

The Intertek logo consists of the word "Intertek" in a white, sans-serif font, centered within a dark blue rounded rectangular background.

REPORT NUMBER: 3146117COQ-001c
ORIGINAL ISSUE DATE: March 27, 2008
REVISED DATE: March 27, 2008

EVALUATION CENTER
Intertek Testing Services NA Ltd.
1500 Brigantine Drive
Coquitlam BC, V3K 7C1

RENDERED TO

LOGIX INSULATED CONCRETE FORMS LTD.
2755 Columbia St.
Vancouver, BC
V5Y 3G4

PRODUCT EVALUATED: Logix Insulated Concrete Forms
with Adex Cladding System
EVALUATION PROPERTY: CAN/ULC S101-04

**Engineering Evaluation of Logix Insulated Concrete Forms with
Adex Cladding System for compliance with the applicable
requirements of the following criteria: CAN/ULC S101-04, Fire
Endurance Tests of Building Construction and Materials**

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

1 Introduction

Intertek Testing Services NA (Intertek) has conducted an engineering evaluation for Logix, on Insulating Concrete Forms (ICF), to evaluate fire resistance. The evaluation was conducted to determine if the Adex Intertek Listed cladding product will maintain compliance with CAN/ULC S101-04, "*Fire Endurance Tests of Building Construction and Materials*" when installed on the Logix ICF product.

2 Sample and Assembly Description

The ICFs are used as pour-in-place formwork for structural concrete which consist of expanded polystyrene (EPS) foam plastic panels and plastic webs. The ICF consists of rigid interlocking expanded polystyrene (EPS) foam plastic boards that serve as permanent formwork for reinforced concrete, exterior and interior walls, and foundation and retaining walls. The polypropylene webs are spaced at 8 inches apart and maintain the EPS board facings at a fixed distance of 4 inches, 6.25 inches, 8 inches or 10 inches. The standard forms are 16 inches high by 48 inches long. The expanded polystyrene foam plastic complies with ASTM C578-05 as Type II product.

3 Reference Documents

- CAN/ULC S101-04, "*Fire Endurance Tests of Building Construction and Materials*"
- Intertek Design Listing – Adex "Wall Exterior Insulation & Finish Systems (EIFS)"
- Intertek Design Listing – Adex "EIFS Category 2"

4 Evaluation Method

The Logix ICFs are 2-3/4" in thickness with a density of 1.45 pcf and are classified as a Type II material in accordance with ASTM C578-08.

When evaluating an EIFS product installed over a foam insulation board, the property of concern is its contribution to fuel loading. Since polystyrene is a highly flammable material, by increasing the amount of polystyrene in the wall system there is a higher chance the polystyrene will ignite and cause the EIFS system to fall off and fail the 15 minute stay-in-place test.

By calculation, a 1 foot by 1 foot square of EPS has the following fuel contribution:

$$1.45 \frac{lb}{ft^3} \times 2.75in \times \frac{1ft}{12in} \times 1ft^2 = 0.333lb$$

This calculation multiplied the EPS density by the thickness for a 1 foot by 1 foot square. In order for the Logix material to be eligible for installation with the Adex cladding product, the fuel loading for the Logix ICF must be lower than the insulation board the EIFS is currently listed for

on the Intertek directory of listed products.

Adex is currently listed with Intertek for the following products with corresponding EPS insulation board:

Adex (EIFS Category 1)

- Standard Adex System
 - 4.5" Type I Insulation Board

Adex (EIFS Category 2)

- Standard Adex RF System
 - 4.5" Type I Insulation Board

The maximum fuel loading for these products has been calculated and reported in the below Table:

Table 1: Adex Maximum Fuel Contribution


EIFS Category	Product Name	Max Fuel Contribution per 1 ft ² (lb)
1	Standard Adex System	0.375
2	Standard Adex RF System	0.375

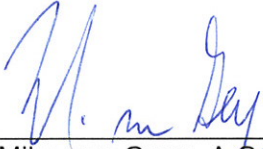
The Adex Intertek Listings has a minimum fuel loading of 0.375 lbs. The Logix ICF with a fuel loading of 0.333 lbs will not increase the fuel loading of the assembly; therefore we can expect to see equivalent or better results. If the cladding products are installed as per the installation instructions in the Appendix, Adex is eligible to use their cladding product on the Logix ICF while maintaining compliance to the 15 minute stay-in-place test of CAN/ULC S101-04. The Logix ICF must be maximum 1.45 pcf in density and must be compliant as a Type II material in accordance with ASTM C578-08 and CAN/ULC S701-05. Additionally, the EIFS Basecoat/Mesh shall be bonded to the concrete substrate at all openings and at the perimeter of all wall sections and control joints.

5 Conclusion

Intertek has conducted an engineering evaluation for Logix, on Insulating Concrete Forms, to evaluate fire resistance. The evaluation was conducted to determine if the Adex Intertek Listed cladding product will maintain compliance with CAN/ULC S101-04, "*Fire Endurance Tests of Building Construction and Materials*" when installed on the Logix ICF product.

INTERTEK TESTING SERVICES NA

Reported by: 
Kevin Saito, EIT
Engineer, Building Products

Reviewed by: 
Mike van Geyn, A.Sc.T.
Manager, Fire Testing & Technical Programs

ATTACHMENTS:
Manufacturers Installation Instructions

ATTACHMENTS

<Manufacturers Installation Instructions>

ULTRALATION[®] SYSTEM

A Mechanically Fastened,
Rugged, Exterior Wall
Insulation and Finish System



DSC216

Ultralation System Application Instructions

INTRODUCTION

Dryvit Ultralation® is an Exterior Insulation and Finish System offering a tough, abuse-resistant, exterior finish, applied over Styrofoam™, a rigid insulation board manufactured by Dow Chemical USA which is mechanically fastened into the structural substrate.

Mechanical fastening into the structural substrate allows for flexibility of application with minimal wall preparation. Availability of a number of fastening systems makes the Ultralation System easily adaptable to a wide variety of wall systems. This includes various screw and washer combinations, as well as pneumatic driven fastening systems.

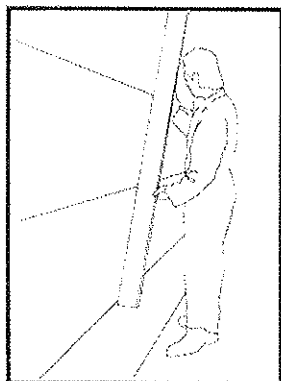
The Starter base coat is a polymer-modified cementitious mixture consisting of Starter acrylic mixture, Portland cement, Ultrafiber (fiberglass reinforcing fibers) and sand. The Starter mixture is applied at a thickness of ¼ inch to yield a durable, high-build exterior coating.

The Starter base coat can be finished smooth and coated with any of Dryvit Systems Canada's wide variety of textured finishes, or it can be integrally textured and coated with Demandit®.

Note: The Starter mixture, a component of the Ultralation System is applied at a thickness of ¼ inch and leveled with a slicker, darby, rod or similar tool. Therefore, it must be applied by mechanics skilled in the use of these tools.

The finished aesthetics of a project are determined by workmanship which is the responsibility of the applicator/contractor.

I. Inspection of the Substrate



PRIOR TO INSTALLATION OF THE ULTRALATION SYSTEM CHECK THE SUBSTRATE TO INSURE THAT:

- A. It is structurally sound and free of crumbling or loose material, voids, projections etc.
- B. There are no planar irregularities greater than ¼ inch within any 4 foot radius.
- C. The substrate complies with all contract documents.
- D. The wall sheathing is securely attached to the wall framing as specified in the contract drawings.

Notify the General Contractor and/or Architect and/or Owner of all discrepancies. Do not proceed until all unsatisfactory conditions have been corrected.

II. Installation of Insulation Board, Ultramesh and Trim Accessories

A. MECHANICAL FASTENERS

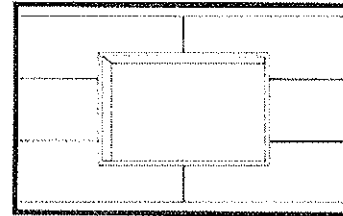
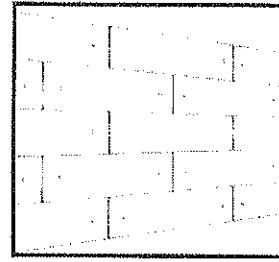
1. The insulation board is attached to the substrate using fasteners consisting of a corrosion resistant screw or pneumatic driven pin in conjunction with a nominal 1 ½ inch diameter washer.
2. Use only approved fasteners as specified by Dryvit Systems Canada
3. Wood based substrates – the fastener must penetrate the structural base a minimum of ¾ inches.
4. Light gauge metal framing – the fastener must penetrate the studs a minimum of 3/8 inches.
5. Brick, masonry or concrete – the fastener must penetrate into the substrate a minimum of 1 inch.

Size the fastener lengths accordingly.

B. INSULATION BOARD INSTALLATION

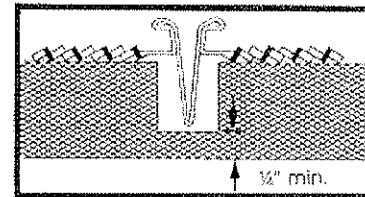
1. Begin installation from a permanent or temporary support at the base of the wall. This provides a straight, level base for installing the insulation board.
2. From a full sheet of insulation, score and cut a 1 foot wide piece to use for the starter row. This will minimize the coinciding of insulation board joints and sheathing joints.
3. Install the insulation boards with the long dimension horizontally, beginning at the base of the wall and continuing up in a running bond pattern. Tightly butt all boards. Any gaps greater than 1/8 inch must be slivered or corrected by other Dryvit approved methods.

4. When installing insulation board over framed walls with non-structural sheathing, the insulation board ends must fall on a stud. This is not necessary when applied over minimum 1/2 inch exterior grade plywood.
5. Attach the insulation board to the structural substrate using two (2) fasteners for every 2' x 8' board. For larger boards, two (2) additional fasteners may be used. Install these fasteners within the field of the board – not along the perimeter. These fasteners must be installed so that the insulation board is snug to the wall and is slightly dimpled by the washer. The face of the washer should sit no more than 1/16 inch above the face of the insulation board. **DO NOT OVERDRIVE** the fasteners as this will damage the insulation board as well as the washer.
6. Stagger the edges of the insulation board at all outside and inside corners.
7. At penetrations where control joints will not be used, align the insulation boards so that the edges do not coincide with the corners of the opening. This will help to minimize cracking at these locations.
8. Measure and locate all control joints, and snap chalk lines on the face of the insulation board to designate locations. Generally control joints must be located as follows:
 - a) monolithic wall areas must not exceed 144 square feet
 - b) horizontal or vertical dimensions between control joints do not exceed 12 feet
 - c) length to width ratio of any wall area cannot exceed 2 1/2 to 1
 - d) at corners of all openings such as windows and doors.



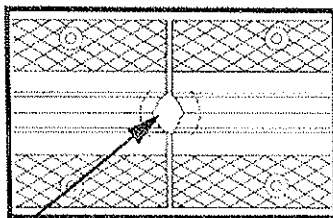
Refer to published Ultralation Details and Specifications for further guidelines.

9. Using a router or hot-knife, cut grooves along the chalk lines to receive the control joints. Size the groove to completely accommodate the control joint and allow for its free movement. Generally a 1/2 inch wide by 3/4 inch deep groove is adequate. Be careful not to cut through the entire thickness of the insulation board. Leave a minimum of 1/4 inch of insulation at the base of the groove.

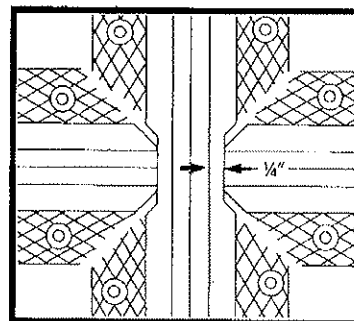


C. INSTALLATION OF TRIM ACCESSORIES

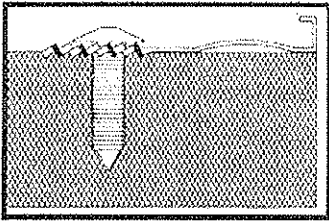
1. Refer to the Ultralation System Specification and published Ultralation Details for guidelines regarding location and installation of control joints, corner reinforcing beads and other trim accessories.
2. Install all control joints at this time. At all control joint intersections and abutments, apply a neutral cure (NOT ACID CURE) silicone or moisture cured urethane bedding sealant into the routed groove to prevent water entry at gaps between the control joint sections.



Provide neutral cure (not acid cure) silicone bedding sealant in area behind control joint intersection.



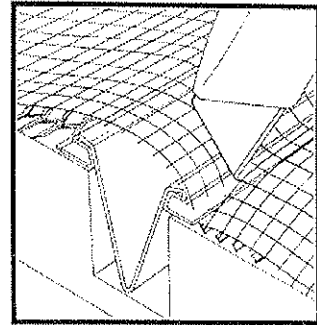
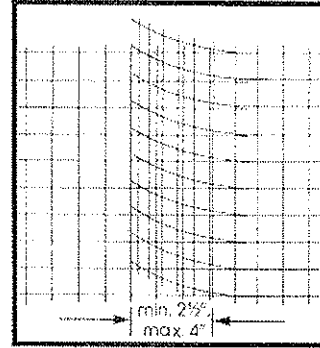
3. Where vertical and horizontal control joints intersect, run the vertical piece continuous and cut the horizontal pieces to connect to the vertical ones. Separate the control joints intersections with a 1/4 inch gap to allow for expansion/contraction. The control joint is then set into the bedding sealant such that this gap is completely filled.



4. Install all other trim except metal corner accessories over the insulation board at this time. Use all-nylon fasteners to attach the trim to the insulation board. It is not necessary for the trim to be fastened to the substrate.

D. ULTRAMESH INSTALLATION

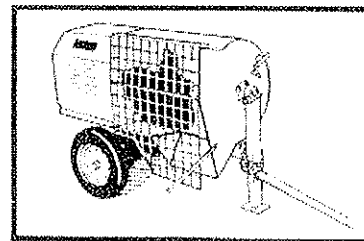
1. Inspect the insulation board installation to be sure that all boards are tightly butted and properly installed with no planar deviations greater than $\frac{1}{4}$ inch within a 4'-0" radius. Correct any irregularities at this time.
2. After all exposed trim accessories are installed, apply Ultramesh to the entire wall. Generally it is applied vertically, however, it can also be installed horizontally.
3. For all corners continue the Ultramesh past the corner and lap onto the Ultramesh from the other wall face.
4. Overlap the edges of the Ultramesh a minimum 2 $\frac{1}{2}$ inches to a maximum of 4 inches.
5. Temporarily fasten the fabric to the insulation board using $\frac{3}{4}$ inch galvanized roofing nails, coated staples or all-nylon fasteners.
6. Stretch the mesh as flat as possible so that any waves or wrinkles are removed. . .DO NOT CUT ULTRAMESH TO REMOVE WRINKLES.
7. At outside corners, install welded wire corner reinforcement or expanded flange corner beads at this time. Use all-nylon fasteners to fasten them to the insulation board.
8. Install the remaining fasteners and washers to complete the installation of the insulation board and Ultramesh reinforcing fabric. Refer to Ultralation Details for complete fastening pattern. Contact Dryvit Systems Canada for recommendation on details and fastening patterns not specifically addressed.
9. Since Ultramesh has been installed continuously over the control joints and other trim, it is necessary to remove the excess. Using a sharp utility knife, cut the mesh along each exposed trim so that it lays flat and will not interfere with the Starter base coat application.



III. Starter Base Coat Application

A. STARTER BASE COAT MIXING

1. Materials
 - a. One pail (35 lbs.) Starter base liquid
 - b. One bag (94 lbs.) Type I or II gray or white Portland cement meeting the requirements of ASTM C-150
 - c. 200 lbs. #40 – 45 sieve, dry, bagged silica sand. Bulk sand may be used provided it meets the requirements of ASTM C-897
 - d. One bag Ultrafibers™
2. Directions
 - a. With mortar mixer engaged, add in this order:
 - 1) Starter base liquid
 - 2) Half the total amount of sand (100 lbs.)
 - 3) One bag (94 lbs.) Portland cement
 - 4) Remainder of sand (100 lbs.)
 - a) Mix for 3 – 5 minutes
 - b) After mixing is complete, disengage mixer and let the mix rest for 5 minutes



c) Turn on mixer and add one bag of Ultrafibers and mix for 3 additional minutes. **DO NOT OVERMIX!**

d) Add clean potable water as needed to adjust workability. **DO NOT OVERWATER!**

CAUTION:

-Do not use wet sand.

-For hot weather, mix half batches and use cool water.

-Clean mortar mixer regularly. Running continuous batches without cleaning may cause the set of subsequent batches to be accelerated.

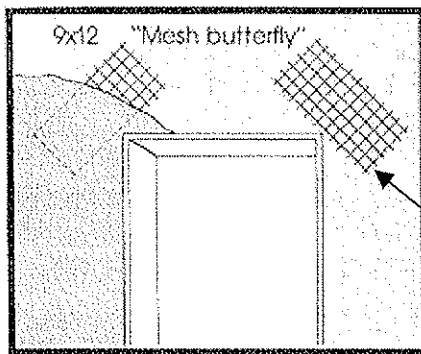
B. STARTER BASE COAT APPLICATION FOR DRYVIT FINISHES

1. Inspect the wall to ensure the surface temperature is above 40°F. Starter is to be applied only when the surface and ambient temperature is 40°F and above and must remain so for a minimum of 24 hours. If this is not the case, supplemental heat must be provided.

2. Check the wall to be certain the insulation board, Ultramash and trim accessories have been properly installed. Specifically check that:

- a. fasteners are installed correctly and properly spaced
- b. all insulation boards are tightly butted
- c. control joints and other accessories are properly located and installed
- d. there are no wrinkles, tears, cuts or waves in the Ultramash

Small breaks in the Ultramash may be repaired by applying a piece of Ultramash over the damaged area and embedding it in the first tight coat of the Starter mixture.



3. Trowel on the first coat of Starter mixture.

At this time where diagonal reinforcing fabric is required to reinforce corners at penetrations, embed a 9 inch by 12 inch piece of Ultramash in the Starter base coat, between the first and final coat.

To minimize cracking at all doors & windows that do not utilize control joints at corners.

Immediately double back adding additional material to achieve a smooth surface ¼ inch thick. Strike to a smooth, level plane using a rod, darby, slicker or other similar tool.

Apply the Starter base coat to an entire panel without interruption to avoid cold joints. Wet Starter base coat shall abut set base coat at naturally occurring interruptions such as casing beads or control joints.

4. After initial set, remove any trowel marks or other irregularities from the base coat which may interfere with the finish coat application.

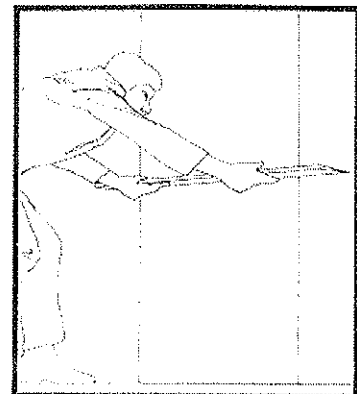
5. For finer finishes like Sandblast®, care must be taken that the base coat is flat and smooth. Skim coating may be required prior to applying these finishes. Starter, Primus® or Genesis® mixture may be used to bring the surface flat.

C. APPLYING A TEXTURED STARTER BASE COAT FOR FINISHING WITH DEMANDIT®

1. Inspect the wall to ensure the surface temperature is above 40°F. Starter is to be applied only when the ambient and surface temperature is 40°F and above and must remain so for a minimum of 24 hours. If this is not the case, supplemental heat must be provided.

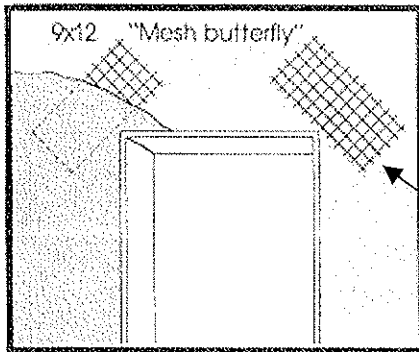
2. Check the wall to be certain the insulation board, Ultramash and trim accessories have been properly installed. Specifically check that:

- a. fasteners are installed correctly and properly spaced
- b. all insulation boards are tightly butted
- c. control joints and other accessories are properly located and installed
- d. there are no wrinkles, tears, cuts or waves in the Ultramash



Small breaks in the Ultramesh may be repaired by applying a piece of Ultramesh over the damaged area and embedding it in the first tight coat of the Starter mixture.

3. Trowel on the first coat of Starter mixture.



At this time where diagonal reinforcing fabric is required to reinforce corners at penetrations, embed a 9 inch by 12 inch piece of Ultramesh in the Starter base coat, between the first and final coat.

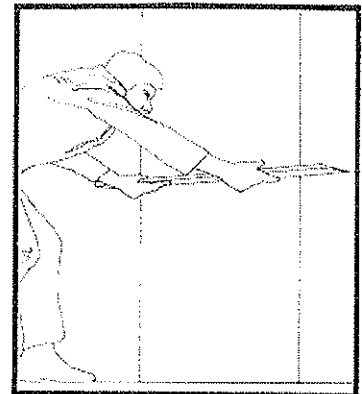
To minimize cracking at all doors & windows that do not utilize control joints at corners.

Immediately double back adding additional material to achieve a smooth surface $\frac{1}{4}$ inch thick. Strike to a smooth, level plane using a rod, darby, slicker or other similar tool.

Apply the Starter base coat to an entire panel without interruption to avoid cold joints. Wet Starter base coat shall abut set base coat at naturally occurring interruptions such as casing beads or control joints.

4. After initial set, remove any trowel marks or other irregularities from the base coat which may interfere with the Starter texture coat application.
5. Trowel apply the desired texture to the set base coat using the Starter mixture. For best results apply the texture after the base coat has set but before it has fully dried. Depending on the desired aesthetics, Ultrafibers may be left out of the Starter texture mixture.

NOTE: ULTRAFIBERS MUST BE USED IN THE BASE COAT MIXTURE.



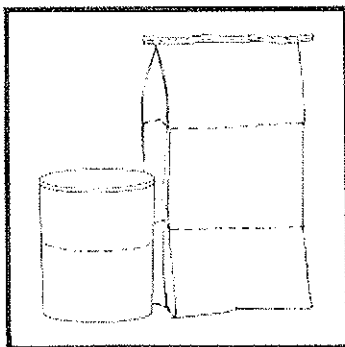
IV. Special Insulation Board Shapes

A. SPECIAL SHAPES ARE EASILY INCORPORATED AS PART OF THE ULTRALATION SYSTEM AND REQUIRE THE USE OF EXPANDED POLYSTYRENE (EPS) INSULATION BOARD. DRYVIT PRIMUS AND DETAIL® REINFORCING MESH AND ARE INSTALLED OVER THE CURED STARTER BASE COAT.

1. Due to shipping, there may be some setting of the Primus. Remix the material using a mixer such as a Goldblatt Jiffier No. 15311H7 powered by a $\frac{1}{2}$ inch drill, 400 – 500 RPM only.

CAUTION: Do not overmix as air entrapment and product damage may occur and result in workability and performance problems.

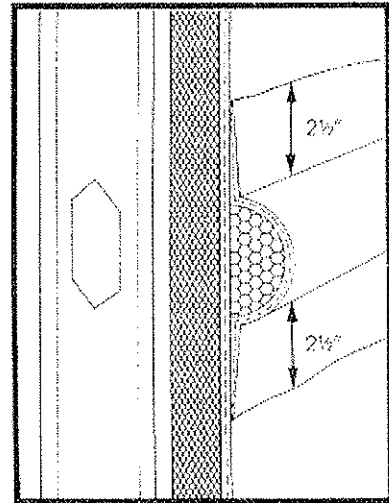
2. Use a clean plastic container. Pour $\frac{1}{2}$ of the freshly mixed Primus (approximately 30 lbs.) into the container.



3. While mixing, add 30 lbs. (approximately $\frac{1}{3}$ of a bag) of Type I or Type II Portland cement to the Primus in small increments and mix thoroughly each time.
4. Clean potable water may be added to the Primus to adjust workability. Add as little water as possible, in small increments and ONLY after the Portland cement is thoroughly mixed. The Primus should be sticky and have enough body to hold the insulation board in place without slipping.

CAUTION: Do not overwater as this will degrade the performance of the product.

5. It is advisable to mix the Primus with Portland cement thoroughly then "wait 5 minutes" and mix again to break the initial set. Retempering with a small amount of water is permissible as long as the Primus mixture has not set.
6. Smaller quantities may be mixed provided the correct proportions are maintained (1 lb. Primus to 1 lb. Portland cement).
7. Using a stainless steel trowel, install a ribbon of Primus mixture 2 inches wide by 3/8 inch thick around the entire perimeter of the shape. Place dabs of Primus approximately 12 inches apart on the remaining area. A 3/8 inch notched trowel may also be used.
8. Immediately position the foam shape on the wall adhering to the set Starter base coat.
9. Allow to set for 24 hours.
10. Mix additional Primus as described above and trowel over the entire surface of the shape in a uniform thickness of approximately 3/32 inch. Immediately place the Detail Reinforcing Mesh against the wet Primus mixture and fully embed.
11. Lap the Primus and reinforcing mesh over the Starter base coat for a minimum of 2 1/2 inches.
12. After the Primus base coat has been allowed to dry for 24 hours, it is ready for application of the Dryvit finish or Starter texture with Demandit.
13. Let the finish dry for 24 hours.
14. Apply a fillet caulk with bond breaker tape along the intersection of the top surface of the shape and the wall.



V. Application of Dryvit Finish

A. THE FOLLOWING DRYVIT FINISHES ARE ACCEPTABLE FOR EXTERIOR USE AS PART OF THE ULTRALATION 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, Sandblast, Sandpebble, Sandpebble Fine, Demandit and Freestyle.

4. Specialty Finishes

- a. Ameristone, Stone Mist, and Custom Brick

B. PRIOR TO APPLYING THE DRYVIT FINISH, THE STARTER BASE COAT SHALL HAVE CURED A MINIMUM OF 24 HOURS AND SHALL BE DRY AND HARD. CURE TIME MAY BE LONGER DEPENDING ON ENVIRONMENTAL CONDITIONS.

C. INSPECT THE STARTER BASE COAT FOR ANY IRREGULARITIES SUCH AS TROWEL MARKS, BOARD LINES, ROUGH CORNERS AND EDGES, PROPER REINFORCING MESH EMBEDMENT AS WELL AS EFFLORESCENCE. **NOTE: Correct all irregularities and remove all efflorescence prior to applying the Dryvit Finish.**

IMPORTANT: The Starter base coat surface must be flat, smooth and free of any irregularities. Skim coating may be necessary.

D. MIXING THE DRYVIT FINISH

1. Quarzputz®, Sandblast®, Freestyle®, Sandpebble®, Sandpebble Fine™ and Weatherlastic® Finishes.

Thoroughly mix the factory-prepared Dryvit finish with a Wind-lock B-M1 or B-MB mixing blade (or equivalent) until a uniform homogeneous consistency is attained. 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 to avoid color variation.**

2. Specialty Finishes

- a. Ameristone™ and Stone Mist®.

- 1) Mix the factory-prepared finish for a maximum of 1 to 1-1/2 minutes with a Wind-lock B-M1 or B-M8 mixing blade (or equivalent) powered by a 13 mm (1/2 in.) drill, 400-500 RPM, just prior to

application. **Do not overmix.** Over mixing can result in air entrapment that will affect application and color. **Tip:** Mix each bucket of material for the same length of time.

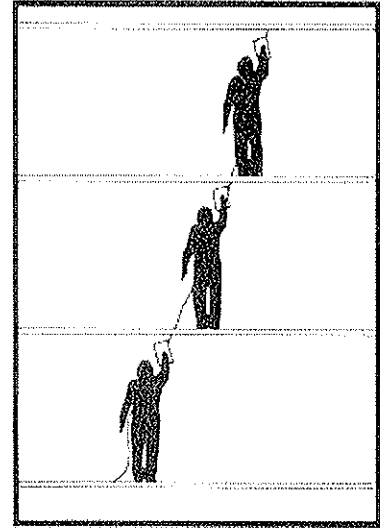
b. Custom Brick

- 1) Refer to Dryvit Custom Brick Application Instructions DSC154 and DSC214 for complete mixing and usage instructions.

E. APPLICATION

1. General

Important: All Dryvit finishes must be installed continuously to a natural break such as corners, expansion joints, or tape line. Mechanics must maintain a wet edge. Whenever possible, order enough material in a single batch to complete the project to avoid potential color variations from batch to batch. Sufficient personnel and scaffolding must be provided to continuously finish a distinct wall area or otherwise cold joints will result. Scaffolding must be spaced a minimum of 460 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, 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 a 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 mechanic must use the same tool and hand motion and match the texture of the mechanics above, below and on each side. Use finish from a single batch number whenever possible. **IMPORTANT: Remember – Color is Texture, Texture is Color.**



CAUTION: DO NOT APPLY FINISH IN SEALANT JOINTS. Refer to Section VII for proper preparation of sealant joints

2. Quarzputz, Sandblast, and Weatherlastic Quarzputz

- a. Mix the Dryvit finish as described in Section V.D.1 **Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Finish material.**
- 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.**
- c. The texture is achieved by uniform hand motion and/or tool that produces the texture to match the approved sample. Each mechanic 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 V. D. 1. **Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Finish material.**
- 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.
- d. The texture is achieved by a uniform hand floating motion with a clean stainless steel trowel; wipe the trowel and wet it lightly. Apply light pressure in a circular motion.

4. Freestyle

- a. Mix the Dryvit finish as described in Section V. D. 1. **Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Finish material.**
- b. Using a clean, stainless steel trowel, apply the Freestyle finish on the base coat in a thickness not greater than 1.6 mm (1/16 in). The texture is either pulled out of this base to a thickness of no greater

than 6.3 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 other aesthetically pleasing textures can be created to match approved samples.

NOTE: The maximum thickness of any Freestyle finish texture shall not exceed 6.3 mm (1/4 in.)

5. Application of Demandit®

a. Inspect the base coat.

- 1) Allow the textured Starter base coat to cure a minimum of 24 hours. It must be dry and hard before proceeding with the finish coat application. Cool, humid conditions may require longer curing time.
- 2) Inspect the textured base coat for any irregularities which will interfere with the application of the finish coat. Correct prior to applying the Demandit finish coat.
- 3) Check to ensure that the surface and ambient temperature is above 45°F. Demandit is to be applied only when the temperatures are 45°F or above and must remain so for a minimum of 24 hours. Otherwise, supplemental heat must be provided.

b. Mixing the Demandit

- 1) Stir Demandit to a smooth, homogeneous consistency. Avoid introducing air into the coating.

c. Applying Demandit

- 1) Apply with a brush, roller, or airless spray equipment.
- 2) When applying with a roller, a maximum 19 mm (3/4 in) nap, polyester or polyester blend with nylon or lambswool, with beveled ends and a phenolic core is recommended. A 460 mm (18 in) wide roller frame with a 57 mm (2 1/4 in) inside diameter is also recommended.
- 3) When applying Demandit do so 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 the Demandit to dry on roller covers. Roller covers with dried coating do not apply the coating evenly.

6. 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. Mix the Adobe finish material as described in Section V.D.1. **Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Finish material.**
- c. Using a stainless steel trowel, apply a coat of Adobe approximately 1.6 mm (1/16 in) to the wall surface. Allow the Adobe finish to take-up.
- d. Using a stainless steel trowel, apply a second coat of Adobe 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.**

7. Ameristone

- a. Mix the Ameristone Finish as described in Section V.D.2.
- b. Apply Ameristone finish in accordance with Ameristone Application Instructions, DSC142. **CAUTION: Do not apply Ameristone in sealant joints. . Warning: Do not apply Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Ameristone finish material.**

8. Stone Mist

- a. Mix the Stone Mist Finish as described in Section V.D.2.
- b. Apply Stone Mist finish in accordance with Stone Mist Application Instructions, DSC420.
Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Stone Mist finish material.

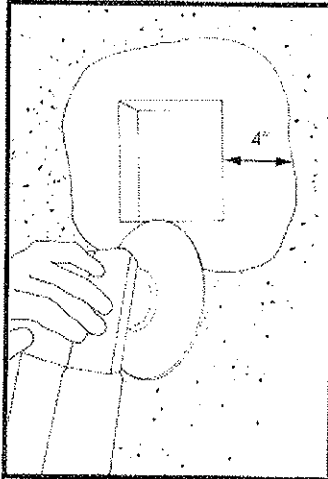
9. Custom Brick

- a. Refer to Dryvit Custom Brick Application Instructions, DSC154 and DSC214, for complete usage instructions. **Warning: Do not apply the Dryvit materials in the rain. The base coat surface must be dry prior to applying the Dryvit Custom Brick finish material.**

VII. Sealant Joint Preparation

A. ALL SEALANT JOINTS SHALL BE PREPARED WITH EITHER DRYVIT DEMANDIT OR COLOR PRIME.

1. Stir Demandit or Color Prime to a smooth, homogeneous consistency.
2. Apply Demandit or Color Prime with a brush on each side of the joint.
3. Allow the Demandit or Color Prime to dry a minimum of 24 hours prior to sealing with recommended sealant as listed in DSC153.

VIII. Repair Procedure

1. Cut out and remove affected area using a power saw with a masonry cutting blade.
2. Using a disk grinder, remove finish and 1/8 inch of the Starter base coat for 4 inches around the damaged area. Be careful not to damage the Ultramesh within this area.
3. Cut a piece of insulation board to fit tightly into the damaged area and install in place.
4. Apply Starter mixture over the insulation board and onto the overlap area at approximately 1/8 inch thickness, and immediately install a layer of Ultramesh in the Starter mixture such that it is fully embedded.
5. Apply Starter as needed to bring level with undamaged base coat.
6. Allow Starter to set for 24 hours prior to applying finish coat.

CAUTION:

- For steps 4, 5, and 6, it will be necessary to mask out the repair area to avoid splatter onto undamaged area.
- Where damaged area spans over studs, use fasteners to attach Ultramesh and insulation board to studs.

DISCLAIMER

Information contained in this document conforms to standard detail and product recommendations for the installation of the Dryvit Ultralation System products as of the date of publication of this document and is presented in good faith. Dryvit Systems Canada 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 Canada
129 Ringwood Drive
Stouffville, Ontario
Canada L4A 8A2
1-800-263-3308

** The Trained Contractor Certificate indicates certain employees of the company have been instructed in the proper application of Dryvit products and have received copies of Dryvit's Application Instructions and Specifications. The Trained Contractor Program is not an apprenticeship or endorsement. Each trained contractor is an independent company experienced in the trade and bears responsibility for its own workmanship. Dryvit Systems Canada assumes no liability for the workmanship of a trained contractor.

Dryvit Systems Canada
129 Ringwood Drive
Stouffville, Ontario
Canada L4A 8A2
1-800-263-3308
www.dryvit.com



OUTSULATION MD SYSTEM®

A Commercial Exterior Wall Insulation and
Finish System With Moisture Drainage



DSC169

Outsulation MD System Application Instructions

Checklist Prior To The Installation Of The Outsulation MD® System

PROJECT CONDITIONS

- Air and surface temperatures for application of Dryvit products must be 4 °C (40 °F) or above and must remain so for a minimum of 24 hours. **Note: When Demandit®, Revyvit or Color Prime™ is used, a minimum temperature of 7 °C (45 °F) is required. For Ameristone™ and Custom Brick® Finishes, refer to individual finishes' specifications and application instructions.**
- Ensure that all roof-to-wall flashings and run-off diverters (i.e., kick-outs) are installed where required. Particular attention must be paid to the eaves/chimney intersections and sloped roof/wall intersections.
- Protect surrounding areas and surfaces during installation of the Outsulation MD System.
- The tops of all walls shall be immediately covered with the final trim or be temporarily protected to prevent water infiltration behind the system. Permanent protection in the form of cap flashing or copings shall be installed as soon as possible after the finish coat has been applied.
- Dryvit materials shall be fully dry prior to installation of sealant materials (typically (48-72 hours). Humid or cool conditions may require longer drying times.

Materials Required For Completing Installation Of The Outsulation MD System

MATERIALS SUPPLIED BY DRYVIT SYSTEMS CANADA

- Dryvit Backstop™
- Dryvit Grid Tape™
- Dryvit Flashing Tape™
- Dryvit Flashing Tape Surface Conditioner™
- OMD Insulation Board
- OMD Insulation Board Closure Blocks™
- Dryvit AP Adhesive™
- Dryvit Starter Strip™
- Dryvit Vent Track™
- Dryvit Track™
- Dryvit Vent Assembly™
- Dryvit Genesis® or Primus® Adhesive
- Standard™, Standard Plus™, Intermediate®, Panzer® 15, Panzer 20, Corner, and Detail® Reinforcing Meshes.
- Dryvit Finishes
- Dryvit Coatings and Primers

MATERIALS SUPPLIED BY OTHERS

- Portland cement: Type I, or II
- Clean potable water

I. Mixing Instructions

A. Backstop, Genesis, Primus, Dryflex:

1. Opening the bucket is easy with a utility knife or lid-off.
2. Due to shipping and storage, there may be some settling of materials. Prior to splitting the material and mixing with Portland cement, mix the material thoroughly. Use a Wind-Lock B-M1 or B-M8 mixing blade (or equivalent) powered by a 13 mm (1/2 in) drill, at 700-1000 rpm. **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.**
3. The material is mixed in a 1:1 ratio, by weight, with Portland cement. Pour 1/2 of the freshly mixed material, 13.6 kg (30 lbs), into a clean 18.9 l (5 gal) plastic container. Add 1/3 of a bag, approximately 13.6 kg (30 lbs), of fresh, lump-free Type I, or 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 will develop. Note: The Dryflex product is shipped in (45 lbs) pails, therefore the splitting procedure will differ slightly, however the product is still mixed with Portland cement in a 1:1 ratio by weight.**
4. 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 Portland cement is thoroughly mixed. **Caution: Do not over water as this may degrade the performance of the product and promote efflorescence.**
5. It is advisable to 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 conveniently 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. Dryvit Finishes and Coatings:

1. DPR (Dirt Pickup Resistance), PMR (Proven Mildew Resistance) and Weatherlastic Finishes: Quarzputz, Sandblast, Freestyle, Sandpebble, Sandpebble Fine, Weatherlastic Adobe, Weatherlastic Smooth, Demandit, Revyvit, Prymit, Color Prime and SealClear.
 - a. Thoroughly mix the factory prepared Dryvit finish or coating with a Wind-Lock™ B-M1 or B-M8 mixing blade (or equivalent) powered by a 13 mm (1/2 in) drill, 400-500 rpm, until a uniform homogeneous consistency is attained. A small amount of clean water may be added to adjust workability. Always add the same amount of water to each pail within a given lot to avoid color variations.

C. Dryvit Specialty Finishes:

1. Ameristone and Stone Mist (For Ameristone refer to DSC142 for complete application instructions).
 - a. Mix the factory prepared finish for approximately 1 minute using a Goldblatt Jiffier Mixer powered by a 13 mm (1/2 in) drill at 400-500 rpm, just prior to application. Do not overmix. Overmixing can result in air entrapment that will affect application and color. **Tip: Mix each bucket of material for the same length of time.**
2. Custom Brick™ Finishes
 - a. Refer to Dryvit Custom Brick Application Instructions, DSC154 and DSC214, for complete mixing and usage instructions.

II. Air/Weather Barrier

A. Prior to applying the Backstop, check the substrate to ensure that:

1. The substrate is of a type listed in the Outsulation MD System Specification, DSC168.
2. Exterior grade gypsum sheathing meets ASTM C79, is clean, and dry at time of application. The facing paper shall not show signs of deterioration and shall be firmly bonded to the core.
3. It is structurally sound, free of loose material, voids, projections, or other conditions that may interfere with the installation of the Outsulation MD System.
4. Its surface is clean, dry, free of grease, oil, paints, form release agents, and other foreign material.
5. There are no planar irregularities greater than 6.4 mm (1/4 in) within any 1.2 m (4 ft) radius. **Gaps or damage in sheathing substrates which exceed 9.5 mm (3/8 in) in any one direction must be repaired by replacing sheathing material.**
6. All needed flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulation MD System installation.
7. Notify the general contractor and/or architect, and/or owner of all discrepancies. Do not proceed until all unsatisfactory conditions have been corrected.

B. Check the wall surface and ambient temperature to ensure that they are above 4 °C (40 °F), and rising at the time of application.

C. Air/Weather Barrier Application

1. Dryvit Grid Tape

- a. For sheathing substrates, apply the Dryvit Grid Tape along all joints in the sheathing, as well as; inside corners, outside corners, and exposed edges at terminations that will not be covered with Dryvit Flashing Tape. Center the Dryvit Grid Tape on the sheathing joints, edges, etc. with the pressure sensitive adhesive backing in contact with the sheathing surface. Press into position with hand pressure until adhesion is achieved. Apply only enough Dryvit Grid Tape as can be covered with Backstop in the same work period.
- b. For concrete and masonry substrates, Dryvit Grid Tape is not necessary.

2. Dryvit Backstop

- a. Mix the Backstop with Portland cement in accordance with Section I.A above.
- b. Use a stainless steel trowel to apply a base layer of Backstop mixture over all sheathing joints, inside corners, outside corners, and all other areas that have Dryvit Grid Tape applied. Smooth and feather the Backstop to completely cover the grid tape, and allow to take up for a minimum of two (2) hours.
- c. Apply a layer of Backstop mixture over the entire wall surface to a uniform thickness of approximately 1.6 mm (1/16 in) and allow to completely dry.

3. Dryvit Flashing Tape

- a. Dryvit Flashing Tape must be installed in order to maintain a continuous air and weather barrier from the Backstop onto the framing edges at openings, across expansion joints, and at changes in substrate material, as shown in the Dryvit Outsulation MD System Installation Details, DSC167.

b. Surface Preparation

- 1) Apply only in fair weather when air and surface temperatures are above 4 °C (40 °F).
- 2) The surface to receive the Dryvit Flashing Tape must be clean, dry, smooth, free of protrusions and any other condition that will hinder adhesion.
- 3) Clean loose dust or dirt from the surface by wiping with a clean, dry cloth or brush.
- 4) If good initial adhesion cannot be obtained because of surface dust, cold temperature, or other conditions, priming is recommended with Dryvit Flashing Tape Surface Conditioner.

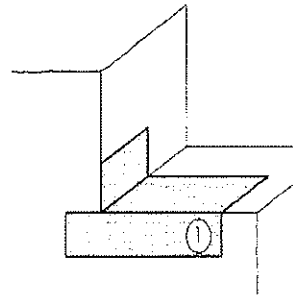
c. Dryvit Flashing Tape Surface Conditioner Application

- 1) Measure the desired amount of Flashing Tape Surface Conditioner needed and dilute with an equal amount of clean, potable water.
- 2) Apply to the surfaces, which are to receive the Dryvit Flashing Tape using a brush or roller. Sufficient surface conditioner should be applied to condition the substrate to a dust free state suitable for the application of the Dryvit Flashing Tape. It should not be applied so heavily that it puddles or runs. Application of excess material will not improve adhesion but will extend the drying time.
- 3) Allow to dry for approximately one (1) hour, or until the surface returns to its original color. The Flashing Tape Surface Conditioner is clear when dry and slightly tacky. Low temperatures and high humidity conditions may require longer drying times. Conditioning should be limited to areas that can be covered with Dryvit Flashing Tape within the same work period.

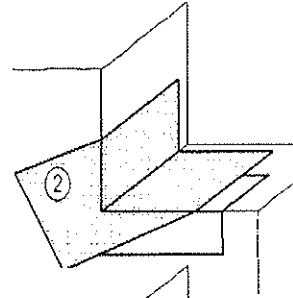
d. Dryvit Flashing Tape Application

- 1) Cut the Dryvit Flashing Tape to appropriate length. Peel the release paper back a few inches from one end to expose the rubberized asphalt adhesive. Align the tape into position before touching the wall. Position so that it covers the Backstop 50 mm (2 in), and the remainder is turned into the opening. Touch the leading edge of tape to the wall and press in with hand pressure. Move along the opening being careful to apply the tape as evenly as possible and avoiding fishmouths along the edges. Press the tape into place with hand or roller as soon as possible to ensure continuous and intimate contact with the surface. End laps that occur must maintain a minimum overlap of 50 mm (2 in). If wrinkles develop, cut out the affected area and replace with new tape lapping minimum 50 mm (2 in) onto each side. **Caution: The Dryvit Flashing Tape must be handled properly. Refer to the Material Safety Data Sheets for proper handling, storage, health and environmental considerations.**
- 2) For sill-jamb intersections, and similar conditions, apply the Dryvit Flashing Tape as shown in the detail on the next page. Apply the sill piece first, then apply the corner splice piece. The jamb piece is applied last, lapping over the splice piece.
- 3) For head-jamb intersections, the jamb pieces are applied first, followed by the corner splice pieces. The head piece is applied last lapping over the splice piece.

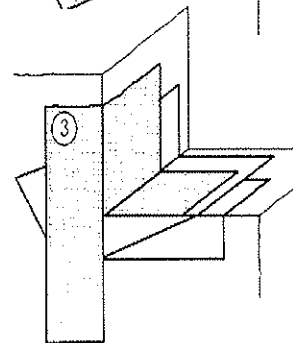
1. Apply Sill Piece



2. Apply Corner Splice Piece



3. Apply Jamb Piece



- 4) Lap additional pieces of Flashing Tape as necessary to cover the returns to the inside edge of the stud or track.
- 5) For expansion joints, position the Dryvit Flashing Tape so that it is centered over the joint. Adhere to one side of the joint, and then adhere the adjacent side allowing enough slack in the tape to account for any joint movement.
- 6) Coordinate the Flashing Tape application with the OMD Insulation Board installation. Apply only enough tape that can be covered with the insulation board in the same day.

III. Installation of Dryvit Starter Strip, Dryvit Vent Assembly, Dryvit Vent Track, and Dryvit Track

A. Prior to installing the Dryvit Starter Strip, OMD Insulation Board and OMD Insulation Board Closure Blocks, check to ensure that:

1. They are shipped in a clear polyethylene bag bearing the Dryvit name. The lot number of the insulation shall be visible on the outside of the bag.
2. It meets the following tolerances:
 - a. Length: Plus or minus 1.6 mm (1/16 in).
 - b. Width: Plus or minus 1.6 mm (1/16 in).
 - c. Thickness: Plus or minus 1.6 mm (1/16 in) for boards greater than 25 mm (1 in).
 - d. Squareness: Shall not deviate from square by more than .8 mm (1/32 in) in 300 mm (12 in) of total length and width.
 - e. Edge trueness: Shall not deviate more than .8 mm (1/32 in) in 300 mm (12 in).
 - f. Face flatness: Shall not exhibit any bowing of more than .8 mm (1/32 in) in the total length. **Warning: Any OMD Insulation Board, Closure Block or Starter Strip not meeting the above requirements should be rejected and not installed.**
3. The OMD Insulation Board Closure Blocks shall measure between 150 mm (6 in) and 300 mm (12 in) in width. The minimum thickness is 50 mm (2 in).

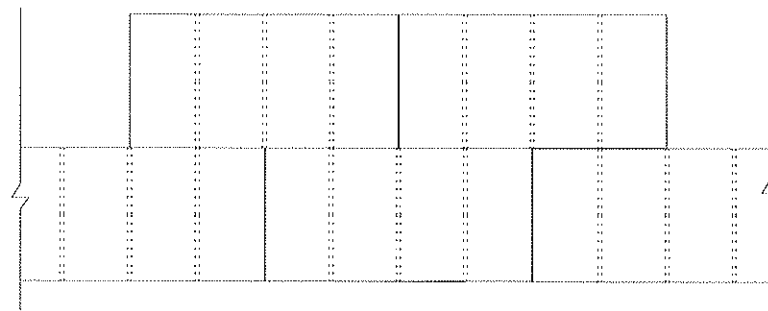
4. The OMD Insulation Board shall measure maximum 600 mm (2 ft) by 1200 mm (4 ft) with a minimum thickness of 50 mm (2 in).
 5. The back side of the OMD Insulation Board shall contain vertical grooves as shown in the OMD Installation Details, DSC167.
 6. The surface of the Backstop is smooth, clean, dry, and free of efflorescence and other foreign materials that will affect adhesion of the OMD insulation Board.
- B. The Dryvit Starter Strip, Dryvit Vent Assembly, and Dryvit Vent Track are required along the base of all system terminations such as base of walls and tops of horizontal expansion joints.
1. Provide a permanent or temporary support for the Dryvit Starter Strip and Dryvit Vent Assembly, and mark the location of the Vent Assembly along the base of the wall. OMD Vent Assemblies should be spaced every 3 m (10 ft) along the base of the wall to match the slot locations in the Dryvit Vent Track. **Note: Holes created by fasteners used for temporary supports that penetrate the Backstop air/weather barrier or Flashing Tape, must be sealed with additional Backstop mixture or Flashing Tape prior to adhering the OMD Insulation Board.**
 2. Mix the Genesis or Primus material as described in Section I.A.
 3. Cut the Detail mesh to a working length.
 4. Apply a ribbon of Genesis or Primus Adhesive mixture on the substrate and position the Detail Mesh in the wet mixture allowing for a 64 mm (2 1/2 in) minimum overlap onto the face of the Starter Strip and Vent Assembly. Keep the mesh which is not embedded clean.
 5. Apply the Genesis or Primus Adhesive mixture to the backside of the Dryvit Starter Strip and Dryvit Vent Assembly using a Ribbon and Dab pattern, and position on the wall. Press gently and slide into position applying uniform pressure to ensure full contact and high initial grab.
 6. Using a margin trowel, remove any adhesive from the edges of the insulation boards that will abut other insulation boards. **Caution: Do not allow adhesive to remain in board joints. Ensure that the insulation board joints are abutted tightly, and are level and flush.**
 7. Install the Dryvit Vent Track by applying a continuous bead of Dryvit's AP Adhesive on the wall side of the vertical nailing flange of the track and position over the Dryvit Starter Strip, with the cut out located directly above the Dryvit Vent Assembly. Press firmly against the substrate to ensure firm and continuous contact between the adhesive and the wall surface.
 8. Place a continuous bead of AP Adhesive along the top edge of the track and where pieces of track abut each other, to provide a seal.
- C. The Dryvit Starter Strip and Dryvit Track are required at the heads of all openings.
1. Because insulation board joints cannot align with corners of openings, first cut L-shaped pieces of Starter Strip for the corners. Then measure and cut the Dryvit Starter Strip to the proper length to fit between the corner pieces over the opening.
 2. Mix the Genesis or Primus material as described in Section I.A.
 3. Cut the Detail mesh to a working length.
 4. Apply a ribbon of Genesis or Primus adhesive mixture on the substrate and position the Detail Mesh in the wet mixture allowing for a 64 mm (2 1/2 in) minimum overlap onto the face of the Starter Strip. Keep the mesh which is not embedded clean.
 5. Apply the Genesis or Primus adhesive mixture to the backside of the Dryvit Starter Strip using a Ribbon and Dab pattern, and position on the wall. Press gently and slide into position applying uniform pressure to ensure full contact and high initial grab.
 6. Using a margin trowel, remove any adhesive from the edges of the insulation boards that will abut other insulation boards. **Caution: Do not allow adhesive to remain in board joints. Ensure that the insulation board joints are abutted tightly, and are level and flush.**
 7. Measure and cut the Dryvit Track so that it extends beyond the edges of the opening to the closest vertical groove in the OMD Insulation Board (see OMD typical detail OMD 0.0.19).
 8. Install the Dryvit Track by applying a continuous bead of Dryvit AP Adhesive on the wall side of the vertical nailing flange of the track and position over the Dryvit Starter Strip. Press firmly against the substrate to ensure firm and continuous contact between the adhesive and the wall surface.
 9. Place a continuous bead of AP Adhesive along the top edge of the track to provide a seal.

IV. Installation of OMD Insulation Board and Closure Blocks

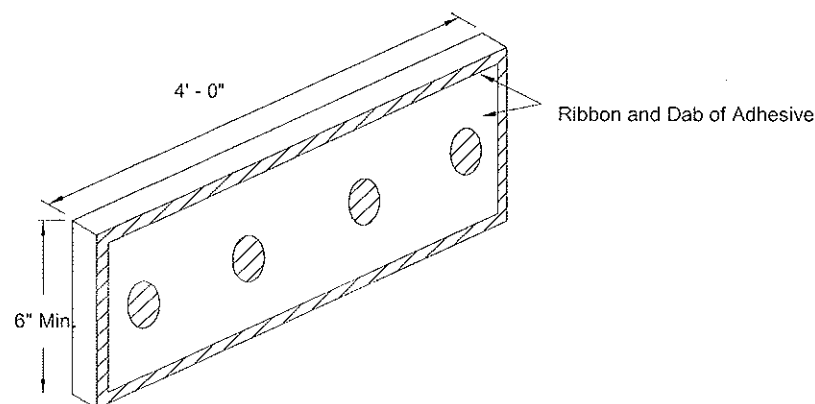
A. Installation of OMD Insulation Board

1. Mix the Genesis or Primus Adhesive material as described in Section I.A.

2. With a notched trowel, 9.5 mm (3/8 in) wide, 13 mm (1/2 in) deep notches spaced maximum 38 mm (1 1/2 in) on center, apply the adhesive mixture to the back side of the OMD Insulation Board being careful not to allow the Backstop mixture in the grooves of the board. Apply the adhesive so that the ribbons are running vertically. **Note: Always Use a notched trowel adhesive pattern to adhere OMD Insulation Board and Ribbon and Dab adhesive pattern to adhere OMD Closure Blocks.**
3. Beginning at the base of the wall (above the Dryvit Starter Strip), install the OMD Insulation Boards with their long edges oriented horizontally. Locate the OMD Insulation Boards so that joints are offset from the sheathing board joints a minimum of 150 mm (6 in) in both vertical and horizontal directions.
4. Apply firm pressure over the entire surface of the OMD Insulation Board to ensure uniform contact and high initial grab.
5. Using a margin trowel, clean the OMD Insulation Board edges of any adhesive mixture. Ensure that the OMD Insulation Board joints are butted tightly and are level and flush.
6. Stagger vertical joints at inside and outside corners. Extend the insulation board on one side of the wall beyond the corner and cut off grooved edge to square the corner. Make sure the corner is straight and plumb.
7. Install subsequent rows with the vertical joints offset and vertical drainage grooves aligned with those of the previous row as indicated below.



8. Tops of walls, sills of continuous windows and other horizontal system terminations, are terminated using 305 mm x 1.2 m (12 in x 48 in) OMD Closure Blocks. These are adhered to Backstop using a ribbon and dab adhesive pattern as shown in the detail below.

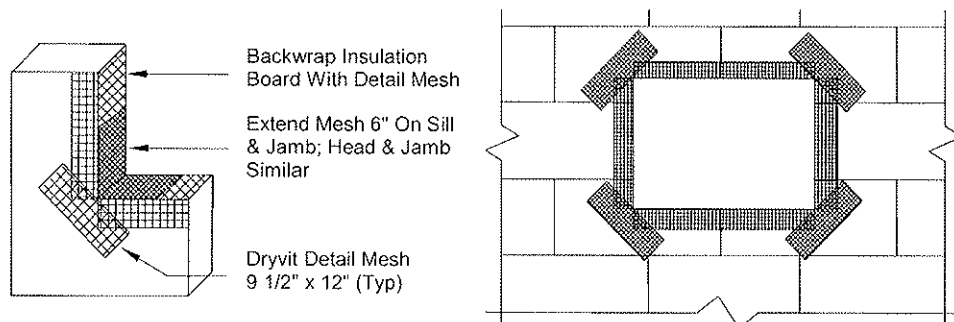


9. If for any reason the OMD Insulation Board joints are not abutted tightly, slivers of insulation board must be installed to fill any gaps. **Tip: In order to create a tight fit, it is recommended that a wider joint be cut with a hot groover or similar tool to allow for a more precise fitting sliver. All gaps must be slivered. Do not install adhesive on sliver edges.**
10. Once the OMD Insulation Board is in place, wait a minimum of 24 hours prior to working on the surface, to prevent any movement which may weaken the bond of the adhesive mixture to the Backstop air/weather barrier.
11. To ensure an overall flat surface, use a straight edge of sufficient length to overlap at least 2.4 m (8 ft) of wall area.

12. Any irregularities in the OMD Insulation Board surface must be sanded flat. Sanding is accomplished with a light circular motion using grade 20 grit sandpaper in conjunction with hand or air rasps. The entire wall area must be sanded. **Note: Do not sand parallel to OMD Insulation Board Joints.**
13. Remove all loose pieces of OMD Insulation Board and dust from the sanding operation using a brush or compressed air.

V. Installation of Reinforcing Mesh

- A. Prior to installing the reinforced base coat, inspect the surface of the insulation board for:
 1. Flatness: Using a minimum 2.4 m (8 ft) straight edge. Sand any high areas and out-of-plane board joints flat as described in Section IV.A.12. **Caution: Do not build up low areas with base coat mixture to form a flat surface.**
 2. Damage and foreign materials; correct deficiencies as necessary.
 3. Surface degradation due to weathering or U/V, visible as discoloration. Sand affected areas to remove deterioration while maintaining the flatness of the surface.
- B. Mix the Genesis or Primus Adhesive Material as described in Section I.A.
- C. Embed the Detail Mesh which was previously installed for backwrapping the Dryvit Starter Strips, Closure Blocks and all other System terminations in the base coat mixture at this time.
 1. With a stainless steel trowel, apply the base coat mixture to the edge and face of the insulation board and embed the Detail Mesh into it. **Note: Cut and remove the Detail Mesh, which covers the bottom edge of the aggregate material in the Dryvit Vent Assembly.**
- D. Where Corner Mesh is specified for additional impact resistance at outside corners, the Corner Mesh should be embedded in the base coat mixture and allowed to set prior to installing the overall reinforced base coat over the face of the wall.
- E. Corners of all openings such as windows, doors, and mechanical equipment shall be reinforced with an additional piece of Detail mesh placed diagonally to the opening as shown below.



- F. Prior to installing the reinforcing mesh it should be inspected to ensure that it has been furnished by Dryvit Systems Canada
- G. Dryvit reinforcing meshes are available in the following widths and lengths:
 1. Standard - 1.2 m x 45.7 m (48 in x 150 ft); 1.8 m x 45.7 m (72 in x 150 ft)
 2. Standard Plus, Intermediate® - 1.2 m x 45.7 m (48 in x 150 ft)
 3. Panzer® 15 - 1.2 m x 22.9 m (48 in x 75 ft)
 4. Panzer 20 - 1.2 m x 22.9 m (48 in x 75 ft)
 5. Corner - 235 mm x 45.7 m (9 1/4 in x 150 ft)
 6. Detail® - 241 mm x 45.7 m (9 1/2 in x 150 ft)
- H. Installation of Dryflex base coat in high exposure areas such as sloped surfaces, window sills, etc.
 1. Mix the Dryflex material as described in Section I.A.
 2. Using a stainless steel trowel, apply the Dryflex mixture on the surface of the insulation board in a uniform thickness of approximately 2.4 mm (3/32 in). Apply the Dryflex continuously over the sloped surface and continue minimum 150 mm (6 in) onto the vertical areas.
 3. Immediately place the reinforcing mesh against the wet Dryflex mixture. With the curve of the mesh against the wall, trowel from the center to the edges, avoiding wrinkles, until the mesh is fully covered and not visible. The overall minimum base coat thickness shall be sufficient to fully embed the reinforcing mesh. The recommended method is to apply the base coat in two (2) passes.
 4. Allow the Dryflex to cure a minimum of 24 hours or until dry.

- I. Base Coat application (single layer of Standard, Standard Plus or Intermediate Reinforcing Mesh).
 1. Using a stainless steel trowel, apply the Genesis or Primus base coat mixture on the 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). **Note: The reinforcing mesh may be installed either vertically or horizontally.**
 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 covered and not visible. The overall minimum base coat thickness shall be sufficient to fully embed the Reinforcing Mesh. The recommended method is to apply the base coat in two (2) passes.
 3. Install the mesh continuously around corners with no laps occurring within 200 mm (8 in) of a corner. Lap all edges of reinforcing mesh a minimum of 64 mm (2 1/2 in). **Tip: Corners and edges normally require light strokes with a small damp brush to smooth out irregularities. Dip brush in water and shake out excess water before brushing on the wall.**
 4. Protect completed work from water penetration and run-off.
 5. Allow the base coat to cure a minimum of 24 hours or until dry.
- J. Panzer Mesh base coat (Panzer 15 or Panzer 20 used in conjunction with Standard or Standard Plus Reinforcing Mesh).
 1. Using a stainless steel trowel, apply the Genesis or Primus base coat mixture on the entire surface of the insulation board to an area slightly larger than the width and length of a piece of Panzer mesh to a uniform thickness of approximately 3.2 mm (1/8 in).
 2. Immediately place the Panzer mesh against the wet Genesis or Primus Base material mixture. With the curve of the mesh against the wall, trowel from the center to the edges until the bare mesh is fully covered and not visible. **Caution: Do not lap the Panzer mesh. Adjacent pieces are to be tightly butted.**
 3. Continue in the same manner until the entire area requiring Panzer mesh is covered.
 4. Protect completed work from water penetration and run-off.
 5. Allow the Panzer base coat to cure a minimum of 24 hours prior to applying Dryvit's Standard or Standard Plus reinforcing mesh.
 6. Apply the second layer of reinforcing mesh in accordance with Section V.I.1 through 5. Offset the edges of the Standard or Standard Plus reinforcing mesh from the edges of the Panzer mesh a minimum of 200 mm (8 in). **Tip: If Panzer Mesh is installed horizontally, we recommend the Standard or Standard Plus mesh be installed vertically and vice versa.**

VI. Dryvit Finish Application

- A. The following Dryvit finishes are available for use as part of the Outsulation MD 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, and Weatherlastic Adobe™.
 3. Medallion Series PMR™ (Proven Mildew Resistance)
 - a. Quarzputz, Sandblast, Sandpebble, Sandpebble Fine, and Freestyle.
 4. Specialty Finish
 - a. Ameristone, Stone Mist, Custom Brick.
- B. Prior to applying the Dryvit finish, the base coat shall have cured a minimum of 24 hours and shall be dry and hard. Cure time may be longer depending on environmental conditions.
- C. Inspect the base coat for any irregularities such as trowel marks, board lines, rough corners and edges, proper reinforcing mesh embedment as well as presence of efflorescence. **Note: Correct all irregularities prior to applying the Dryvit finish.**
- D. Application
 1. General:
 - a. **Important:** All Dryvit finishes must be installed continuously to a natural break such as corners, expansion joints, or tape line. Mechanics must maintain a wet edge. Sufficient personnel and scaffolding must be provided to continuously finish a distinct wall area or otherwise cold joints will result. Scaffolding must be spaced a minimum of 460 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, 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 mechanic must use the same type tool and hand motion to match the texture of the mechanics above, below and on each side. Use finish from a single batch number whenever possible.

2. Quarzputz, Sandblast, and Weatherlastic Quarzputz

- a. Mix the Dryvit finish as described in Section I.B.
- 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 VII for proper preparation of sealant joints.**
- c. The texture is achieved by uniform hand motion and/or tool that produces the texture to match the approved sample. Each mechanic 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 I.B.
- 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 VII for proper preparation of sealant joints.**
- d. The texture is achieved by a uniform hand floating motion with a clean stainless steel trowel; wipe the trowel and wet it lightly. Apply light pressure in a circular motion.

4. Freestyle

- a. Mix the Dryvit finish as described in Section I.B.
- b. Using a clean, stainless steel trowel, apply the Freestyle finish on the base coat in a thickness not 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 other aesthetically pleasing 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. Mix the Adobe finish material as described in Section I.B.
- c. Using a stainless steel trowel, apply a leveling coat of Adobe to the wall surface. Allow the Adobe finish to take-up.
- d. Using a stainless steel trowel, apply a second coat of Adobe 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 VII for proper preparation of sealant joints.**

6. Ameristone

- a. Apply Ameristone finish in accordance with Ameristone Application Instructions, DSC142. **Caution: Do not apply Ameristone in sealant joints. Refer to Section VII for proper preparation of sealant joints.**

7. Stone Mist

- a. Apply Stone Mist finish in accordance with Stone Mist Application Instructions, DSC420. **Caution: Do not apply Stone Mist in sealant joints. Refer to Section VII for proper preparation of sealant joints.**

8. Custom Brick

- a. Refer to Dryvit Custom Brick Application Instructions, DSC154 and DSC214, for complete usage instructions. **Caution: Do not apply Custom Brick in sealant joints. Refer to Section VII for proper preparation of sealant joints.**

E. Coatings and Primers

1. Demandit and Color Prime

- a. Mix to a smooth homogeneous consistency in accordance with Section I.B.
- b. Apply with a brush, roller, or airless spray equipment.

- c. When applying with a roller, a maximum 19 mm (3/4 in) nap, polyester or polyester blend with nylon or lambswool, with beveled ends and a phenolic core is recommended. A 460 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 the Demandit to dry on roller covers. Roller covers with dried coating do not apply the coating evenly.**
2. Revyvit
- a. Mix the Revyvit to a smooth homogeneous consistency in accordance with Section I.B.
 - b. Apply the Revyvit with a brush or 13 mm - 16 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 surfaces or when there is a contrast of colors. 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 applied over existing Dryvit Finishes. The degree of change is a function of the thickness and the number of coats of Revyvit.**
3. Weatherlastic Smooth
- a. Mix the Weatherlastic Smooth to a smooth, homogeneous consistency in accordance with Section I.B.
 - b. Brush application
 - 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. Under average drying conditions, 21 °C (70 °F), 50% R.H, two (2) hours drying time between coats should be adequate.
 - c. Roller Application
 - 1) A minimum 250 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.
 - 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 gal) of coating per minute.
 - 3) Material hose should be minimum 12 mm (1/2 in) inside diameter for spraying coating through 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 1 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. Under average drying conditions, 21 °C (70 °F), 50% R.H, two (2) hours drying time between coats should be adequate.

VII. Sealant Joint Preparation

- A. All sealant joints shall be prepared with either Dryvit Demandit or Color Prime.

1. Stir Demandit or Color Prime to a smooth, homogeneous consistency.
2. Apply Demandit or Color Prime with a brush on each side of the joint.
3. Allow the Demandit or Color Prime to dry a minimum of 48-72 hours prior to sealing with recommended sealant as listed in DSC153.

VIII. Maintenance

A. Surface Damage

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

B. General Cleaning

1. Prewet the soiled area with clean water and wash with the following solution:
 - a. 3.8 liters (1 gal) of clean, warm water.
 - b. 236 ml (1 cup) of Trisodium Phosphate (TSP).
2. Apply the cleaning solution using either 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 .6 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 Canada if you have any questions.

C. Mildew or algae growth

1. Protect adjacent materials and vegetation.
2. Prewet the affected area with clean water and wash with the following solution:
 - a. 1 Gallon of clean, warm water.
 - b. 1 Cup of Trisodium Phosphate (TSP).
 - c. 1 Quart of 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 75 mm (3 in) around the damaged area. Use an aluminum oxide disk or belt, 20 grit.
- B. Cut out all remaining insulation board carefully.
- C. Inspect the Backstop air barrier and sheathing and repair as necessary.
- D. Cut a piece of insulation board to fit tightly into the damaged area. If the removed piece of insulation board contains drainage grooves, replace with a similar piece and align grooves with the grooves in the existing board. Sand the edges of the insulation board for a precise fit.
- E. Adhere the insulation board to the substrate using Primus or Genesis. Make sure that the new insulation board is flush with the surrounding insulation board.
- F. 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).
- G. Apply the Genesis 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 wet base material mixture.

- H. Using a small damp brush, smooth out irregularities and feather the edge of the base material mixture. The reinforcing mesh must be totally embedded in the wet mix. When completed, the base coat should be recessed approximately 1.5 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.
- I. If necessary, again, precisely mask the surrounding existing finish with masking tape.
- J. Install the new finish over the patch area and texture to match the surrounding finish.
- K. Allow the finish to dry for a short period of time depending on weather conditions. Remove the masking tape.
- L. 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 can not be guaranteed.**

DISCLAIMER

Information contained in this document conforms to standard detail and product recommendations for the installation of the Dryvit Outsulation MD System products as of the date of publication of this document and is presented in good faith. Dryvit Systems Canada 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 Canada
129 Ringwood Drive
Stouffville, Ontario
Canada L4A 8A2
1-800-263-3308

** The Trained Contractor Certificate indicates certain employees of the company have been instructed in the proper application of Dryvit products and have received copies of Dryvit's Application Instructions and Specifications. The Trained Contractor Program is not an apprenticeship or endorsement. Each trained contractor is an independent company experienced in the trade and bears responsibility for its own workmanship. Dryvit Systems Canada assumes no liability for the workmanship of a trained contractor.

Dryvit Systems Canada
129 Ringwood Drive
Stouffville, Ontario
Canada L4A 8A2
1-800-263-3308
www.dryvit.com



REVISION SUMMARY

DATE	SUMMARY
March 27, 2008	Report issued to client