

# OUTSULATION<sup>®</sup> RAIL SYSTEM



An Exterior Wall Insulation and Finish System  
with Built-in Moisture Drainage Cavity

**DUK 664**

## Outsulation<sup>®</sup> Rail System Application Instructions

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## SYSTEM APPROVALS

The Dryvit Outsulation Rail System is the subject of a wide range of third party certification and approval schemes from the UK and Europe's leading Certification and Approval bodies.

Our comprehensive portfolio of testing and approvals provide users, architects, specifiers and building control additional reassurance and peace of mind that the system meets the relevant requirements of the Building Regulations, latest product standards and confirms that the system is fit for purpose and provides a durable construction solution.

### BBA approval

BBA Certificate 98/3548 – Dryvit External Wall Insulation Systems - Product Sheet 6 - Dryvit Outsulation Rail System.



For further details on the full scope of these approvals contact Dryvit UK Ltd.

## LIST OF DRYVIT BROCHURES AND PUBLICATIONS REFERENCED IN THIS DOCUMENT

Product type	Product name	Data sheet reference
Base coats	Genesis	DS.EN.04.50.03
	Dryflex	DS.EN.04.50.11
	Genesis DM Plus (grey and white)	DS.EN.04.50.15
Levelling and repair	RapidPatch	DS.EN.04.50.20
Primers	Primax	DS.EN.04.51.01
	Color Prime	DS.EN.04.51.02
	Color Prime S	DS.EN.04.51.03
	Primesil	DS.EN.04.51.05
Finishes	TR	DS.EN.04.52.05
	PMR	DS.EN.04.52.08
	SLK	DS.EN.04.52.11
	HDP	DS.EN.04.52.13
	FD PMR	DS.EN.04.52.14
	Drytex	DS.EN.04.53.01
	Dash Receiver	DS.EN.04.53.08
	Weatherlastic Finishes	DS.EN.04.54.10
Speciality finishes	Ameristone	DS.EN.04.52.01
	TerraNeo	DS.EN.04.52.02
	Stone Mist	DS.EN.04.52.03
	Stone Mist T	DS.EN.04.52.04
	Custom Brick	DS.EN.04.52.09
	Skimit	DS.EN.04.52.10
	Limestone	DS EN 04 52 16
	Drytex WOOD Effect System	DS.EN.04.53.03
	Brick Effect	DS.EN.04.53.07
	Reflectit	DS.EN.04.54.05
	Tuscan Glaze	DS.EN.04.54.06
	Weatherlastic Adobe	DS.EN.04.54.10
Coating and sealers	Silstar	DS.EN.04.54.01
	Demandit Smooth	DS.EN.04.54.02
	Colorsil	DS.EN.04.54.03
	Demandit Sanded	DS.EN.04.54.08
	Weatherlastic Smooth	DS.EN.04.54.09
	SealClear	DS.EN.04.54.11
	HDP Water-Repellent Paint (HyDroPhobic)	DS.EN.04.54.20
Sealer for openings and joints	AquaFlash	DS.EN.04.56.10
Air and moisture barriers	Backstop NT – Smooth and Texture	DS.EN.04.56.03
Mesh	Reinforcing mesh	DS.EN.04.56.01
Insulation and fire breaks	Square Edge EPS (White)	DS.EN.04.56.07.1
	Square Edge LL EPS (Grey)	DS.EN.04.56.07.2
	Mineral Wool HD (fire break)	DS.EN.04.56.08.2
	Dryvit Fire Stop	N/A

Product type	Product name	Data sheet reference
Ancillary items	FF197 Expanding Foam	Available on request
	PU010 Adhesive Foam	
	AP Adhesive	
	Borocol Rh5 - Biocide	
	Ventilated Starter Track	
	Track Connectors	
	Drainage Deflection Bead	
	Corner Bead with Mesh	

Dryvit reference documents	Dryvit Information Sheets	DIS Series
	Technical Guidance Notes	GN Series
	AquaFlash Installation Guide	DUK 176
	Details for steel framing systems (SFS)	DUK 663a
	Details for timber framing systems	DUK 663b

## I. General installation requirements

### A. Project conditions

#### 1. Health and safety

- a. Always wear appropriate PPE for the task undertaken including the use of suitable protective clothing, dust mask and eye protection where specified.
- b. The use of barrier creams provides additional skin protection.
- c. Refer to individual product Safety Data Sheets (SDS) for full information.

#### 2. Storage

- a. All products should be stored off the ground, in sealed packaging and protected at all times from rain or water exposure.
- b. Products should be stored away from prolonged exposure to direct sunlight.
- c. Maximum storage temperature shall not exceed 38°C. Minimum storage temperature shall not be less than 4°C except for the following products:

Product	Minimum storage temperature (°C)
Demandit Smooth and Demandit Sanded	7°C
Ameristone, TerraNeo and Limestone	10°C

- d. Dryvit Square Edge EPS (White) and LL EPS (Grey) shall be stored out of direct sunlight and away from highly flammable substances.
- e. Refer to individual product data sheets for full storage information.

#### 3. Application

- a. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided.
- b. All materials shall be protected from inclement weather until they are completely dry.
- c. Before application of Dryvit products, the air and surface temperatures must be 4°C or above and must remain so for a minimum of 24 hours or until the product is dry, except for the following products:

Product	Minimum air and surface temperature (°C)
FD PMR	1°C
Demandit Smooth, Demandit Sanded, Stone Mist and Stone Mist T	7°C
Ameristone, TerraNeo and Limestone	10°C

- d. These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours (48 hours for Ameristone, TerraNeo and Limestone) thereafter, or until the products are completely dry.
- e. Cool, humid conditions may extend the required drying time.
- f. Refer to individual product data sheets for full application information.

## **B. Inspection of substrate**

### **1. General**

- a. The system is suitable for use on solid or framed constructions. Common substrates include, in-situ concrete, pre-cast concrete, blockwork, brick, render and no-fines concrete and a wide range of sheathing carried on both timber and light gauge steel frames. Dryvit UK should be consulted for further information on acceptable substrates.
- b. The substrate must be clean, dry, structurally sound, free of loose material, voids, projections, hot spots, release agents, coatings, or other materials that may affect adhesion.
- c. Wall sheathing must be installed in accordance with manufacturers requirements and securely fastened in accordance with the contract documents.
- d. There shall be no planar irregularities greater than 6 mm within any 1.2 m radius. Any irregularities over this limit can be accommodated using appropriately sized spacers. Further guidance on reprofiling is available from Dryvit UK Ltd.
- e. Wood based sheathing requires a 3.2 mm gap between adjacent sheets.

## **C. Flashing at system terminations**

Refer to the Dryvit Outsulation Rail System Installation Details for further information and guidance on all standard system details.

### **1. General**

- a. Ensure that flashing is installed in accordance with the relevant installation requirements and the contract documents. The preparation of openings should be considered for steel framing systems (SFS) and timber frame substrates.

### **2. Transition at roof lines**

- a. Ensure the roof has positive drainage, i.e. all runoff shall be directed to the exterior and away from the structure.
- b. Roof flashing shall be installed in accordance with industry guidelines, manufacturer's instructions and contract documents.
- c. Runoff diverters shall be installed in accordance with industry guidelines, manufacturer's instructions and contract documents. Attention must be paid to the eaves/chimney intersections and sloped roof/wall intersections.
- d. Hold the system a minimum of 200 mm above flat roofs.

### **3. Openings**

- a. Prior to the installation of windows/doors and other system components on to sheathed substrates, the heads, jambs and cills of all openings may be prepared with AquaFlash (or other approved flashing material). This product may also be used on solid substrates, refer to Dryvit UK.
- b. Continuous flashing at heads of openings are specified and installed as indicated in the contract documents and Dryvit Outsulation Rail System Installation Details.
- c. For windows or doors that do not have integral flashing, a field-applied flashing shall be installed in accordance with industry guidelines, manufacturer's instructions and contract documents.
- d. Cill piece shall extend to the inside face of wall and continue a minimum of 300 mm up at the jambs.
- e. Individual windows that are ganged to make multiple units require that the heads be continuously flashed and the joints between the units are fully sealed.

#### 4. **Roof junctions and decks**

- a. Wood decks and roof junctions shall be properly flashed prior to system application.
- b. Where the system terminates above poured decks, patios, landings, etc. they must be properly sloped and waterproofed to direct water away from the walls.

#### 5. **Utilities**

- a. Provisions must be made to ensure that the system terminates properly at lighting fixtures, electrical outlets, hose bibs, dryer vents, satellite dishes etc.

**Note: It is the responsibility of the client/main contractor to assess existing extract ducts and extend the flues. Any works to boilers should be carried out by a registered Gas Safe engineer.**

#### 6. **Grade level terminations**

- a. The system shall be terminated a minimum of 150 mm above finished grade. Refer to the Dryvit Outsulation Rail System Installation Details for above and below grade termination guidance.

### **D. Sealants/seals**

#### 1. **General**

- a. Dryvit materials shall be completely dry prior to installation of sealant materials (typically 48 to 72 hours). Humid or cool conditions may further extend drying times.
- b. For compressible seals refer to the manufacturers installation instructions.
- c. Substrate to receive frame seals should be free of contamination and installed in accordance with manufacturers installation instructions.

### **E. Wind loading**

#### 1. **General**

- a. Dryvit UK Ltd are responsible for the design of the EWI cladding system and the design of its attachment to the wall.
- b. Prior to system installation, the maximum design wind pressure (load) for the structure must be verified in accordance with national regulations and requirements. Dryvit UK Ltd will undertake fixing pull out and/or pull-off tests and undertake a wind loading assessment in accordance with BS EN 1991-1-4 or alternatively if wind loadings are supplied by a third-party engineer, will use these wind loads to verify the adequacy of the fixing design. Based on these calculations, the method of fixing and the required fixing pattern can be determined. The fixing recommendations require approval from the Design Engineer before the commencement of the installation.
- c. Dryvit UK Ltd will also provide information on the system dead weights to allow an independent check of the existing substrate wall by the clients engineer.
- d. The Main Contractor and/or Architect and/or Owner must be notified the of any discrepancies from the approved method. Installation shall not proceed until any unsatisfactory conditions are corrected.



- e. Under the Building Regulations Approved Document A – Structure, there is an obligation placed on the client such that they must provide supporting evidence as part of the Building Regulations application to justify that the building is capable of transferring dead, imposed and wind loads to the ground safely allowing for any additional loadings that are imparted to the structure as a result of the new EWI system being applied. This structural check does not form part of the Dryvit UK Ltd's scope of works and therefore the client should appoint a suitably qualified structural engineer to be responsible for the global stability of the building and ensure that this assessment is included within the building regulation application.
- f. Dryvit UK Ltd will not accept any responsibility for any failure caused to the EWI system as a result of any failures in supporting structure and foundations however it is caused.

## **II. Materials required for the installation of the Outsulation Rail System**

### **A. Materials supplied by Dryvit UK Ltd.**

The project specification will identify the project specific materials necessary to complete the application of the system.

1. AquaFlash and AquaFlash Mesh.
2. Backstop NT Smooth and Backstop NT Texture and Grid tape.
3. Drainage deflection bead.
4. Starter Track (vented for SFS and ventilated for timber frame)
5. Track – holding, termination, and T-Splines.
6. Rail and sheathing board fasteners.
7. Dryvit Square Edge EPS (White) with grooves, 500 mm x 500 mm, meeting the requirements of EN 13163, Euroclass E, fire retardant grade, Grade 70E.
8. Dryvit Square Edge LL EPS (Grey) with grooves, 500 mm x 500 mm meeting the requirements of EN 13163, Euroclass E, fire retardant grade, Grade 70E or 100E.
9. EPS packers 600 mm long x 15 mm or 20 mm in a range of thicknesses to suit the cavity width.
10. Dryvit Expanding Foam: FF197 fire retardant expanding foam.
11. Dryvit Firestops to form fire breaks
12. Mineral wool fire break HD Slab meeting the requirements of EN 13162, Euroclass A1.
13. Base coats: Genesis, Genesis DM Plus, RapidPatch and Dryflex.
14. Dryvit reinforcing meshes: Standard Plus 150, Standard Plus 160, Standard Plus 200, Intermediate 370, Panzer 260, Panzer 500, Panzer 700, Corner and Detail Mesh.
15. Dryvit primers: Color Prime, Color Prime S, Prime Sil and Primax.
16. Dryvit finishes; PMR, FD PMR, HDP, SLK, Brick Effect, Custom Brick, Dash Receiver and Dash Aggregate, Drytex, Drytex WOOD Effect System, Skimit, Reflectit, Tuscan Glaze, Wood Glaze, Ameristone, TerraNeo, Stone Mist, Stone Mist T, Limestone, TR, and Weatherlastic.
17. Dryvit coatings: Demandit Smooth, HDP Water-Repellent Coating, Silstar, Demandit Sanded, Weatherlastic Smooth, ColorSil and SealClear.
18. Fixtures and fittings – Dryvit Spiral Anchors, Dryvit Anchor Point Sleeves and other innovative fixtures and fitting solutions compatible for use with Dryvit External Wall Insulation Systems.

**B. Materials supplied by others****1. General**

- a. Steel stud or timber framing and sheathing boards
- b. Cement meeting the requirements of EN 197-1 type CEM I or CEM II (grey or white)
- c. Clean potable water
- d. Joint sealant
- e. Compressible polyurethane joint sealing tape – Contact Dryvit for information

**III. Mixing Instructions****A. General**

Warning: Under no circumstances shall, additives such as sand, aggregates, rapid binders, anti-freeze, accelerators, etc. be added to any Dryvit materials. Such additives will adversely affect the performance of the material and void all warranties.

Due to shipping and storage, there may be some separation of bucket materials. Prior to use, remix the material thoroughly using a Dryvit recommended mixing paddle, powered by a slow speed drill.

Buckets should be opened using a utility knife or Dryvit Bucket Opener.

For full mixing instructions follow the instructions given on the relevant product data sheet.

**B. Opening preparation materials****1. AquaFlash**

- a. AquaFlash is supplied ready to use, remix the contents of the pail thoroughly prior to application.

**C. Air and moisture barrier****1. Backstop NT Smooth and Backstop NT Texture**

- a. Backstop NT is supplied ready to use, remix the contents of the pail thoroughly prior to application.

**D. Base coat material****1. Genesis**

- a. Mix the material thoroughly with a Dryvit recommended mixing paddle, powered by a slow speed drill. Do not over-mix or use other types of mixing blades as air entrapment and product damage may occur resulting in workability and performance problems.
- b. Pour half of the freshly mixed material, approximately 11.5 kg, into a clean plastic container.
- c. Add 11.5 kg (approximately a half of a bag) of fresh, lump free cement meeting the requirements of EN 197-1 type CEM I or CEM II. Either grey or white cement is acceptable. Add cement slowly and mix thoroughly. Do not add large quantities of cement at one time.

- 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 wetted and mixed. Do not over-water as this will degrade the performance and promote efflorescence.
- e. Add one litre of water prior to adding the cement. Additional water may be added to adjust workability.
- f. Mix the Primus or Genesis material with cement thoroughly; then wait five minutes and mix again to break the initial set.
- g. Retempering with a small amount of water is permissible provided the mixture has not set. Genesis typically requires slightly more water than Primus.
- h. The mixed product has a pot life similar to any cement based material.
- i. Mix only as much material as can be conveniently used during a work period.

**2. Genesis DM Plus (grey and white)**

- a. To a clean 20 litre pail, add 5.5 to 6.0 litres of clean potable water.
- b. Add the Genesis DM Plus slowly while constantly mixing with a Dryvit recommended mixing paddle, powered by a slow speed drill.
- c. Slowly add powder and mix for five minutes until homogenous.
- d. Allow to stand for five minutes then re-mix, adding a small amount of water if required.
- e. The adhesive may stiffen on standing.
- f. Re-mix the product to regain a workable consistency, but do not add more water.
- g. Material must be free of lumps before applying.

**3. RapidPatch (only use for small areas of repair).**

- a. To a clean 5 or 10 litre pail add 1.3 to 1.5 litres of clean potable water.
- b. Add the RapidPatch slowly while constantly mixing with a Dryvit recommended mixing paddle, powered by a slow speed drill.
- c. Thoroughly mix until uniformly wetted, adjusting consistency with a small amount of water or RapidPatch.
- d. Allow to stand for four to five minutes.
- e. Retemper, adding a small amount of water if necessary.
- f. Material must be free of lumps before using.
- g. The pot life of RapidPatch is 20 to 30 minutes dependent on temperature.

#### 4. **Dryflex**

- a. Pour half of the freshly mixed material, approximately 9.5 kg, into a clean plastic container.
- b. Add 9.5 kg (approximately a third of a bag) of fresh, lump free cement meeting the requirements of EN 197-1 type CEM I and CEM II. Either grey or white cement is acceptable. Add cement slowly and mix thoroughly with a Dryvit recommended mixing paddle, powered by a slow speed drill.
- c. Do not add large quantities of cement at one time.
- d. Do not over-mix or use other types of mixing blades as air entrapment and product damage may occur resulting in workability and performance problems.
- e. 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.
- f. Do not over-water as this will degrade the performance and promote efflorescence.
- g. Allow to stand for five minutes then re-mix, adding a small amount of water if required.
- h. The mixture has a pot life similar to any cement based material.
- i. Mix only as much material as can be conveniently used during a work period.

#### E. **Primers**

##### 1. **Color Prime, Color Prime S, Prime Sil and Primax**

- a. Primers are supplied ready to use, mix the material with a Dryvit recommended mixing paddle, powered by a slow speed drill to a homogeneous consistency.

#### F. **Finishes**

##### 1. **PMR - Quarzputz, Sandpebble 2, Sandpebble, Sandpebble Fine, Sandblast, Freestyle and Limestone.**

##### 2. **FD PMR - Quarzputz, Sandpebble and Sandpebble Fine.**

##### 3. **HDP - Quarzputz, Sandpebble, Sandpebble Fine, Sandblast, Freestyle and Limestone.**

##### 4. **Weatherlastic – Quarzputz, Sandpebble and Sandpebble Fine.**

##### 5. **SLK - Quarzputz, Sandpebble and Sandblast.**

##### 6. **TR - Quarzputz, Sandpebble 2, Sandpebble, Sandpebble Fine, Sandblast and Freestyle, Limestone.**

- a. Finishes are supplied ready to use, mix the material with a Dryvit recommended mixing paddle, powered by a slow speed drill to a homogeneous and uniform consistency.
- b. A small amount of clean potable water may be added to adjust workability.
- c. Always add the same amount of water to each pail within a given lot to avoid colour variation.

## 7. **Drytex**

- a. Carefully measure 5.0 to 6.0 litres of water into a plastic bucket for one 25 kg bag. Slowly add the powder and using a Dryvit recommended mixing paddle, powered by a slow speed drill, mix for five minutes until homogenous.
- b. Allow to stand for five minutes then re-mix prior to application.
- c. The render may stiffen on standing. Re-mix the product to regain a workable consistency, but do not add more water.

## 8. **Dash Receiver**

- a. Carefully measure 6.5 litres of water into a plastic bucket for one 25 kg bag. Slowly add powder and using a Dryvit recommended mixing paddle, powered by a slow speed drill, mix for five minutes until homogenous.
- b. Allow to stand for five minutes then re-mix.
- c. The render may stiffen on standing. Re-mix the product to regain a workable consistency, but do not add more water.

## G. **Speciality finishes**

### 1. **Brick Effect (Mortar coat and Face coat)**

- a. Carefully measure 5.0 to 6.0 litres of water into a plastic bucket for one 25 kg bag. Slowly add the powder and using a Dryvit recommended mixing paddle, powered by a slow speed drill, mix for five minutes until homogenous.
- b. Allow to stand for five minutes then re-mix prior to application.
- c. The render may stiffen on standing. Re-mix the product to regain a workable consistency, but do not add more water.

### 2. **Drytex WOOD Effect System**

- a. Carefully measure 6.5 litres of water into a plastic bucket for one 25 kg bag. Slowly add powder and using a Dryvit recommended mixing paddle, powered by a slow speed drill, mix for five minutes until homogenous.
- b. Allow to stand for five minutes then re-mix.
- c. The render may stiffen on standing. Re-mix the product to regain a workable consistency, but do not add more water.

### 3. **Ameristone, TerraNeo, Stone Mist, Stone Mist T, Limestone and Weatherlastic Adobe**

- a. Immediately before application, mix for one minute to ensure a uniform consistency using a Dryvit recommended mixing paddle powered by a slow speed drill. Do not overmix.

### 4. **Tuscan Glaze, WOOD Glaze and WOOD Glaze Matt**

- a. Immediately before application, mix Tuscan Glaze, WOOD Glaze and WOOD Glaze Matt with a Dryvit recommended mixing paddle powered by a slow speed drill to a homogeneous consistency.
- b. Continuously agitate the products throughout application to ensure good colour consistency.
- c. As an alternate, boxing of buckets is acceptable.

### 5. **Skimit (used with Reflectit)**

- a. Open the pail of Skimit and mix for approximately one minute using a Dryvit recommended slow speed drill and paddle.
- b. Small additions of water, up to 120 ml per pail, may be added as determined by temperature and applicator preference.

**6. Reflectit**

- a. Immediately before application, mix for one minute to ensure a uniform consistency using a Dryvit recommended mixing paddle powered by a slow speed drill. Do not overmix.

**7. Custom Brick**

- a. The mixing will depend on the basecoat or finishes selected, refer to the technical data sheet for full information.

**H. Coatings, sealers and smoothing coat**

**1. Demandit Smooth, Demandit Sanded, HDP Water-Repellent Paint (HyDroPhobic), Silstar and Weatherlastic Smooth**

- a. Immediately before application, mix for one minute to ensure a uniform consistency using a Dryvit recommended mixing paddle powered by a slow speed drill. Do not overmix.

**2. Colorsil and SealClear**

- b. Stir the material thoroughly before use.
- c. Continuously agitate the products throughout application to ensure good colour consistency.
- d. As an alternate, boxing of buckets is acceptable.

#### **IV. Preparation of openings, joint bridging and sheathing board jointing**

##### **A. Preparation of openings.**

###### **1. General**

- a. Consideration must be given as to whether the Outsulation Rail System is being installed with existing or new windows in either a set back or set forward position. Please refer to Dryvit Outsulation Rail standard details for further guidance.

##### **B. Preparation of rough openings**

###### **1. AquaFlash system option**

At discontinuities and terminations such as openings, expansion joints, tops of parapets, etc. AquaFlash must be installed to provide a continuous barrier from the air/water-resistive barrier/sheathing substrate onto the framing edges.

- a. Surface preparation
  - i. The surface to receive the AquaFlash System must be clean, dry, smooth and free of any condition that could adversely affect adhesion.
  - ii. Clean loose dust or dirt from the surface by wiping with a clean, dry cloth or brush.
- b. AquaFlash system application
  - i. Cut AquaFlash Mesh to the appropriate length of the opening plus an additional 100 mm so the mesh extends 50 mm past each jamb.
  - ii. Begin at the cill of an opening. Using a brush or 19 mm nap roller, apply a liberal coat of AquaFlash Liquid material to the air/water-resistive barrier/substrate surface.
  - iii. The AquaFlash System must extend to the interior face of the wall opening.
  - iv. Immediately lay the AquaFlash Mesh into the wet material and brush smooth adding additional material to completely embed the mesh.
  - v. Install the AquaFlash System at the jambs in the same manner overlapping onto the cill material a minimum of 50 mm.
  - vi. Install the AquaFlash System at the head overlapping the jamb pieces a minimum of 50 mm.
  - vii. Install diagonal “butterflies” consisting of AquaFlash Liquid and AquaFlash Mesh at each cill/jamb corner.
  - viii. As an alternative, preformed Dryvit AquaFlash Corners can be applied at each corner of the opening to reduce the number of field cuts required. The AquaFlash Corners are installed in the same manner as the AquaFlash Mesh.
  - ix. Allow material to set for approximately 15 minutes then apply a second liberal coat of AquaFlash Liquid and smooth out to ensure a continuous film free of voids, pinholes, or other discontinuities.
- c. Installation of AquaFlash over metal or PVC flashing materials
  - i. The AquaFlash System may be applied directly over clean galvanized, painted metal, or PVC flashing.
  - ii. Prepare rough opening as described in Section [IV.B](#).
  - iii. Install flashing material detailed in the contract documents.
  - iv. Clean the surface of the flashing to ensure that it is free of dirt, dust, oil, or other contaminants that may interfere with adhesion.
  - v. PVC products should be lightly abraded to break the surface skin and provide an adhesive key for the coating.
  - vi. Cut AquaFlash Mesh to the appropriate length of the opening plus an additional 100 mm so the mesh extends 50 mm past the end of each flashing.

- vii. Using a brush or 19 mm nap roller, apply a liberal coat of AquaFlash Liquid material to the flashing and adjacent air/water-resistive barrier/substrate surface.
- viii. Immediately lay the AquaFlash Mesh into the wet material and brush smooth adding additional material to completely embed the mesh.
- ix. Allow material to set for 15 minutes then apply a second liberal coat of AquaFlash Liquid and smooth out to ensure a continuous film free of voids, pinholes, or other discontinuities and allow to dry.

## 2. Backstop NT Texture option

- a. Surface preparation
  - i. The surface to receive the Backstop NT must be clean, dry, smooth and free of any other condition that could adversely affect adhesion.
  - ii. Remove loose dust or dirt from the surface by wiping with a clean, dry cloth or brush.
- b. Backstop NT Texture application
  - i. Backstop NT may be applied to the cill of the opening but it must also be covered with the AquaFlash System.
  - ii. Apply Grid Tape along the jambs and head of the opening as well as all sheathing joints that may intersect the opening and lap onto the face of the wall a minimum of 50 mm.
  - iii. Add additional pieces of Grid Tape at the inside corners of the opening to maintain continuity.
  - iv. Using a stainless-steel trowel apply Backstop NT Texture over the Grid Tape extending to the inside face of the opening and onto the face of the exterior sheathing a minimum of 150 mm.
  - v. Apply the AquaFlash System at cill in accordance with Section [IV.B.1](#).
  - vi. The AquaFlash System must extend up the jambs a minimum of 100 mm.
  - vii. Install the specified component (i.e. window, etc.) and associated flashings per manufacturer's instructions and contract documents.
  - viii. Apply Backstop NT Texture or Smooth to the remainder of the wall surface as described in Section [V.4](#) or [V.5](#) and lap over the previously installed material.



### 3. Cill pan flashings

- a. Cill pan flashings (Exposed)
  - i. Install a seamless pan flashing at all cill locations.
  - ii. The flashing shall extend between the framing members of the rough opening and shall be sized to protect the cill, sheathing and the surface of the Outsulation Rail System. It must include vertical legs at the back and sides to ensure weather protection.
  - iii. All flashing shall be continuous, have watertight seams, and shall be configured to shed all water to the exterior of the system.
  - iv. The flashing shall extend a minimum of 65 mm over the surface of the Outsulation Rail System.
- b. Cill pan flashing (Concealed) for use with nail-on-windows
  - i. Install a seamless pan flashing at all cill locations.
  - ii. The flashing shall extend between the framing members of the rough opening and shall be sized to protect the cill and sheathing. It must include vertical legs at the back and sides to ensure weather protection. It shall extend a minimum of 100 mm below the opening and have a sloped edge, which protects the top edge of the Outsulation Rail System.
  - iii. All flashing shall be continuous, have watertight seams, and shall be configured to shed all water to the exterior of the system.
  - iv. Insulation board shall be mechanically fastened over the flashing and secured into each framing member.

## C. Substrate expansion joint bridging

### 1. AquaFlash System

- a. The width of the AquaFlash Mesh must overlap each side of the joint by a minimum of 50 mm. Clean the joint to allow for the installation of the backer material. Install a closed cell polyethylene backer rod, sized a minimum of 50% larger than the joint width. Install so that the backer rod is recessed or projects a minimum of 6 mm from the wall surface.
- b. Using a brush or mini foam roller, apply a liberal coat of AquaFlash liquid material to the backer rod and adjacent substrate surface to the width of the AquaFlash Mesh.
- c. Immediately lay the AquaFlash Mesh into the wet material and brush smooth adding additional material to completely embed the mesh.
- d. Allow material to set for 15 minutes, then apply a second liberal coat of AquaFlash liquid and smooth out to ensure a continuous film free of voids, pinholes, or other discontinuities.
- e. Refer to the AquaFlash application instructions for full details.

## D. Sheathing board jointing (AquaFlash system or Backstop NT with Grid tape).

### 1. AquaFlash System

- a. Sheathing board gaps shall not exceed 6.5 mm and the surface must be flat within 6.5 mm in any 1.2 m radius.
- b. The width of the AquaFlash Mesh must overlap each side of the board joint by a minimum of 50 mm.
- c. Using a brush or mini roller, apply a liberal coat of AquaFlash liquid material to either side of the board joint adjacent surface to the width of the AquaFlash Mesh.

- d. Immediately lay the AquaFlash Mesh into the wet material and brush smooth adding additional material to completely embed the mesh.
- e. Allow material to set for 15 minutes then, apply a second liberal coat of AquaFlash liquid and smooth out to ensure a continuous film free of voids, pinholes, or other discontinuities.
- f. Refer to the AquaFlash application instructions for full details.

## 2. **Backstop NT Texture and Grid Tape**

- a. Sheathing board gaps shall not exceed 6.5 mm and the surface must be flat within 6.5 mm in any 1.2 m radius.
- b. Apply Grid Tape to overlap each side of the board joint and press firmly on to the substrate.
- c. Using a trowel or mini roller to apply a coat of Backstop NT Texture over the Grid Tape.
- d. Allow the material to set for a minimum of one hours or until dry to the touch.
- e. If required, apply a second coat to ensure a continuous film free of voids, pinholes, or other discontinuities.
- f. Refer to the Backstop NT Texture application instructions for full details.

## **V. Air/Water-Resistive Barrier Application**

### 1. **General**

- a. Ensure that the wall surface and ambient temperature are above and rising at the time of application.
- b. Do not apply the Dryvit materials in the rain.
- c. The underlying wall materials, joint sealing materials and substrate surface must be dry prior to applying the air/water-resistive barrier.

### 2. **Sheathing substrates**

- a. Prior to applying the Backstop NT products, check to ensure that:
  - i. The suitability of the sheathing is confirmed with Dryvit UK Ltd.
  - ii. The sheathing is structurally sound, free of loose material, voids, projections or other conditions that may interfere with the installation of the Outsulation Rail System.
  - iii. The sheathing is clean, dry, and free of grease, oil, paint and other foreign material.
  - iv. All sheathing board joints are sealed in accordance with Section [V.4](#) or [V.5](#).
  - v. Prior to application, all fastener heads shall be spot covered, using a trowel, with Backstop NT Texture and left to set for two hours.
  - vi. Exterior grade gypsum sheathing facing paper shall not show signs of deterioration and shall be firmly bonded to the core.
  - vii. Plywood moisture content shall not exceed 19 % as measured by a probe type moisture meter.
- b. There are no planar irregularities greater than 6 mm within any 1.2 m radius.
- c. Sheathing with gaps or damage exceeding 6 mm in any one direction must be replaced.
- d. Any discrepancies must be notified the general contractor and/or architect and/or owner. Work must not proceed until all unsatisfactory conditions have been corrected.

### 3. Concrete or masonry substrates

- a. Prior to applying the Backstop NT Texture over a concrete or masonry substrate, check to ensure that:
  - i. All cracks shall be repaired using appropriate procedures and materials.
  - ii. The substrate is structurally sound, free of loose material, voids, projections or other conditions that may interfere with the installation of the Outsulation Rail System.
  - iii. The substrate is clean, dry, free of grease, oil, paint, form release agents, efflorescence and other foreign materials that may inhibit adhesion.
  - iv. There are no planar irregularities greater than 6 mm within any 1.2 m radius.
- b. Mortar joints that are not struck flush or heavily textured masonry units shall be skim coated with Dryvit Genesis or Genesis DM Plus prior to the application of Backstop NT Texture.
  - i. With a stainless-steel trowel, apply a coat of the Genesis or Genesis DM Plus mixture over the substrate to fill the mortar joints and surface texture to provide a uniform smooth surface for the application of the Backstop NT Texture.
  - ii. Allow the skim coat to completely dry prior to applying the Backstop NT Texture.
- c. Backstop NT Smooth is not recommended for use over concrete and masonry substrates.

### 4. Backstop NT Smooth application

- a. Backstop NT Smooth can be applied using a roller or sprayed and back-rolled over the approved sheathing substrates.  
Roller application
  - i. Using a 19 mm nap roller, apply the Backstop NT Smooth over the entire wall surface, including previously treated joints.
  - ii. If the roller pulls material back out of the sheathing joints, it indicates that the joint material is not sufficiently dry.
  - iii. Backstop NT Smooth material should be applied in a uniform, continuous film at the recommended coverage rate.
  - iv. Sheathing substrates with a surface texture or high porosity will require additional material.
- b. Spray application - Backstop NT Smooth may be applied to the wall using texture spray equipment and back-rolled using a 19 mm nap roller.
  - i. Before smoothing with the roller, check the wall to ensure that the Backstop NT Smooth is continuous and spot any visible voids with additional Backstop NT Smooth material.
- c. On completion check to that ensure a continuous film is achieved free of voids, pinholes, or other discontinuities. Any visible voids or damage to the film should be repaired using a spot application of the Backstop NT Smooth material.

## 5. Backstop NT Texture application

- a. Backstop NT Texture can be applied using a roller, trowel or hopper gun spray equipment over approved substrates.
- b. Backstop NT Texture should be applied at the recommended coverage rate to achieve a continuous film at a minimum dry film thickness of approximately 1.2 mm.
- c. Roller Application
  - i. Use a coarse, open-cell foam roller cover with a 10 mm foam nap. Apply a uniform, continuous film of Backstop NT Texture over the entire surface of the sheathing, concrete or masonry, including the previously treated joints and fixing holes.
  - ii. For concrete and masonry, ensure that a continuous film of uniform thickness is applied across the entire surface and across mortar joints. A minimum two coats are required allowing a minimum of two hours between coats.
  - iii. While the Backstop NT Texture is still wet, using a trowel or spatula, smooth out the Backstop NT Texture around all window and door perimeters and other areas.
  - iv. Substrates with a surface texture or high porosity will require additional material.
- d. Trowel Application
  - i. Using a stainless-steel trowel, apply a continuous coating of Backstop NT Texture material onto the entire surface. The material should be applied at a smooth, uniform, continuous film approximately equal to the thickness of the aggregate.
  - ii. Spotting of fasteners is not necessary when applying Backstop NT Texture using a trowel.
- e. Spray Application
  - i. Using a hand-held hopper gun or other suitable spray equipment, spray a layer of Backstop NT Texture onto the wall surface. Using a coarse, open-cell foam roller cover with a 9.5 mm foam nap, roll the material to create a smooth continuous film.
  - ii. While Backstop NT Texture is still wet, using a trowel or spatula, smooth out the Backstop NT – Texture around all window and door perimeters and other areas.
  - iii. Substrates with a surface texture or high porosity will require additional material.
- f. On completion check to that ensure a continuous film is achieved free of voids, pinholes, or other discontinuities. Any visible voids or damage to the film should be repaired using a spot application of the Backstop NT Texture material.

## **VI. Insulation board installation**

### **A. System terminations**

- a. Attach Detail mesh around the perimeter of all openings, penetrations, expansion joints and other system terminations by applying a ribbon of the adhesive mixture on the substrate and embedding the Detail mesh into the wet mixture.
- b. Position the Detail mesh so that a minimum of 65 mm is left to extend onto the insulation board. Keep the mesh, which is not embedded, clean.
- c. Ensure the mesh is of sufficient width to wrap around the thickness of the board and create a minimum 65 mm overlap with the main mesh. If the width of the mesh required exceeds the width of the Detail mesh, Standard Plus 150 mesh can be cut to the required dimensions.
- d. An EPS packer strip 20 mm thick is installed at all system terminations by bonding it in place with a ribbon of adhesive over the backwrap detail. The outer edge of the packer is aligned flush with the termination location. Alternatively, on timber frame the backwrap mesh may be stapled to the substrate and the EPS packer bonded to the substrate using AP Adhesive.
- e. Where an EPDM is present around opens it is still important to backwrap the insulation using the Detail mesh so it is adhesively fixed back to the substrate. As the adhesive and mesh will not form a suitable bond to the membrane, it is extended over and past the EPDM by 50 mm before being adhesively fixed back to the substrate.

### **B. Inspection of the insulation board**

- a. Prior to installing the insulation board, it shall be checked to ensure that it is Dryvit Square Edge EPS (White) grooved or Dryvit Square Edge LL EPS (Grey) grooved insulation conforming to EN 13163, Euroclass E, fire retardant grade, dimensions 0.5 m x 0.5 m by the specified thickness (minimum 50 mm) and was obtained from Dryvit UK Ltd.
- b. Any insulation board not meeting the above requirements should be rejected and not installed.

### **C. Dryvit starter track**

- a. Dryvit Starter Track shall be installed above the DPC at the base of the wall.
- b. For vented and drained steel frame substrates the Dryvit Ventilated Starter Track with a ventilation rate of 150 mm<sup>2</sup> per linear metre shall be installed. For ventilated timber frame substrates, the Dryvit starter track with a ventilation rate of 520 mm<sup>2</sup> per linear metre shall be installed.
- c. The starter track must be sized to suit the thickness of EPS insulation selected.
- d. Using a laser level or chalk line, strike a level line at the base of the wall that coincides with either the top or bottom of the upstand leg.
- e. Position the track on the line and press firmly against the substrate. Secure the track using corrosion resistant fasteners at approximate 300 mm centres attached into the underlying substrate or framing members.
- f. Fixed to suit the substrate type and loading requirements.
- g. Do not overlap tracks, they shall be butted tightly and jointing clips used to maintain continuity of the track.
- h. A continuous front drip section at corners can be achieved by cutting the rear upstand leg and base of the track to facilitate bending to the required angle.
- i. Using a brush or mini roller apply a continuous band of AquaFlash liquid a minimum of 50 mm above and overlapping onto the track. Immediately lay AquaFlash Mesh into the wet material and brush smooth adding additional material to completely embed the mesh.

- j. Allow material to set for 15 minutes then apply a second liberal coat of AquaFlash liquid and smooth out to ensure a continuous film free of voids, pinholes, or other discontinuities to provide a seal. Refer to AquaFlash application instructions for further application details.

#### **D. Installation of the Drainage deflection bead at heads of all openings**

- a. Measure and cut the bead so that it extends 150 mm beyond both edges of the opening as shown in Outsulation Rail System Installation Details.
- b. The length of the Drainage deflection bead should not exceed 3 m in length.
- c. Where a wider span is required two beads may be installed, one slightly above the other, ensuring they overlap at the centre point.
- d. The track should be installed at a slight downward angle to divert any water or moisture to the side of the opening.
- e. Install the Drainage deflection bead 150 mm above the opening by applying a continuous bead of Dryvit AP Adhesive on the wall side of the vertical nailing flange of the track. Press firmly against the substrate to ensure firm and continuous contact between the adhesive and the wall surface.
- f. It is recommended that the surface of the track be lightly sanded to improve adhesion.
- g. If required secure the track to the wall using corrosion resistant fasteners attached into the underlying framing members.
- h. Install the AquaFlash System or Backstop NT Texture with Grid Tape over the flange of the Drainage deflection bead and the adjacent wall in order to ensure water-tightness at the flange/wall interface.
- i. The back of the insulation board shall be notched to receive Drainage deflection bead as shown in the Dryvit Outsulation Rail System Installation Details.

#### **E. Insulation Board Installation**

- a. Install the first row of 500 mm x 500 mm specially grooved EPS boards onto the Starter Track so that the groove of the board sits on the upstand of the profile. As each board is installed, a vertical T-Spline should be placed in the vertical butt joint between adjacent boards.
- b. Prior to installing the next row of EPS, install the horizontal holding track by inserting into the grooves on the top edge of the first row of EPS boards, then fastening the holding track to the substrate with suitable fixings, fixed at 300 mm centres.
- c. If the track has pre-drilled holes these must not be used. Each fastener must make its own penetration through the track.
- d. Where a cavity is required, install the correctly sized shim, typically a nominal 15 mm for steel frame substrates and a nominal 20 mm for timber frame. If the substrate is uneven, then the rails can be levelled using an appropriate depth of plastic shim at each fixing point.
- e. When using shims, care should be taken to ensure that sufficient penetration of the load-bearing substrate by the fixing is maintained.
- f. Apply the second row of EPS boards into the top of the holding track, ensuring that the factory edges of the boards are exposed and vertical joints between rows are staggered in a running bond pattern.
- g. T-Splines should be placed in each of the vertical butt joints for adjacent boards.
- h. Continue installing the boards onto the flanges of the PVC horizontal tracks, interlocking them at all inside and outside corners. Making sure the corners are straight and plumb.

- i. Continue in the same manner for each course of EPS, installing subsequent rows of insulation board in a running bond pattern (vertical joints staggered). Installation in this manner will reduce the potential for cracks to develop.
- j. All board joints shall be butted tightly together to prevent any thermal breaks in the system.
- l. If for any reason the insulation board joints are not butted tightly, any gaps must be filled.
- m. All gaps greater than 1.5 mm up to 7 mm are filled with Dryvit FF197 expanding polyurethane foam. The foam is injected into the gap and should penetrate as far back to the substrate as possible and not less than one half the thickness of the EPS. After it cures, the excess should be sliced off using a knife or trowel edge prior to rasping. Any material that may come loose during the rasping process must be reapplied and this step repeated.
- n. Gaps greater than 7 mm are filled with a cut sliver of EPS. To create a tight-fitting sliver, it is recommended that a wider joint be cut with a hot groove or similar tool. Do not install adhesive on sliver edges.
- o. Allowing this method of filling gaps between the insulation boards is not intended to take the place of good workmanship and care must be taken to ensure that all EPS boards are abutted as tightly as possible during installation.
- k. Dryvit UK Ltd. does not approve the use of nails, screws, or any other type of non-thermal mechanical fasteners, metal corner beads, stopbeads, etc.
- l. In situations, such as high-rise buildings, where the insulated surfaces are subjected to high negative wind loads, additional rigidity of the system can be achieved by substituting the T-Splines with lengths of holding track cut to approximately 470 mm long and fixed to the substrate with suitable fixings.
- m. At all wall penetration set out the holding track as shown in the Outsulation Rail System Installation Details.
- n. Align the insulation boards so that the edges (vertical and horizontal joints) do not coincide with the corners of the opening. This will reduce stresses on the base coat and minimize the potential for cracking.
- o. Detail mesh shall be attached around the perimeter of all opening or as described in [Section IX.E.4.h](#).
- p. The insulation board shall be held back from the window/door frame or mechanical equipment to allow for differential movement and proper sealant joint installation as shown in the standard Outsulation Rail System Installation Details.
- q. Once all the insulation boards are in place, any irregularities in the surface must be rasped flat. Rasping is accomplished with a light circular motion. The entire wall area must be sanded (rasped).
- r. Use a Dryvit hand help rasp (Electric and air rasps are available) and wear a fine particle dust respirator to protect against inhaling EPS dust.
- s. Do not rasp parallel to the board joints.

## **VII. Fire barriers**

### **A. Fire breaks – where a continuous cavity is specified**

1. Position fire barriers in accordance with BR 135 or to Local Authority Building Control Officer's requirements as indicated on design drawings. The specified cavity should be maintained.
2. Termination track is used to hold the EPS immediately below the prefabricated Dryvit Firestop, the Firestop includes integral spacer blocks and an intumescent strip.
3. It is installed with the intumescent strip beneath the integral spacer blocks and facing in towards the substrate.
4. Fixings of sufficient length are used to secure the Dryvit Firestop into the substrate at each spacer location. AP adhesive can be applied to each spacer block to provide a temporarily fix to hold the firebreak in place prior to fixing.
5. Termination track is fixed above the Dryvit Firestop to hold the next row of EPS boards immediately above the firebreak.
6. Mineral wool lamella is bonded to the back of the Dryvit Firestop using Genesis or Genesis DM Plus adhesive. The adhesive must be fully "buttered" over the bonding lamella face before being pushed hard against the Firestop to eliminate any cavity formation.
7. Once the fire break is in place, it is left for a minimum of 24 hours prior any work commencing on the surface of the insulation boards. This is to prevent any movement which may weaken the adhesive bond of insulation to the substrate.
8. Mineral wool lamella must be non-combustible in accordance with BS 476-4 or meet the requirements for Euroclass A1 in accordance with EN 13501-1.
9. The mineral wool lamella is formed by cutting strips from the full length of a high density mineral wool slab. The barrier must be a minimum 100 mm high, with the thickness of the lamella being determined by the size of the cavity, typically this will be the thickness of the EPS insulation less 10 mm for a 10 mm cavity or less 20 mm for a 15 mm cavity.
10. The fire barrier should form a continuous band through the insulation layer of EPS and eliminate the formation of any cavity.
11. The mineral wool section must be rasped flush with the surrounding EPS. Any gaps must be filled with foam or sliver of insulation to ensure there is no space between the insulation boards. The base coat must not be used to fill gaps between insulation board joints.
12. Dryvit Detail mesh should be applied over the barrier to lap the adjacent EPS on either side to a minimum of 50 mm in accordance with the standard detail.
13. To accommodate the overlap thickness, and the additional layer of mesh, the mineral wool and edges of the adjoining EPS boards are further rasped to form a small indent the same thickness of a single layer mesh. This ensures a flat surface finish once the basecoat and mesh layers are installed.

### **B. Vertical fire breaks and where a cavity is not specified.**

1. Position fire barriers in accordance with BR 135 or to Local Authority Building Control Officer's requirements as indicated on Design Drawings.
2. When installing vertical fire breaks the Dryvit Firestop is not required and the mineral wool is adhesively bonded back to the substrate. It cannot be satisfactorily installed where a sheet vapour barrier is present.
3. The fire barrier should form a continuous band through the system, the insulation layer of EPS and back to the substrate to eliminate cavity formation.



4. Fire barriers must be constructed of mineral wool lamella compliant to BS 476-4 or BS EN 13501 –1 Euroclass A1 and be a minimum 100 mm high by the total thickness of system.
5. The mineral wool lamella is formed by cutting strips from the full length of a high density mineral wool slab.
6. Dryvit Detail Mesh should be applied over the barrier to lap to the adjacent EPS on either side to a minimum of 50mm in accordance with Dryvit standard details.

### **VIII. Installation of reinforcing mesh and base coat**

#### **A. Reinforcing mesh**

1. Dryvit Reinforcing mesh is available in the following widths and lengths:

<b>Mesh type</b>	<b>Available sizes</b>	
Standard Plus 150	1.2 m x 45.7 m	1.0 m x 50.0 m
Standard Plus 160	1.0 m x 50.0 m	
Standard Plus 200	1.2 m x 45.7 m	
Intermediate 370	1.2 m x 45.7 m	
Panzer 260	1.0 m x 50.0 m	
Panzer 500	1.2 m x 22.9 m	
Panzer 700	1.2 m x 22.9 m	
Detail	240 mm x 45.7 m	330 mm x 50 m
Corner	235 mm x 45.7 m	
Profile beads with mesh	Supplied in 2.5m lengths (quantity per pack may vary).	

2. Prior to installing the reinforcing mesh, it should be inspected to ensure that it is supplied by Dryvit UK Ltd (ie blue mesh with Dryvit logo, except for profile beads)..

#### **B. Insulation board inspection**

1. Prior to installing the reinforced base coat, inspect the surface of the insulation board for:
  - a. Flatness, using a minimum 2.4 m straight edge. Rasp any high areas and out-of-plane board joints flat as described in Section [VI.E.g](#).
  - b. Damage and foreign materials; correct deficiencies as necessary.
  - c. Surface degradation due to weathering or UV, visible as discolouration. If present rasp the affected areas to remove deterioration while maintaining the flatness of the surface.
  - d. Do not build up low areas with base coat mixture to form a flat surface.

#### **C. Base coat and meshes**

##### **1. Standard Base Coat - Single layer of mesh**

Standard Plus 150, Standard Plus 160, Standard Plus 200 or Intermediate 370 reinforcing meshes.

- a. Mix the required base coat mixture as described in Section [III.D](#).
- b. The base coat is 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 passes.
- c. Do not apply the Dryvit materials in the rain.
- d. The insulation board surface must be dry prior to applying the base coat material.

- e. Using a stainless-steel trowel, apply the 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 reinforcing mesh, in a uniform thickness of 1.5 mm. The reinforcing mesh may be installed either vertically or horizontally.
- f. Immediately place the reinforcing mesh against the wet base coat mixture. With the curve of the mesh against the wall, trowel from the centre 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, approximately 1.5 mm. The reinforcing mesh shall be continuous at corners and the mesh edges lapped not less than 100 mm. Do not lap the reinforcing mesh within 200 mm of a corner. Corners and edges normally require light strokes with a small damp brush to smooth out any irregularities.
- g. Allow the base coat mixture to take up, typically one to four hours dependent on ambient conditions.
- h. Apply a further 0.5 to 1.5 mm layer of base coat over the first coat to fully cover the reinforcing mesh. The result should be such that the reinforcing mesh is approximately centred within the base coat thickness. Do not allow the first pass to completely dry prior to the application of the second pass otherwise an excessive amount of base coat mixture will be necessary to fully coat the surface.
- i. Protect completed work from rain, water penetration and run-off.
- j. Allow the base coat to cure a minimum of 24 hours before proceeding with the application of finish coat. Cold or damp conditions may require extended drying times.
- k. Do not apply primer or finish to a wet or damp base coat.

## 2. **Base coat – Dual layer consisting Panzer Mesh plus a Standard Mesh**

Panzer 260, Panzer 500, Panzer 700 used in combination with Standard Plus 150, Standard Plus 160 or Standard Plus 200 reinforcing mesh.

Panzer high impact meshes are generally only installed to a two-metre height at the base of the system, or in certain localised areas where high impact conditions are expected.

- a. Mix the required base coat mixture as described in Section [III.D](#).
- b. 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 passes.
- c. Using a stainless-steel trowel, apply the 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 reinforcing mesh, in a uniform thickness of approximately 3.2 mm.
- d. Immediately place the Panzer mesh against the wet base coat mixture. with the curve of the mesh against the wall, trowel from the centre to the edges avoiding wrinkles until the mesh is fully covered and not visible.
- e. Continue in the same manner until the entire area requiring Panzer mesh is covered.
- f. Adjacent pieces must be tightly butted, do not overlap the Panzer mesh.
- g. Protect completed work from rain, water penetration and run-off.
- h. Allow the base coat to cure a minimum of 24 hours prior to applying Dryvit Standard Plus reinforcing mesh.
- i. Apply the Standard Plus mesh over the cured base coat in accordance with Section [VII.C.1](#). Offset the edges of the Standard Plus reinforcing mesh from the edges of the Panzer mesh a minimum of 200 mm.
- j. If Panzer Mesh is installed horizontally, it is recommended the Standard Plus mesh be installed vertically and vice versa.

3. **Installation of Dryflex base coat for high exposure areas such as sloped surfaces, window cills, below grade etc.**
  - a. Mix the Dryflex material as described in Section [III.D.5](#).
  - b. The insulation board surface must be dry prior to applying the base coat material. The recommended method is to apply the base coat in two passes.
  - c. Do not apply the Dryvit materials in the rain.
  - d. Using a stainless-steel trowel, apply the Dryflex mixture on the surface of the insulation board in a uniform thickness of approximately 1.5 mm. Apply the Dryflex continuously over the sloped surface and continue for a minimum of 150 mm onto the vertical areas.
  - e. Immediately place the reinforcing mesh against the wet Dryflex mixture. With the curve of the mesh against the wall, trowel from the centre 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, approximately 1.5 mm.
  - f. The reinforcing mesh can be continued across the transition from Dryflex base coat to a standard Dryvit base coat.
  - g. Allow the Dryflex mixture to take up, typically one to four hours dependent on ambient conditions and base coat used. Then apply a further 0.5 to 1.5 mm layer of Dryflex over the first coat to fully cover the reinforcing mesh. The result should be such that the reinforcing mesh is approximately centred 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 coat mixture will be necessary to fully coat the surface.
  - h. Protect completed work from rain, water penetration and run-off.
  - i. Allow the base coat to cure for a minimum of 24 hours before proceeding with the application of finish coat. Cool, damp conditions may require longer drying times.
  - j. Do not apply primer or finish to a wet or damp base coat

## **IX. Penetrations, expansion joints and aesthetic reveals**

### **A. Windows, doors, mechanical equipment and all wall penetrations**

1. At penetrations, align the insulation boards so that the edges (vertical and horizontal joints) do not coincide with the corners of the opening. This will reduce stresses on the base coat and minimise the potential for cracking, refer to Dryvit Outsulation Rail System Installation Details.
2. Detail mesh shall be attached around the perimeter of the opening as illustrated in Figures [1a](#) and [1b](#) and as described in Section [VI.A](#).
3. Where an EPDM is present around opens it is still important to backwrap the insulation using the Detail mesh so it is adhesively fixed back to the substrate. As the adhesive and mesh will not form a suitable bond to the membrane, it is extended over and past the EPDM by 50 mm before being adhesively fixed back to the substrate.
4. The insulation board shall be held back from the window/door frame or mechanical equipment and a sealant joint installed to allow for differential movement as shown in the Dryvit Outsulation Rail System Installation Details.
5. Corners of all openings such as windows, doors, mechanical equipment and all penetrations shall be reinforced with 330 mm x 300 mm section of Detail mesh placed diagonally to the opening as illustrated in Figures [1a](#) and [1b](#). This will reduce the potential for cracking at these high stress areas.

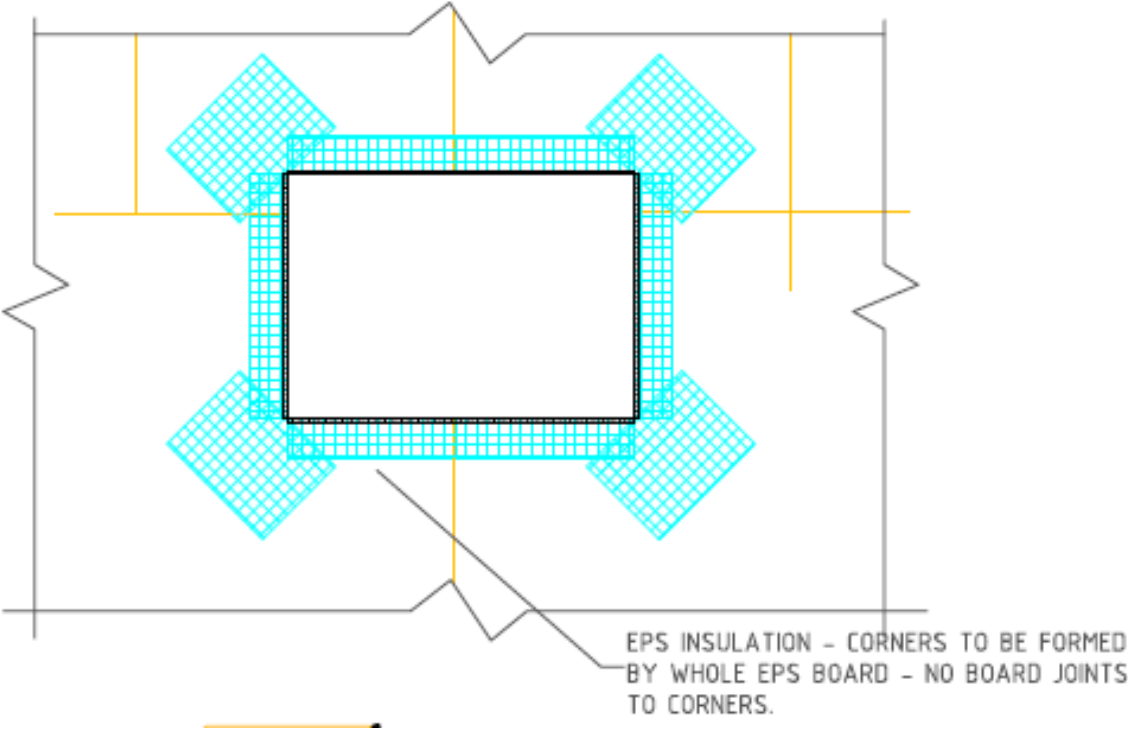


Figure 1a: Detailing of mesh around openings

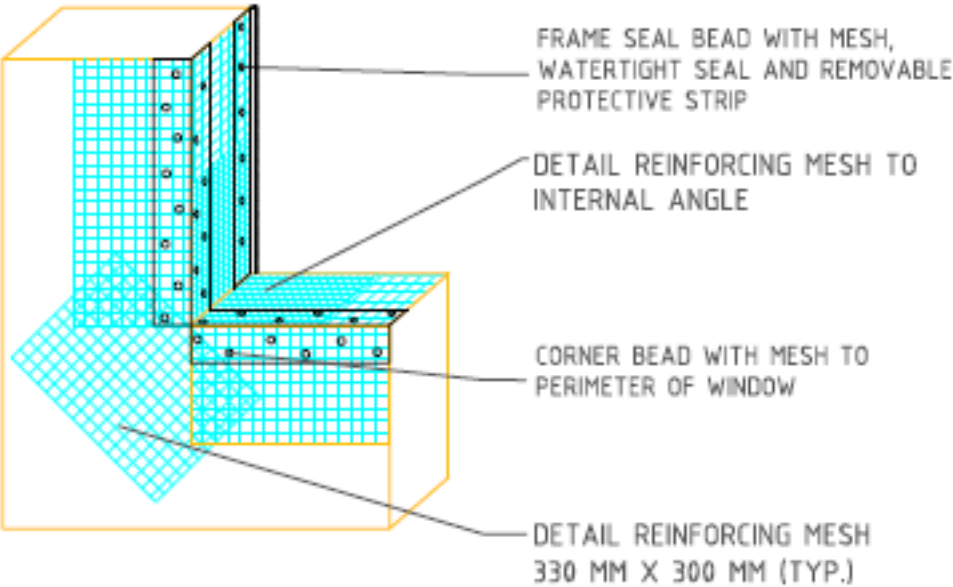


Figure 1b: Detailing of mesh around openings (shown with optional corner beads)

## **B. Expansion joints**

1. Movement joints in the building structure should be extended through the system
2. A vertical and horizontal movement joint must be incorporated a minimum of every 23 m.
3. When abutting dissimilar materials, the termination track and Detail Mesh are used to construct the required expansion joint. The Detail mesh shall be attached to the substrate as described in Section [VI.A](#). The insulation board is installed to leaving a minimum 20 mm separation to allow for the sealant joint to be installed.
4. When the Outsulation Rail System is installed at a substrate transition, the Detail Mesh is used to construct the expansion joint. The Detail mesh shall be attached to the substrate as described in Section [VI.A](#).
5. All Detail mesh that was previously installed for backwrapping the insulation board shall be embedded in the base material mixture at this time.
6. With a stainless-steel trowel, apply the Genesis, Genesis DM Plus or Dryflex base material mixture to the edge and face of the insulation board and embed the Detail mesh in the wet mixture.

## **C. Outside corners (beads)**

1. Ensure the insulation boards at the corner form a straight edge so the angle of the bead sits snugly onto the insulation. Apply base coat to the corner sufficient to fully embed the mesh wings. The Dryvit Corner Bead with Mesh is pushed tight onto the corner and the mesh fully embedded by trowelling base coat smoothly over the surface. The main reinforcing mesh is applied over the bead mesh a minimum of 65 mm. The mesh should not overlap onto the PVC angle.

## **D. Differing materials**

1. At a transition between dissimilar materials, such as between Dryvit Brick Effect and Dash Receiver or at the base of the system, a horizontal Bellcast drip bead should be installed to provide managed water run-off. Cut the Dryvit Bellcast Drip Bead to length, apply adhesive to the substrate and embed the bead upstand, if necessary supplement with mechanical fixings e.g. "fir tree" fixing. For vertical transitions, a Dryvit Stop Bead is installed in the same manner as described for horizontal transitions.

## **E. Aesthetic reveals**

1. To install an aesthetic reveal, snap a straight line using a chalk line to mark the position.
2. Position a straight edge such as a steel stud or track against the insulation board in the selected location to guide the appropriate cutting tool (router, hot knife, or hot groove tool).
3. The thickness of the insulation board in the bottom of the joint must not be less than 20 mm. Thicknesses equal to or greater than 20 mm minimise crack development at the base of the joint.
4. The reinforcing mesh must be continuous through aesthetic joints. To ensure that the mesh is continuous, the reveals shall be meshed with Detail mesh. The Detail mesh must lap a minimum of 65 mm on each side of the reveal.
  - a. Apply the base material mixture in the reveal and on the adjacent insulation board surfaces.
  - b. Embed the Detail mesh on one side of the joint only.

- c. Using a sled or special tool for the reveal, embed the Detail Mesh into the reveal being careful not to cut or damage the mesh.
- d. If the mesh is cut in the reveal, a new piece of mesh must be installed over the cut to ensure a 65 mm overlap exists.
- e. Embed the Detail mesh on the other side of the reveal. Ensure that the mesh is fully embedded and that all excess material is removed from the reveal.
- f. Using a damp brush, clean out any irregularities in the base coat.
- g. Where Corner Mesh is specified for additional impact resistance such as outside corners, the Corner Mesh should be embedded in the base coat mixture and allowed to set prior to installing the main reinforced base coat.

## **X. Fixtures and fittings**

### **A. General**

1. Where there is a requirement to attach fixtures and fittings through the thermal insulation system, unlike conventional building substrates, External Wall Insulation systems do not offer the same strong anchorage by conventional installation methods.
2. Lightweight fixtures such as drain pipes, can be fixed directly into the Outsulation Rail System, without introducing thermal bridging, using self-drilling plastic spiral anchors and stainless-steel screws. Refer to Dryvit Information Sheet DIS 22 for full installation details.
3. Heavier items that cantilever from the wall, such as satellite dishes or security cameras, can be fixed using a range of purpose designed plastic anchor point sleeves or other specialist fixing solutions. Contact Dryvit UK Ltd for further information.

## **XI. Sealant joint preparation**

### **A. All sealant joints shall be prepared with either Dryvit Demandit Smooth or Color Prime.**

1. Stir Demandit Smooth or Color Prime to a smooth, homogeneous consistency.
2. Apply the appropriate primer with a brush on each side of the joint.
3. Allow the appropriate primer to dry for a minimum of 24 hours prior to sealing with recommended sealant as listed in Dryvit Guidance Note GN001.

## XII. Dryvit primers

### A. Base coat cure

1. Prior to applying the Dryvit primers, the base coat shall have cured for a minimum of 24 hours and shall be dry and hard. Cure time may be longer depending on environmental conditions.
2. Refer to the relevant Product Data Sheets for full application instructions or when applying over other materials.

### B. Inspection and preparation

1. Inspect the base coat for any irregularities such as trowel marks, board lines, rough corners and edges, improper reinforcing mesh embedment as well as efflorescence.
2. Correct all irregularities and remove all efflorescence prior to applying the Dryvit primer.

### C. Color Prime, Color Prime S and Prime Sil

1. Mix to a smooth homogeneous consistency in accordance with Section [III.E.1](#).
2. Apply with a brush, roller, or airless spray equipment in complete continuous strokes to achieve full substrate coverage. Refer to the respective Primer data sheet for complete instructions and coverage rates.
3. Approximate application thickness.

Primer	Approximate application thickness (µm)
Color Prime	100
Color Prime S	200 (max grain size)
Prime Sil	100

4. Drying times prior to the application of the finish will vary according to air temperature, relative humidity and porosity of substrate. Under average drying conditions of 20°C and 55% RH they are typically as follows:
  - a. Color Prime - Dry to the touch within 30 minutes and are sufficiently dry for application of finishes in two to three hours. Protect from rain for at least four hours.
  - b. Color Prime S - Dries to the touch within one hour and is sufficiently dry for application of finish in three to four hours. Protect from rain for at least four hours.
  - c. Prime Sil - Ready for application of finishes after complete drying of at least five hours.

### D. Primax (where required)

1. Is applied directly to porous or painted substrate to improve the adhesive bond prior to the application of Stucco Build.
2. Mix to a smooth homogeneous consistency in accordance with Section [III.E.1](#).
3. Apply to the prepared painted surface with a roller, or brush at an approximate thickness of 20 µm. Refer to Primax product data sheet for full application instructions and coverage rate.
4. Under average drying conditions of 20°C and 55% RH and dependent on substrate porosity Primax is touch dry within two hours.



### **XIII. Dryvit finishes**

#### **A. Base coat cure**

1. Prior to applying the Dryvit finish, the base coat shall have cured for a minimum of 24 hours and shall be dry and hard. Cure time may be longer depending on environmental conditions.

#### **B. Primer drying**

1. When Dryvit primers are used they should be dry before the application of the finish. Drying time will depend on both environmental conditions and permeability of the substrate, see section [XII.C.4](#) and [XII.D.4](#).

#### **C. Inspection and preparation**

1. Inspect the base coat for any irregularities such as trowel marks, board lines, rough corners and edges, proper reinforcing mesh embedment as well as efflorescence.
2. Correct all irregularities and remove any efflorescence prior to applying the selected Dryvit Finish.

#### **D. Application**

##### **1. General**

- a. All Dryvit finishes must be installed by trained applicators, refer to Section [XV.A](#).
- b. Apply continuously to a natural break such as corners, expansion joints or tape line maintaining a wet edge at all times.
- c. Whenever possible, order enough material in a single batch to complete the project to avoid potential colour variations from batch to batch.
- d. Sufficient personnel and scaffolding must be provided to continuously finish a distinct wall area, otherwise cold joints will result.
- e. Scaffolding must be spaced to maximum, as allowable by HSE legislation.
- f. 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.
- g. Do not introduce water to the finish material once it is installed on the wall as this will cause colour variations.
- h. Each applicator must use the same tool and hand motion and match the texture of the applicators above, below and on each side.
- i. Do not apply Dryvit materials in the rain.
- j. Do not apply textured Dryvit finish material in sealant joints. Refer to Section [X](#) for proper sealant joint preparation.



## 2. Standard finishes

- a. The following Dryvit finishes are acceptable for exterior use as part of the Outsulation Rail System.

**PMR: Quarzputz, Sandpebble 2, Sandpebble, Sandpebble Fine, Freestyle, Sandblast and Limestone.**

**FD PMR: Quarzputz, Sandpebble and Sandpebble Fine.**

**Weatherlastic: Quarzputz, Sandpebble, Sandpebble Fine.**

**HDP: Quarzputz, Sandpebble, Sandpebble Fine, Sandblast, Freestyle and Limestone.**

**TR: Quarzputz, Sandpebble 2, Sandpebble, Sandpebble Fine, Sandblast, Freestyle and Limestone.**

**SLK: Quarzputz, Sandpebble and Sandpebble Fine**

Finish texture	Nominal aggregate size (mm)
Quarzputz	2.0
Sandpebble 2	2.0
Sandpebble	1.5 - 1.6
Sandpebble Fine	1.0 - 1.2
Sandblast	0.75 - 1.2
Freestyle	0.5 - 0.6
Limestone	0.5 - 0.6

- i. Mix the required Dryvit finish as described in Section [III.F.1](#). The base coat surface must be fully dry prior to applying the required primer (if used) and the primer dry before applying the Dryvit Finish material.
  - ii. Using a clean stainless-steel trowel, apply a coat of the Dryvit finish in a uniform thickness on the dry base coat. The Dryvit Quarzputz and Sandpebble 2 finishes shall be applied and levelled to a uniform thickness no greater than the largest aggregate of 2 mm. The Sandblast finish is applied and levelled to a thickness of approximately 1.2 mm, one and half times the largest aggregate. The Sandpebble and Sandpebble Fine is applied and levelled to a uniform thickness no greater than the largest aggregate size of 1.5 mm and 1.0 mm respectively. Apply Freestyle slightly thicker than 1.5 mm, the texture being pulled out of this base layer or achieved by adding more to the base layer, but not exceeding 3.0 mm. Apply Limestone in two coats, the first a tight scrape coat that is left to stiffen prior to applying a second tight coat which is floated smooth.
  - iii. The texture is achieved by a uniform hand motion and/or tool that produces the texture to match the approved sample.
  - iv. Refer to the technical datasheet for full application information.
- b. Dash receiver**
- i. Mix the Dash Receiver as described in Section [III.F.9](#).
  - ii. Apply a uniform layer of Dashing Receiver render to achieve a flat plane surface at approximately 6 to 10 mm thick.
  - iii. While the render is still soft, throw washed dashing aggregate onto the surface at an approximate rate of 10 to 15 kg/m<sup>2</sup> to give a uniform coverage. If required, lightly tamp the aggregate into the Dash Receiver with a wooden float to ensure a good bond is obtained.

**c. Drytex**

- i. Mix the Drytex as described in Section [III.F.8.](#)
- ii. Drytex render finish should be applied using a stainless-steel trowel to achieve a thickness slightly thicker than the largest aggregate size. Pull across the rough application coat using a horizontal trowel motion to develop a uniform thickness no greater than the largest aggregate of the material.
- iii. The textures are achieved by uniform hand motion and/or type of tool used e.g. plastic float to achieve a thickness slightly greater than the maximum aggregate size, Quarzputz 2 mm, Sandpebble 1.6 mm and Sandblast 1.2 mm.
- iv. Maintain a wet edge for uniformity of colour and texture.

**3. Specialty finishes**

**a. Ameristone, TerraNeo, Stone Mist and Stone Mist T**

- i. Mix respective finishes as described in Section [III.G.3.](#)
- ii. Apply colour co-ordinated Color Prime to all substrates a minimum of four hours before application, longer at lower temperatures. The primer must be fully dry before applying Ameristone, TerraNeo, Stone Mist or Stone Mist T finish.
- iii. A small additional quantity of clean water up to 250 ml per pail may added to achieve the desired viscosity for spray applications, but should be consistent to all pails.
- iv. For TerraNeo, trowel apply a layer on to the primed base coat approximately 1.6 mm to 3.2 mm thick. Lightly float over the finish several times with a damp clean float, cleaning the float regularly. This product cannot be sprayed.
- v. For spray application of Ameristone, Stone Mist and Stone Mist T apply in two passes, one vertical and one horizontal to give a total thickness of between 1.6 and 3.2 mm. Alternatively, the first coat application of Stone Mist (not Ameristone or Stone Mist T) may be trowel applied in a tight coat free of lines and the second coat sprayed onto the wet trowel application.
- vi. In conditions of 20°C and 55% RH drying of all finishes will take 48 hours and will be extended at lower temperature.

**b. Brick effect**

- i. Mix the Brick Effect as described in Section [III.G.1.](#)
- ii. Mortar coat – Apply at approximately 3 mm and level to achieve a flat plane surface, but take care not to over work the surface.
- iii. Face coat – After the Mortar coat has stiffened, but not set, apply the face coat at approximately 2 to 3 mm thickness and immediately lightly texture the Face coat with a soft bristle brush to create a brick surface effect. Leave to stiffen, but not set, for between 30 to 120 minutes dependent on drying conditions.
- iv. Once stiffened use a gauging tool to mark up the brick courses and with a long straight edge, spirit level and cutter carefully cut through the render to create the horizontal joints (generally a two-person job). Push the cutter back to the hardened base coat or host substrate to give a consistent mortar joint. Mark and cut out the vertical joints in a similar manner to complete the brick effect finish. Once all cuts have been made, lightly brush any excess material from the joints taking care not to mark the render surface.
- v. Experience and climatic conditions will dictate the best time for cutting of the face coat to form the joints, too soon and the cutter will rag and tear the render, too late and it becomes difficult or impossible to cut.

**c. Drytex WOOD Effect System**

- i. Mix the Drytex WOOD as described in Section [III.G.2.](#)
- ii. Apply using a stainless-steel trowel to achieve an even thickness of about 5 mm. This can also be achieved by initially applying the Drytex WOOD slightly thicker than required with a notched trowel and finishing to a smooth surface with a steel trowel.
- iii. Leave it until dry to the touch, approximately 20 to 30 minutes dependent on temperature and relative humidity.
- iv. Select the desired flexible Drytex WOOD Imprint Mould and “release” the surface by brush applying a clean food grade cooking oil onto the imprint surface (Do not over apply or staining of the surface coating will occur).
- v. Starting at the highest point ensure the moulding is level and in the required orientation, gently press it onto the surface of the render in the desired location. Without allowing the mould to move use a 150 mm rubber roller to evenly press the moulding into the soft Drytex WOOD. Immediately remove the mould by carefully peeling it away from the render surface.
- vi. Repeat the sequence to create the full wood panel effect, releasing the imprint mould as necessary to ensure it does not stick to the render. After 24 hours, shallow grooves can be cut between the wood effect imprints using a hand held narrow bladed electric precision mini circular saw to emphasise the panel effect.

**d. Weatherlastic Adobe**

- i. Mix the Adobe finish material as described in Section [III.G.3.](#)
- ii. Using a brush, roller or airless spray equipment, apply a coat of colour coordinated Color Prime at the recommended coverage to the cured base coat and allow to dry.
- iii. Using a stainless-steel trowel, apply a coat of Adobe approximately 1.6 mm thick to the wall surface.
- iv. Allow the Adobe finish to take-up.
- v. Using a stainless-steel trowel, apply a second coat of Adobe to obtain the desired texture.
- vi. An atomising spray bottle may be used to apply a mist of water to the surface in the finishing step.

**e. Skimit (prior to applying Reflectit)**

- i. Mix the Skimit as described in Section [III.G.5.](#)
- ii. Using a stainless-steel trowel, apply a tight, thin coat of Skimit to the base coat free of trowel marks.
- iii. Allow the thin coat of Skimit to take up for 15 to 30 minutes and sand with a foam sanding block (i.e. fine or very fine). Remove all sanding dust with a damp cloth and thoroughly dry.
- iv. Apply a second coat in the same manner and allow it to dry for 10 to 20 minutes. Sand again, to achieve a very smooth, blemish free surface. The wall surface should then be checked closely for any slight imperfections and any blemishes touched up and sanded back before proceeding.

**f. Reflectit**

- i. Mix the Reflectit as described in Section [III.G.6.](#)
- ii. Using a spray gun, roller or brush, newly applied finishes and Skimit should be left to dry for a minimum 24 hours under average conditions and be colour coordinated to the desired Reflectit.

- iii. Existing finishes shall be clean and can be colour coordinated with Dryvit Color Prime.
- iv. Spray application is the recommended method over Skimit and fine textured finishes, such as Sandpebble Fine or Adobe.
- v. The finish is applied at an approximate thickness of 100 µm per coat.
- vi. Approximate drying time will vary according to air temperature and relative. Under average drying conditions of 20°C and 55% RH Reflectit dries to the touch within 30 minutes and is dry to recoat in four to six hours.
- vii. Roller application should only be used over more highly textured finishes such as Sandpebble and coarser.
- viii. Roller application over Skimit is not recommended as this can result in visible roller and lap marks.
- ix. A short or medium pile woven fabric roller is recommended. Apply in two coats as required to achieve optimum performance in one continuous coat, maintaining a wet edge as application proceeds to a natural break. The roller must be kept fully loaded as the application proceeds, do not stretch out the application by rolling with a dry roller and the last levelling roller strokes should always be in the same direction to avoid directionality of the reflective pigments

**g. WOOD Glaze and WOOD Glaze Matt**

- i. Mix WOOD Glaze to a homogeneous consistency in accordance with Section [III.G.4.](#)
- ii. Apply by brush in two thin even coats at a nominal thickness of 20 µm per coat allowing the first to dry before application of the second.
- iii. Ensure that all the wood grain and any cut grooves are fully coated to achieve the desired colour and full level of protection.

**h. Tuscan Glaze**

- i. Mix Tuscan Glaze to a smooth homogenous consistency in accordance with Section [III.G.4.](#)
- ii. Continuously agitate throughout application to ensure colour consistency.
- iii. Tuscan Glaze is best applied on large areas using a low-pressure pump action sprayer or airless spray equipment. For smaller areas, Tuscan Glaze is best applied with a paint pad or, depending on the desired results, a roller, paint brush or sponge. Job site mock-ups are required and should represent the actual job site application techniques.
- iv. Apply Tuscan Glaze evenly in light strokes. If sagging or running occurs, use a sponge or paint pad to correct immediately. Watch for brush or roller lines. If brush or roller lines appear, use a damp sponge, a paint pad or rag to make them disappear before the Tuscan Glaze starts to dry.
- v. The wall may be blotted with a camelback sponge to achieve the desired mottled appearance.
- vi. Check walls throughout the application to ensure that uniformity and the desired appearance is achieved.
- vii. Drying time is approximately 24 hours at 20°C and 55% relative humidity, this will be extended at lower temperatures and/or higher humidity

#### XIV. Coatings and sealers

Do not apply the Dryvit materials in the rain or spray in windy conditions.

##### 1. **Finish cure**

- a. Prior to applying the Dryvit Coatings, the finish must have cured for a minimum of 24 hours and shall be dry and hard.
- b. Cure time may vary depending on environmental conditions.
- c. All coatings and sealer must be protected work from rain for at least 24 hours
- d. Refer to the relevant product data sheets for further application information and when applying over other materials.

##### 2. **Demandit Smooth, Silstar and HDP Water-Repellent Paint (HyDroPhobic)**

- a. Mix to a smooth homogeneous consistency in accordance with Section [III.H.1](#).
- b. Apply with a brush, short or medium pile woven fabric roller or airless spray equipment in complete continuous strokes to achieve a full coverage.
- c. Nominal application thicknesses are given the table.

Coating	Nominal application thickness per coat (µm)
Demandit Smooth	100
Silstar	100
HDP Coating	100

- d. Approximate drying times will vary according to air temperature and relative humidity. Under average drying conditions of 20°C and 55% RH they are typically:
  - i. Demandit Smooth – Dries to the touch within 30 minutes and is ready to recoat in two hours.
  - ii. Silstar - Dries to the touch within two hours and ready to recoat after 12 hours.
  - iii. HDP Water Repellent Coating – Dries to the touch in 30 minutes ready to recoat in two hours.
- e. Apply 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, do not stretch out the application by rolling with a dry roller. The last levelling 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.
- f. Do not allow coatings to dry on roller sleeves as they do not apply the coating evenly.
- g. Changing colour requires the application of a minimum of two coats dependent on colour.

##### 3. **Demandit Sanded**

- a. Mix the Demandit Sanded to a smooth homogeneous consistency in accordance with Section [III.H.1](#).
- b. Apply the Demandit Sanded with a brush or short pile woven fabric roller in complete continuous strokes to achieve a full coverage at an approximate thickness of 150 to 200 µm per coat.
- c. Approximate drying time will vary according to air temperature and relative. Under average drying conditions of 20°C and 55% RH Demandit Sanded dries to the touch within 30 minutes and is dry to recoat in two hours.
- d. Roll or brush in multiple directions and lightly finish in one direction to ensure that no lap marks remain.

- e. A second coat may be required for heavy textured surfaces or when there is a contrast of colours. Apply the second coat as described above.
- f. Do not attempt to apply Demandit Sanded in one heavy coat. Two coats are always recommended. Only apply the second coat after the first coat is completely dry.
- g. Texture changes will exist after Demandit Sanded is applied over existing Dryvit finishes. The degree of change is a function of the thickness and the number of coats of Demandit Sanded.

#### 4. **Weatherlastic Smooth**

- a. Mix the Weatherlastic Smooth to a smooth, homogeneous consistency in accordance with Section [III.H.1](#).
- b. Application is either by roller or airless spray.
- c. Apply a minimum 560 µ to achieve a 280 microns dry film thickness. This is achieved by applying the Weatherlastic Smooth in two coats. Under average drying conditions, 20°C and 50% RH, three hours drying time between coats should be adequate.
- d. Application by airless spray equipment or mastic pump and gun allows application of coating at the total required application rate with a minimum of stipple or thickness variations.
- e. Equipment should have the capacity to pump 7.6 litres of coating per minute.
- f. Material hose should be minimum 12.5 mm inside diameter for spraying coating through more than a 15 m length. Minimum bursting of 3600 N (800 lbs) is recommended with an orifice size of 0.53 mm - 0.81 mm (0.021 in - 0.032 in), depending on equipment used.
- g. Cross apply coating by holding the spray gun perpendicular to, and approximately 0.6 m 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 an irregular spray pattern.
- h. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
- i. For roller application, a medium or long pile woven fabric roller is recommended.
- j. 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.
- k. A second coat is applied in a similar manner after the first coat has adequately dried.
- l. For cutting-in and trim, a nylon bristle brush is recommended.
- m. A 10% loss from overspray should be anticipated.
- n. Backrolling sprayed areas is recommended to control pin holing on spray applications over porous surfaces.

#### 5. **Colorsil**

- a. Mix Colorsil to a smooth, homogeneous consistency in accordance with Section [III.H.2](#).
- b. Apply at least two coats using a roller, brush or spray at an approximate thickness of 100 µm per coat.
- c. Allow at least 12 hours between coats.
- d. Drying time is approximately 48 hours at 20°C and 55% relative humidity, this will be extended at lower temperatures and/or higher humidity.



**6. SealClear**

- a. Mix SealClear to a smooth, homogeneous consistency in accordance with Section [III.H.2.](#)
- b. The preferred method of application is low pressure garden type spray, but a roller and brush can be used.
- c. Start at the top of the wall and used horizontal strokes to saturate the surface to the point of run off.
- d. SealClear is applied as a milky white liquid to show covered areas and dries clear in approximately two hours at 20°C and 55% relative humidity, this will be extended at lower temperatures/or higher humidity

**XV. Maintenance and repair****A. Dryvit information sheets (DIS series)**

Dryvit Information Sheets describing the maintenance and cleaning procedures together with a range of remedial methods are available from Dryvit on request.

**XVI. Applicator training****A. Training of applicators**

To attain a Trained Contractor Certificate of Competence<sup>(1)</sup>, individual installers must demonstrate they are conversant in all the application techniques demonstrated to them and discussed within the Dryvit programme of training undertaken. They must understand the importance of attention to detail in all aspects of Outsulation Rail installation.

- (1) *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 UK Ltd. assumes no liability for the workmanship of a trained contractor.*

**DISCLAIMER**

*Information contained in this document conforms to standard detail and product recommendations for the installation of the Dryvit Outsulation Rail System products as of the date of publication of this document and is presented in good faith. Dryvit UK Ltd. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Dryvit UK.*