, or airless spray equipment.
   c. When applying Demandit with a roller, a maximum 19 mm (3/4 in) nap, polyester or polyester blend with nylon or lambs wool, with beveled ends and a phenolic core is recommended. A 457 mm (18 in) wide roller frame with a 57 mm (2 1/4 in) inside diameter is also recommended.
   d. Apply Demandit in one continuous coat, maintaining a wet edge as the application proceeds to a natural break. The roller cover must be kept fully loaded as the application proceeds. **CAUTION: Do not stretch out the application by rolling with a dry roller. The last leveling roller strokes should always be in the same direction. Do not cut in around openings prior to overall application, but rather, do the cut-in work as the application proceeds. TIPS: Application of Demandit should always be done by an experienced, industrial or commercial painting contractor. Porous surfaces may require two coats to obtain a uniform appearance. Changing color requires the application of two coats. Do not allow Demandit to dry on roller covers. Roller covers with dried coating do not apply the coating evenly.**
10. Weatherlastic Smooth
    a. Mix the Weatherlastic Smooth to a homogeneous consistency.
    b. Brush application is recommended only for cutting in and trim, not for entire wall elevation.
       1) Nylon bristle brush is recommended.
       2) For best performance, a minimum 11 mils dry film thickness (22 mils wet film thickness), shall be applied. This is achieved by applying the Weatherlastic Smooth in two (2) 11 mil coats, allowing a minimum of two (2) hours between coats.
    c. Roller Application
       1) A minimum 254 mm (10 in) roller cover with a 32 - 38 mm (1 1/4 – 1 1/2 in) nap is recommended.
       2) Completely saturate the roller cover and keep the roller loaded with coating to avoid foaming. Do not dry-roll or over-roll as this will cause excessive entrapment of air within the coating.

3) For best performance, a minimum 11 mils dry film thickness (22 mils wet film thickness), shall be applied. This is achieved by applying the Weatherlastic Smooth in two (2) 11 mil coats, allowing a minimum of two (2) hours between coats.

d. Spray Application

1) Application by airless spray equipment or mastic pump and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations.
2) Equipment should have the capacity to pump 7.6 liters (2 gallons) of coating per minute.
3) Material hose should be minimum 12.7 mm (1/2 in) I.D. for spraying coating more than a 15 m (50 ft) length. Minimum bursting of 3600 N (800 lbs) is recommended. **TIP: Orifice sizes of 0.53 mm - 0.81 mm (.021 - .032 in) will be required depending on equipment used.**
4) Cross apply coating holding spray gun perpendicular to, and approximately .91 m (3 ft) from the wall surface. Avoid excessive material build-up by holding spray gun away from the wall when pulling the trigger, then bringing gun across area to be coated. Maintain a wet edge, and avoid starting and stopping in the middle of the wall. Do not attempt to overreach spray pattern as this may result in appearance of irregular spray pattern. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
5) 10% loss from overspray should be anticipated.
6) Backrolling over-sprayed areas is recommended to control pinholing on spray applications over porous surfaces.
7) For best performance, a minimum 11 mils dry film thickness (22 mils wet film thickness) shall be applied. This is achieved by applying the Weatherlastic Smooth in two (2) 11 mil coats, allowing a minimum of two (2) hours between coats.

11. Revyvit

a. Mix the Revyvit to a homogeneous consistency.
b. Apply the Revyvit with a brush or 12.7 mm – 15.9 mm (1/2 in - 5/8 in) nap roller.
c. Roll or brush in multiple directions and then lightly finish in one direction to ensure that no lap marks remain.
d. A second coat may be required for heavy textured or porous surfaces, or when there is a change of color. Apply the second coat as described in paragraph b and c above. **CAUTION: Do not attempt to apply Revyvit in one heavy coat. It is recommended to apply the material in two coats rather than one heavy coat. Apply the second coat only after the first coat is completely dry. IMPORTANT: Texture changes will exist after Revyvit is installed over existing Dryvit finishes. The degree of change is a function of the thickness and the number of coats of Revyvit.**

VIII. Maintenance

A. Surface Damage

1. Any breaches of the surface should be repaired as soon as possible following the instructions listed in Section IX.

B. General Cleaning

1. Pre-wet the soiled area with clean water and wash with the following solution:
   a. 3.8 liters (1 gal) of clean, warm water.
   b. 240 ml (1 cup) of Trisodium Phosphate (TSP).
2. Apply the cleaning solution using a soft bristle brush or power washing equipment. When using a soft bristle brush, lightly scrub the area. **NOTE: Use of hard scrubbing action or a hard bristle brush will damage the finish.** When power washing, do not exceed 4136 kPa (600 PSI) at the spray tip or 49 °C (120 °F) solution temperature.
   NOTE: Always use tips which provide at least 40° fan pattern and keep spray tip at least .61 m (2 ft) from the surface being cleaned. Never use water blasting equipment which delivers pressures in excess of 4136 kPa (600 PSI) at the spray tip. Erosion or damage from water blasting or improper power washing could void the Dryvit warranty and damage the Dryvit finish.
3. Thoroughly rinse the surface with clean water.
4. Alternate cleaning solutions are available from Sentry Chemicals, Max Products, ProSoCo and Surtec, which have been found to be effective in cleaning Dryvit surfaces. Follow manufacturer's instructions for application. **Never use solvent based cleaners as severe damage to the Dryvit products can occur.** Contact Dryvit Systems, Inc. if you have any questions.

C. Mildew or algae growth

1. Protect adjacent materials and vegetation.

2. Pre-wet the affected area with clean water and wash with the following solution:
   a. 3.8 liters (1 gal) of clean, warm water.
   b. 240 ml (1 cup) of Trisodium Phosphate (TSP).
   c. 950 ml (1 quart) household bleach.
3. Apply the cleaning solution and allow to stand 2-3 minutes. In some cases, the mildew or algae will be removed without the need for scrubbing.
4. Thoroughly rinse the surface with clean water.
5. An alternate method is to apply the cleaning solution as detailed in Section VIII.B.2 above.
6. After treatment, rinse thoroughly with clean water.
7. Alternate cleaning solutions are available from Sentry Chemicals, Max Products, ProSoCo and Surtec, which have been found to be effective in cleaning Dryvit surfaces. Follow manufacturers' instructions for application. **Never use solvent based cleaners as severe damage to the Dryvit products can occur.**

IX. REPAIR PROCEDURE

A. Using a sharp utility knife, cut through and remove the lamina, exposing a neat uniform-sized area of insulation larger than the damaged area. Use a disk grinder or belt sander to remove the finish to expose the reinforced base coat approximately 76 mm (3 in) around the damaged area. Use an aluminum oxide disk or belt, 20 grit.

B. Cut out all remaining insulation board carefully being sure not to damage the Dryvit MD Spacer.
NOTE: If the Dryvit MD Spacer, drainage mat or secondary barrier is damaged, it must be repaired prior to installing new insulation board.

C. Cut a new piece of insulation board to fit tightly into the damaged area. Sand the edges of the insulation board for a precise fit.

D. Fasten the insulation board to the substrate. Make sure that the surface of the new insulation board is flush with the surrounding insulation board.

E. Precisely mask the surrounding area with masking tape. Cut the reinforcing mesh so that it will cover the patch area, lapping onto the original reinforced base coat a minimum of 64 mm (2 1/2 in).

F. Mix the base coat material as described in Section IV.A and apply the base coat mixture on the face of the insulation board, taking particular care to keep the base material mixture off the surrounding original finish edge. Embed the reinforcing mesh in the base coat mixture.

G. Using a small damp brush, smooth out irregularities and feather the edge of the base coat mixture. The reinforcing mesh must be totally embedded in the wet mix. When completed, the base coat should be recessed approximately 1.6 mm (1/16 in) from the existing finish coat. This will insure that when the finish is applied, the new finish will be level or on the same plane as the existing finish coat. Wait a minimum of 24 hours to allow the base coat to cure.

H. If necessary, again, precisely mask the surrounding existing finish with masking tape.

I. Install the new Dryvit finish over the patch area and texture to match the surrounding finish.

J. Allow the finish to dry for a short period of time depending on weather conditions. Remove the masking tape.

K. Feather the edges of the patch to blend inconspicuously with the surrounding texture. After the patch has dried, there may be a color variation between the patch and the surrounding area. This should become less noticeable as environmental conditions blend the areas together.
NOTE: The Dryvit finish should be ordered to match the original lot number shipped to the job; however, exact matching cannot be guaranteed.

DISCLAIMER

Information contained in these application instructions conform to standard detail and product recommendations for the installation of the Outsulation SMD 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., at:

One Energy Way
PO Box 1014
West Warwick, RI 02893
(401) 822-4100

Dryvit Systems, Inc.
One Energy Way
PO Box 1014
W. Warwick, RI 02893
800-556-7752
www.dryvit.com

Printed in USA R7:04-09-09