Custom Brick Finish
Polymer System
Application Instructions
For Use On Vertical Walls

Recommended Tools For Installation of Custom Brick Polymer Finish System

1. Variable Speed Drill capable of producing 1000 RPM's
2. Wind-lock B-M1 mixing blade or equivalent
3. Extension Cord
4. Hand Grinding Stone
5. Builders Square
6. Tape Measure
7. Level
8. White Chalk Line
9. White Chalk
10. Pencil
11. Utility Knife
12. Scissors
13. Paper Filament Tape
14. Masking Tape
15. Stainless Steel Hawk and Trowel
16. Margin Trowel
17. Small Paint Brushes
18. Camel Back Sponges
19. Paint Roller
20. Extension Handle
21. Hopper Gun, Compressor, and Air Hose

I. Substrate Inspection

A. Prior to installing the Custom Brick Finish Polymer System materials, inspect the substrate to ensure that it is of the type and condition listed below:

1. Dryvit Exterior Insulation and Finish System.

   Note: Refer to the appropriate application instructions to ensure that the system has been installed properly.

   Note: NCB™ Grout and Custom Brick Finish replaces the usual finish materials in the Dryvit EIF system.

2. Sound, clean concrete, masonry or stucco
3. Interior application
   a. Sound, clean, drywall, plaster, concrete or masonry

II. Surface Preparation

A. Dryvit Exterior Insulation and Finish Systems

1. The reinforcing mesh must be totally embedded in the EIFS base coat.
2. The base coat must be fully dried (a minimum of 24 hours depending on weather conditions).
3. The base coat must be free of any imperfections, prior to applying the NCB grout and Custom Brick templates. The surface of the base coat must be sufficiently planar and smooth to allow 100% contact of the Custom Brick templates. The NCB grout coat is only applied as a thin, even coat and is not intended to level non-planar substrates.
4. All walls shall be free of surface contaminants such as dust, dirt, efflorescence, etc., which may impair the adhesion of the NCB grout.

B. Concrete, Masonry, Stucco

1. Concrete walls shall have cured a minimum of 28 days prior to application of the NCB grout. Stucco walls shall cure a minimum of 28 days prior to application of the Genesis®, Genesis® DM or NCB grout.
2. All walls must be free of surface contaminants such as dust, dirt, peeling paint, sealers, efflorescence, etc., which may impair the adhesion of the NCB grout.
3. All rough surfaces shall be skimmed with the Dryvit Genesis or Genesis DM mixture to provide a surface that is sufficiently planar and smooth to allow 100% contact of the Custom Brick templates. See Section IV for application technique.

C. Interior Surfaces

1. Drywall shall be installed and prepared in conformance with the minimum requirements set forth in ASTM C 840 Standard Specification for Application and Finishing of Gypsum Board and applicable local building codes. Drywall shall have joints taped and fasteners spotted with joint compound to conform with the requirements of a Level-4 Finish, as described in ASTM C 840, Section X8 Levels of Finish. Dryvit Color Prime™ or Dryvit Primer with Sand™ may be used to equalize absorption differences between the paper facing and joint compound.
2. Interior veneer or cement plaster shall be finished smooth. Prime with Color Prime or Dryvit Primer with Sand. All sanding dust must be removed prior to applying the NCB grout coat.
3. All concrete and masonry must be skimmed with Dryvit Genesis or Genesis DM to provide a smooth, flat, level base. See Section IV for application technique. Sealed or painted interior concrete or masonry must be cleaned to remove any surface contaminants such as dust, chalk, dirt, waxes, efflorescence, etc., which may impair the adhesion of the NCB grout. Glossy surfaces must be dulled prior to application of NBC grout. NCB will not adhere to concrete or masonry coated with most types of form release agents, water repellents, or curing compounds. These materials must be removed and the surface coated with Dryvit Genesis or Genesis DM prior to grout coat being applied.

III. Mixing Instructions

A. Genesis

1. Open the bucket using a utility knife or lid-off.
2. Follow mixing instructions for Genesis as described in current Genesis data sheet, DS417.

B. Genesis DM

1. Follow mixing instructions on bag or as described in current Genesis DM data sheet, DS452.

C. NCB Grout

1. Open the pail with a utility knife or lid-off.
2. Thoroughly mix the factory prepared NCB grout with a Wind-lock twister mixing blade or equivalent, powered by a 1/2 in (12.7 mm) drill, 700-1000 RPM only. A small amount of clean potable water may be added to adjust workability. Always add the same amount of water to each pail within a given lot. Mix until a uniform workable consistency is attained.

D. Custom Brick Polymer Finish
   1. Open the pail with a utility knife or lid-off.
   2. Thoroughly mix the factory prepared Custom Brick Polymer Finish grout with a Wind-lock twister mixing blade or equivalent, powered by a 1/2 in (12.7 mm) drill, 700-1000 RPM only. A small amount of clean potable water may be added to adjust workability. Always add the same amount of water to each pail within a given lot. Mix until a uniform workable consistency is attained.

E. Color Prime™, Primer with Sand™
   1. Open the pail with a utility knife or lid-off.
   2. Stir to a smooth homogeneous consistency. Avoid introducing air by over mixing.

F. Demandit® Smooth Shading Mixture
   1. Open the pail with a utility knife or lid-off.
   2. Stir the Demandit Smooth Shading Mixture to a smooth homogeneous consistency. Avoid introducing air by over mixing. Pour into smaller container for ease of application. To insure color uniformity of any shading mixture on a job, use only one shading mix per color used.

   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.

IV. Genesis or Genesis DM Application (if required)

Note: A skim coat of Genesis or Genesis DM is required on all exterior concrete, masonry, and stucco applications prior to applying the NCB grout coat.

A. Air and surface temperatures for application of the Genesis or Genesis DM mixture must be 40 °F (4 °C) or higher and must remain so for a minimum of 24 hours.

B. Genesis or Genesis DM must be properly mixed as described on container or on current product data sheets.

C. With a stainless steel trowel, apply the Genesis or Genesis DM mixture to a uniform thickness that provides a surface sufficiently smooth and planar to allow 100% contact of Custom Brick templates.

D. Application as a leveling coat on concrete, masonry and stucco shall not exceed 1/4 in (6.4 mm) thickness per coat.

E. Allow the applied Genesis or Genesis DM mixture to dry. The drying time is dependent upon the air temperature and relative humidity. Under average drying conditions [70 °F (21 °C), 55% RH], the Genesis or Genesis DM mixture will dry in 24 hours.

Note: It is very important that the wall surface be finished smooth and planar prior to installation of the NCB grout coat. If unacceptable irregularities are present, they must be corrected. If sanding is required, care should be taken to avoid damage to the reinforced base coat for EIFS applications. Do not use the NCB grout coat to correct irregularities in surface smoothness or planarity.

V. NCB Grout Application (Interior or Exterior)

A. Air temperature for application of the NCB Grout must be 55 °F (13 °C) and 100 °F (38 °C) and must remain so for a minimum of 24 hours.

   Note: The preferred wall surface temperature range for application of Custom Brick Finish materials is between 60 °F (16 °C) and 90 °F (32 °C). Exposure to temperatures over 90 °F (32 °C) should be minimized and may result in increased viscosity and skinning and contents shall be inspected prior to use.

B. Inspect and prepare the substrate as described in Sections I and II.

C. Mix the NCB grout as described in Section III.C.

D. Using a stainless steel trowel, apply the NCB grout over the prepared substrate. Application shall completely cover the underlying substrate. Coverage should yield 200-260 ft^2 (18.6 - 24.2 m^2) per pail. Apply to a uniform thickness not exceeding 1/16 in (1.6 mm) in all areas. Do not apply in a heavy coat or use to fill low spots, as this will adversely affect time required to dry and attain water resistance. Take care to avoid formation of ridges of NCB grout from the trowel strokes.

E. Allow the NCB grout to thoroughly dry (minimum 24 hours) prior to adhering Custom Brick templates.

VI. Custom Brick Template Application

A. Any ridges or high spots that may have developed from the application of the NCB grout coat should be removed with a sharp trowel edge. The surface of the cured NCB grout coat must be sufficiently planar and smooth to permit 100% contact of the Custom Brick templates. Avoid abrading or scraping that may produce a fine dust, which will interfere with adhesion of the templates.

B. The ambient and surface temperature for application of Custom Brick Templates shall be between 55 °F (13 °C) and 100 °F (38 °C).

C. Templates are available in numerous patterns:
   1. New York Wall Brick (3/8 in and 1/2 in wide grout lines)
   2. Soldier Course (3/8 in and 1/2 in wide grout lines)
   3. Tumbled Used Wall Brick (3/8 in wide grout lines)
   4. Used Wall Brick New Style (varied 3/8 in to 5/8 in wide grout width)
   5. Used Wall Brick Old Style (uniform (3/8 in wide grout lines)
   6. Utility Brick (1/2 in wide grout lines)
   7. Heritage Brick (3/8 in wide grout lines)

   Note: The maximum template thickness to be used with the Custom Brick Finish Polymer System is (.070 in (1.8 mm).

D. Templates must be placed from a "base line" that is logistically placed based upon penetrations in the wall, i.e., head of window or doors. **Do not start from the perimeter edges or at the base of the wall. The logical "base line" is also the leveling line as template installation extends across the wall.**

E. Outside Corners: Template sizes vary depending on the pattern. Regardless of the brick length, corner brick are typically sized as a full-face brick and a 3 5/8 in segment (the thickness of a brick) in alternate courses of a running bond pattern. Therefore, a mark should be made at the top and at the bottom of the wall 3 5/8 in in from the corner. Two plumb vertical lines should be made on the wall from these two marks.
   1. If the plumb lines are 1/2 in or less apart, the space between the lines can be split.
   2. If the lines are more than 1/2 in apart, an aesthetic decision must be made whether the plumb line closest to the corner should be used resulting in shorter than 3 5/8 in brick in some courses at the corner or whether the plumb line furthest from the corner should be used resulting in longer than 3 5/8 in brick in some courses at the corner. Splitting plumb lines which are more than 1/2 in apart is also an option which will result in brick lengths varying from less than 3 5/8 in to more than 3 5/8 in by half the distance between the plumb lines. Once the decision is made, snap a vertical chalk line. **CAUTION: USE WHITE CHALK ONLY.** This same process should be repeated at all outside corners. TIP: When changing elevations on a building, the stencil will need to be turned over so that the orientation of the brick will be correct at the outside corner (a whole brick must align a 3 5/8 in end of brick around the corner).

F. Infill: Place one of the stencils on the base line so that the edge of the 3 5/8 in brick at the first grout joint aligns with the outside corner chalk line and place a mark at the opposite end of the stencil. Do the same at the opposite outside corner. Measure the distance between the two marks and divide it by the length of the stencil to determine what adjustments may be necessary.
   1. Slightly greater than a whole number of stencils: fill gap between stencils with tape. Vertical layout lines need to be spaced slightly greater than the length of the stencil. Calculate the length between vertical layout lines by dividing the measured distance between the two marks noted above by the nearest whole number of stencils.
   2. Slightly less than a whole number of stencils: overlap stencils. Vertical layout lines need to be spaced slightly less than the length of the stencil using the calculated length. Calculate the length between vertical layout lines by dividing the measured distance between the two marks noted above by the nearest whole number of stencils.

G. Vertical "base line": Place a stencil on the horizontal base line. Make a mark on the base line to the right of the grout joint that is closest to the center of the stencil. Using a level, make a second pencil mark to use as a guide in snapping a vertical chalk line. Using white chalk, snap a vertical chalk line connecting these two points going from the bottom of the wall to the top. This chalk line becomes the vertical "base line" from which all vertical lines should be measured.

   Note: The vertical "base line" should be checked to confirm that it is square with the horizontal base line using the 3-4-5 method. The outside corner plumb line should not be used as the vertical "base line".

H. Vertical layout lines: The remainder of the vertical layout lines can be snapped on the wall measuring from the vertical "base line" in increments that were determined in F.1 or F.2 above.

   Note: The vertical layout lines should never be installed so that they align with the perimeter edges of the stencil.

I. Horizontal layout lines: Measure the distance from the horizontal base line to the bottom of the wall. Divide this measurement by the height of the stencil. The result will indicate a specific number of full height templates plus a remainder that would require less than a full height template. Divide the remainder by the sum of one grout line thickness to determine how many courses are necessary to fill the space. The sum of one brick height and one grout line should be multiplied by the whole number of additional courses as just

determined and this adjustment dimension will dictate how far below the horizontal base line the stencils should start to get full use of the stencils without having to cut them.

1. Aligning horizontal grout lines: place two marks on the wall below the horizontal base line. Place a stencil on the wall so that the top ends of the stencil touch the adjustment dimension line determined in Section I above. Make a mark on the wall at the center horizontal grout line of the stencil. Measure up to the horizontal base line and make a second mark on another area of the wall using this same measurement so that they align horizontally. Using white chalk, snap a horizontal line connecting these two points. This chalk line becomes the horizontal alignment line from which all vertical layout lines should be measured.

J. Installing templates

1. Install templates to achieve the desired pattern. Prior to removing the paper backing from the template, check the positioning of the template against the wall. Do not be concerned, if the edges of the stencil do not meet. Some templates will abut each other while others will either overlap or require tape to fill voids.
2. Remove the paper backing from the template and position one side of the template against the outside corner plumb line and the horizontal layout line at the base of the wall.
3. Continue to install templates using the layout lines as a guide until the entire surface is covered. DO NOT USE TEMPLATES AS A GUIDE.
4. Abutting templates must be taped at all joints. Paper filament tape provided by Bron Tapes of Nevada (702-248-1200) is recommended. Standard masking tape is not acceptable.
5. Layout only the amount to be top coated at the time. Do not leave templates uncoated overnight. Applied templates can be damaged from exposure to rainfall if the Custom Brick Polymer Finish is not applied. Always apply finish as quickly as possible after templates are installed.

K. Templates shall be installed to achieve the desired pattern. Some templates will abut each other and others will overlap each other 1/16 in (1.6 mm). **Note: Abutting templates must be taped at all joints. We recommend paper filament tape; standard masking tape is <u>not</u> acceptable.**

VII. Custom Brick Finish Application

A. Inspect the template placement making sure that the desired pattern exists, they are level and plumb, all joints are taped (where required), and that the templates are adhered securely to the underlying substrate by lightly going over the templates with a round edged flexible trowel.

B. The ambient and surface temperature for application of Custom Brick Polymer Finish materials shall be between 55 °F (13 °C) and 100 °F (38 °C). **Note: The preferred wall surface temperature range for application of Custom Brick Polymer Finish materials is between 60 °F (16 °C) and 90 °F (32 °C). Exposure of pails to temperatures over 90 °F (32 °C) shall be minimized and may result in increased viscosity and skinning and contents shall be inspected prior to use.**

C. Mix the Custom Brick Polymer Finish as described in Section III.D

D. Using a flexible end (round) stainless steel trowel, apply the Custom Brick Polymer Finish over the templates keeping material in the molds flush with the top surface of the templates. Note: The applied finish should not exceed the thickness of the stencil in any case! When using 70-point templates, drag the trowel perpendicular to the long dimension of the template pattern, (typically vertical) to make sure the material in all molds is flush with the top surface of the templates. Avoid any build-up of finish on the top surface of the templates, as this may cause edge tearing when the templates are removed.

E. After the Custom Brick Polymer Finish is applied as described above, there is a 2 - 5 minute window of time to apply an impressed texture appearance. **DO NOT** attempt to do this if the application is in the sun, as rapid skinning may produce erratic and undesirable results. An impressed texture appearance may be developed on the surface of the freshly applied Custom Brick Polymer Finish by use of one of the following texture roller covers manufactured by Welco Manufacturing, North Kansas City, MO:

901 Hessian	905 Bank	909 Coral	921 Foam Stipple
902 Stipple	906 Patchwork	910 Drift	
903 Cascade	907 Swirl	911 Mystic	
904 Twist	908 Shatter	920 Bark Roller with Frame	

Typically, the dry, unloaded texture roller cover is run over the surface of the freshly applied Custom Brick Polymer Finish at a 45-degree angle to the template pattern. When rolling, avoid any build-up of Custom Brick Polymer Finish on the top surface of the templates, as this may cause edge tearing when the templates are removed. **Tip: This can be avoided by pulling the trowel back across the stencil once the roller is used to remove any excess material.**

VIII. Shading (optional)

A. Drying Time Required for Application of Surface Shading
   1. Allow the Custom Brick Polymer Finish to attain sufficient surface drying so that it will not be softened, exhibit color loss or surface erosion from the application of the shading color. All shading should be done prior to removal of the templates.

B. Wash – Wet (changes or uniformly stains the original color)
   1. In a clean plastic container mix 1 part Demandit Smooth Shading Mixture with a maximum of 2 parts water. Add tint colorants into mixture to obtain desired color and mix thoroughly. Maximum tint color addition is 10 fluid ounces per gallon of undiluted Demandit Smooth Shading Mixture. Use Accent Base for dark colors. Stir mixture frequently during application to insure color uniformity, as thinned material settles and separates rapidly.
   2. Dip a camel back sponge into the prepared solution and sponge apply the material over the Custom Brick as desired. **Note: A camel back sponge is the only type recommended. Caution: Saturation of sponge is not recommended; rundown will occur.**

C. Buff – Wet (provides contrasting highlights to existing color)
   1. In a clean plastic container mix 10 parts Demandit Smooth Shading Mixture with 1-2 parts water. Add tint colorants into mixture to obtain desired color and mix thoroughly. Maximum tint color addition is 10 fluid ounces per gallon of undiluted Demandit Smooth Shading Mixture. Use Accent Base for dark colors.
   2. Dip a camel back sponge into the prepared liquid and squeeze excess mixture out of sponge (sponge should be damp, not saturated).
   3. Sponge apply the material over the finish coat as desired to highlight the texture. **Note: A camel back sponge is the only type recommended.**

IX. Template Removal and Touch-Up

A. Removal of templates before the Custom Brick Polymer Finish has sufficiently dried will promote edge tearing and jagged edges. Pulling templates too soon may also cause separation of the Finish from the substrate, which can then affect the development of a proper bond to the substrate. Drying times required for good template removal are quite variable depending upon temperature, humidity, wind, and use of 28 or 70 point templates and can vary from 4 to 48 hours.

B. Carefully remove the templates, avoiding jagged edges. Do not press down on the finish to prevent edge tearing or lifting of the applied finish. This is a sure indication that the Finish is not sufficiently cured for good template removal properties.

C. If any finish has seeped under the templates, use a 1/2 in (12.7 mm) edging tool to clean out the joint. Then apply a small amount of the NCB grout and touch up with a small paintbrush.

X. Protection Times for Washoff Resistance

A. General
   1. The unformed edges of Custom Brick Polymer Finish applied in templates do not begin to dry until the templates are pulled. Note: The drying times listed below begin after the templates are pulled.

B. The ambient air and surface temperature for drying/curing of Custom Brick Polymer Finish shall be maintained between 55 °F (13 °C) and 100 °F (38 °C). If required, temporary protection and supplemental heating may be provided to maintain these conditions until dry.

C. 28 Point Templates
   1. For application and drying at temperatures continually above 70 °F (21 °C), the wall must be protected for a minimum of 24 hours.
   2. For application and drying temperatures below 70 °F (21 °C), the wall must be protected for a minimum of 72 hours. Shaded elevations may require longer protection times.

D. 70 Point Templates
   1. For application and drying at temperatures continually above 70 °F (21 °C), the wall must be protected for a minimum of 48 hours.
   2. For application and drying temperatures below 70 °F (21 °C), the wall must be protected for a minimum of 7 days. Shaded elevations may require longer protection times.

XI. Cautions and Limitations

A. Custom Brick Polymer Finish is based upon the same noncementitious, polymeric binder used in all Dryvit Finishes. Installed bricks may exhibit varying degrees of softening from direct sun and rainfall exposure especially on hot, sunny days. This potentially could occur for up to 6 months after installation and will be more noticeable with 70 Point templates. These are normal characteristics of polymeric finishes and should not be considered product defects. The user should consider these characteristics when specifying these products.

DISCLAIMER

Information contained in this document conforms to standard detail and product recommendations for the installation of the Custom Brick Polymer Finish products as of the date of publication of this document and is presented in good faith. Dryvit Systems, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To insure that you are using the latest, most complete information, contact Dryvit Systems, Inc., at.:

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