

**NewBrick™**

Lightweight Insulated Brick Veneer for Use on  
Exterior Vertical Walls



**DSC872**

**NewBrick Veneer  
Specifications  
For Use on Exterior Walls**

**DRYVIT SYSTEMS CANADA  
MANUFACTURER'S SPECIFICATION  
CSI MASTER FORMAT SECTION 09 96 00  
NEWBRICK VENEER  
FOR USE ON EXTERIOR VERTICAL WALLS**

**PART I- GENERAL****1.01 SCOPE**

- A. Provide all labour, materials and equipment necessary to apply the NewBrick veneer over exterior vertical walls of Dryvit Exterior Insulation and Finish Systems (EIFS) and other acceptable substrates.
- B. Related Sections
1. Exterior Insulation and Finish Systems 07 24 00
  2. Concrete 03 30 00 and 03 40 00
  3. Masonry 04 20 00
  4. Portland Cement Plaster 09 24 00
  5. Sealants 07 90 00
  6. Flashing 07 60 00

**1.02 REFERENCES**

- A. Section Includes:
1. ASTM B 117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
  2. ASTM C 297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
  3. ASTM C 578 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
  4. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
  5. ASTM D1623-09 Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
  6. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
  7. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
  8. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
  9. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
  10. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
  11. ASTM E 330/330M-14 Standard Test Method for Structural Performance of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
  12. ASTM E 2188-10 Standard Test Method for Insulating Glass Unit Performance
  13. ASTM E 2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water-Resistive Barrier Coatings
  14. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials
  15. CAN/CSA-A179-04 (R2014) Mortar and Grout for Unit Masonry
  16. CAN/CSA-A3001-13 Cementitious Materials Compendium
  17. CAN/ULC-S716.1 Standard for Exterior Insulation and Finish Systems (EIFS) – Materials and Systems
  18. DSC152, Dryvit Cleaning and Recoating
  19. DSC181, Backstop® NT™ Application Instructions
  20. DSC870, NewBrick Data Sheet
  21. DSC871, NewBrick Application Instructions
  22. DSC873, NewBrick Installation Details
  23. National Building Code of Canada 2015 (NBC)

**1.03 DEFINITIONS**

- A. Contractor: The contractor that applies materials to the substrate.
- B. Dryvit: Dryvit Systems Canada, the manufacturer of the NewBrick units and adhesive.
- C. NewBrick: A lightweight insulated brick manufactured by Dryvit Systems Canada.
- D. Mortar: ASTM C 270 Type N or S mortar modified with Dryvit NewBrick Mortar Admix.
- E. Substrate: The material to which the NewBrick units are attached.

**1.04 DESCRIPTION**

A. NewBrick is a lightweight, insulated brick veneer that is applied over approved substrates.

B. Design Requirements

1. Acceptable applications of NewBrick include:
  - a. Houses with a limiting distance >1.2 m (NBC9.10.15.5).
  - b. Part 9 NBC buildings with >25% permitted area of unprotected openings (9.10.14.5).
  - c. Part 3 NBC buildings with >50% permitted area of unprotected openings (3.2.3.7).
2. Acceptable substrates for Dryvit NewBrick shall be allowable combustible construction (as defined by the NBC), including:
  - a. Any of the Dryvit Outsulation® or Stratum Guard systems, directly onto the reinforced base coat.
  - b. Poured-in-place concrete and precast concrete.
  - c. Unglazed brick and masonry units.
  - d. Portland cement plaster.
  - e. Dryvit Backstop NT air/water resistive barrier applied over acceptable substrate as noted in Section 1.04.B.2.b through d.
3. Allowable deflection of the substrate system shall not exceed 1/360 times the span (when installed over substrates other than Dryvit Outsulation systems).
4. Substrate systems shall meet all local building code requirements and shall be approved for use of this project.
5. Vapour Retarders – The use and location of vapour retarders within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. The type and location shall be noted on the project drawings and specifications.
6. NewBrick units are designed for use on exterior vertical wall applications.
7. The substrate shall be clean, smooth, planar and free of surface imperfections that would interfere with application of the NewBrick units.
8. Sealants
  - a. Shall be manufactured and supplied by others.
  - b. Shall be compatible with Dryvit materials. Refer to current Dryvit publication, DSC153 for listing of sealants tested by sealant manufacturers for compatibility.
  - c. The sealant backer rod shall be closed cell.
9. The maximum service temperature of the polystyrene core is 74°C (165 °F). Uses near hot surfaces such as combustion exhaust vents should be evaluated by the designer to ensure the product's maximum service temperature is not exceeded.

C. Performance Requirements: Shall be tested as follows:

1. Extruded Polystyrene Insulation

<b>XPS Insulation Physical Properties</b>		
<b>Property</b>	<b>Test Method</b>	<b>Results</b>
Density	ASTM D 1622	24 kg/m <sup>3</sup> (1.5 lb/ft <sup>3</sup> )
Thermal Resistance	ASTM C 518	0.88 m <sup>2</sup> .°C/W (5.0 °F.ft <sup>2</sup> .h/Btu ) @ 23.9 °C (75 °F )
Water Absorption	ASTM C 272	0.5 % by volume
Compressive Strength	ASTM D 1621	140 kPa (20 psi ) min.
Shear Strength	ASTM C 273	170 kPa (25 psi )
Shear Modulus	ASTM C 273	2068 kPa (300 psi )
Tensile Strength	ASTM D 1623	340 kPa (50 psi ) min.
Flexural Strength	ASTM C 203	276 kPa (40 psi ) min.
Flexural Modulus	ASTM C 203	10342 kPa (1500 psi )
Flame Spread Index	ASTM E 84	15
Smoke Developed Index	ASTM E 84	165
Oxygen Index	ASTM D 2863	Min. 24%
Water Vapor Permeance	ASTM E 96	Max. 85.82 ng/Pa*s*m <sup>2</sup> (1.5 Perm) for 25.4 mm (1 in) thickness

2. NewBrick Testing

<b>NewBrick Testing</b>			
<b>Test</b>	<b>Test Method</b>	<b>Criteria</b>	<b>Results</b>
Accelerated Weathering	ASTM G 155 Cycle 1	No deleterious effects <sup>1</sup> after 2000 hrs.	Passed
Freeze-Thaw	ASTM E 2485	No deleterious effects <sup>1</sup> after 10 cycles	Passed
Water Resistance	ASTM D 2247	No deleterious effects <sup>1</sup> after 14 days exposure	Passed
Salt Spray Resistance	ASTM B 117	No deleterious effects <sup>1</sup> after 300 hrs. exposure	Passed
Tensile Bond – adhesive to underlying substrate	ASTM C 297	Minimum 103 kPa (15 psi)	Passed
	CAN/ULC-S716.1	Minimum 80 kPa (11.6 psi)	
Surface Burning Characteristics	ASTM E 84	ICC and ANSI/EIMA 99-A-2001 Flame Spread <25 Smoke Developed <450	Passed
Water Vapor Transmission	ASTM E 96 Procedure B	ICC: Vapor Permeable No ANSI/EIMA Criteria	2288.5 ng/Pa*s*m <sup>2</sup> (40 Perms)
Mildew Resistance	ASTM D 3273	ANSI/EIMA 99-A-2001 28 days: No growth	60 days: No growth
Abrasion Resistance	ASTM D 968 Method A Falling Sand	ANSI/EIMA 99-A-2001 500 liters (528 quarts ): No deleterious effects <sup>1</sup>	1000 liters (1057 quarts ): No deleterious effects <sup>1</sup>
	ASTM D 4060 Taber Abrasion (1 kg load)	No ICC or ANSI/EIMA Criteria	1000 cycles: 0.83 mg mass loss
Ignitability	NFPA 268	No ignition at 12.5 kW/m <sup>2</sup> at 20 minutes	Passed
Intermediate Multi-Story Fire Test	NFPA 285	1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed
Bond Strength following Hydrothermal Exposure	ASTM D 1623-09	Minimum 80 kPa (11.6 psi) (CAN/ULC-S716.1)	239.40 kPa (34.72 psi)
	ASTM E 2188-10		
Wind Load	ASTM E 330/330M-14		L/240 @ 285 Pa (59.61 psf)

1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification.

**1.05 SUBMITTALS**

**A. Product Data:**

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

**B. Samples**

- The contractor shall prepare and submit two (2) .61 m x .61 m (2 ft x 2 ft) samples of the proposed bricks to the architect and/or owner for approval.

**C. Mock-Up**

- A minimum 2.4 m x 2.4 m (8 ft x 8 ft) mock-up wall shall be prepared by the applicator/contractor with the NewBrick materials, with mortar installed, to establish a standard of acceptance by the owner, architect or project manager. The mock-up may be part of the building or a separate structure.

## **1.06 QUALITY ASSURANCE**

### **A. Qualifications**

1. Manufacturer shall be Dryvit Systems Canada
  - a. All NewBrick materials shall be manufactured or sold by Dryvit and shall be purchased from Dryvit or its authorized distributors.
2. The applicator/contractor shall be listed with Dryvit Systems Canada as a trained\* contractor and shall possess a current Dryvit trained contractor certificate.

## **1.07 DELIVERY, STORAGE AND HANDLING**

A. All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact.

B. Upon arrival, materials shall be inspected for physical damage, freezing or overheating. Questionable materials shall not be used.

1. Materials shall be stored at the job site, and at all times, in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Storage temperature for liquid products shall be between 4°C (40 °F) - 38°C (100 °F).

C. Protect all products from inclement weather and direct sunlight.

## **1.08 PROJECT CONDITIONS**

### **A. Environmental Requirements**

1. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
2. At the time of NewBrick product application, the air and wall surface temperatures shall be from 4 °C (40 °F) minimum to 38 °C (100 °F) maximum.
3. These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.

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

## **1.09 SEQUENCING AND SCHEDULING:**

1. Application of the bricks shall be coordinated with other construction trades.
2. Sufficient labor and equipment shall be employed to ensure a continuous operation.

## **1.10 LIMITED MATERIALS WARRANTY**

A. Dryvit Systems Canada shall offer a written limited materials warranty against defective materials upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit is not liable for incidental or consequential damages. Dryvit does not warrant workmanship. Contact Dryvit's Warranty Services Department for complete details.

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

## **1.11 DESIGN RESPONSIBILITY**

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

## **1.12 MAINTENANCE**

A. Maintenance and repair procedures shall be followed in accordance with the Dryvit application instructions for the specific Dryvit system utilized.

B. All Dryvit products are designed to minimize maintenance. However, as with all building products, depending on location, some cleaning may be required. See Dryvit publication [DS152](#), Cleaning and Recoating, for proper procedures.

C. Mortar, sealants, flashings and other building envelope components shall be inspected on a regular basis and repairs made as necessary to maintain in a serviceable condition.

## **PART II – PRODUCTS**

### **2.01 GENERAL**

- A. All NewBrick products shall be supplied by Dryvit Systems Canada or its authorized distributors. Substitutions or additions of other materials will void the warranty.

### **2.02 MATERIALS**

- A. Portland Cement: Shall be Type GU, meeting CAN/CSA-A3001-13, white or gray in color, fresh and free of lumps.  
B. Water: Shall be clean and potable.  
C. Mortar: Shall meet CAN/CSA-A179-04 Type N or S mortar modified with minimum 20% Dryvit NewBrick Mortar Admix.

### **2.03 COMPONENTS**

- A. Air/Water-Resistive Barrier (when specified): Shall be Dryvit Backstop NT.  
B. Base Coat: Used to skim rough or uneven surfaces, shall be one of the following:  
1. Genesis® or Genesis® DM  
C. Adhesive: Used to adhere the bricks to an acceptable substrate, shall be one of the following:  
1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.  
a. Shall be Primus® or Genesis  
2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.  
a. Shall be Primus® DM or Genesis DM  
D. NewBrick: A pre-finished insulated brick product available as follows:  
1. Sizes:  
a. Modular, Utility, Norman, Economy  
2. Colors:  
a. 16 Standard colors  
b. 4 Standard blends  
3. Effects:  
a. Flashed  
b. Iron Spot  
c. Flashed Iron Spot  
4. Textures:  
a. Smooth  
b. Velour  
c. Wire Cut  
d. Coarse Cut  
5. Configurations:  
a. Flat Bricks: designed with an integral horizontal mortar spacing feature. Flat Bricks are used in field-of-wall applications.  
b. Corner Bricks: "L"-shaped bricks designed for use at outside corners, sills and other areas.  
c. 135° Corner Bricks: Used for 135° outside corners (only available in Modular size).  
d. End Bricks: Used at expansion joint locations and terminations without returns.  
e. Edge Cap Brick: Used at sills, jambs and other similar locations  
6. Specials: Contact Dryvit Systems Canada  
E. Liquid admixture: Shall be Dryvit NewBrick Mortar Admix, a 100% acrylic additive for type N or S mortar.

## **PART III EXECUTION**

### **3.01 EXAMINATION**

- A. Prior to application of the bricks, the contractor shall ensure that the substrate is of a type listed in Section 1.04.B.2.  
B. The architect or general contractor shall ensure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the application of NewBrick materials.  
C. The contractor shall notify the general contractor and/or architect and/or owner of all discrepancies. Work shall not proceed until discrepancies have been corrected.

### **3.02 SURFACE PREPARATION**

- A. The substrate shall be free of foreign materials such as oil, dust, dirt, form-release agents, efflorescence, paint, wax, water repellents, moisture, frost, and any other materials that inhibit adhesion.

- B. The Dryvit Outsulation or Stratum Guard system shall be installed in accordance with the current published literature up to the base coat.
  - 1. The reinforcing mesh shall be completely embedded in the base coat.
  - 2. The base coat shall be fully dried (a minimum of 24 hours, or longer, depending on weather conditions).
  - 3. The base coat shall be free of any imperfections that would affect the application of the NewBrick materials.
- C. Concrete
  - 1. Shall have cured a minimum of 28 days.
  - 2. Air/Water-Resistive Barrier (when specified): Shall be Dryvit Backstop NT applied in accordance with Backstop NT Application Instructions DSC177.
- D. Unglazed Brick and Masonry
  - 1. Apply a continuous layer of Genesis or Genesis DM mixture over the entire wall surface to fill voids and provide a smooth level base. Application thickness shall not exceed 1/8 in (3 mm) in a single pass.
  - 2. When specified, a layer of reinforcing mesh is embedded into the wet Dryvit base coat mixture and troweled smooth.
  - 3. Allow the base coat mixture to cure a minimum of 24 hours until completely dry. Cool, humid conditions may require longer cure times.
  - 4. Air/Water-Resistive Barrier (when specified): Shall be Dryvit Backstop NT applied in accordance with Backstop NT Application Instructions, DSC177.
- E. Portland Cement Plaster
  - 1. Shall be dry and cured a minimum of 7 days prior to application of the NewBrick units.
  - 2. When specified, a layer of reinforcing mesh is embedded into the wet Dryvit base coat mixture and troweled smooth.
  - 3. Allow the base coat mixture to cure a minimum of 24 hours until completely dry. Cool, humid conditions may require longer cure times.
  - 4. Air/Water-Resistive Barrier (when specified): Shall be Dryvit Backstop NT applied in accordance with Backstop NT Application Instructions, DSC177.

### **3.03 INSTALLATION**

- A. Dryvit NewBrick materials shall be applied in accordance with current NewBrick Application Instructions, DSC871.
- B. Mortar shall be installed per the mortar manufacturer's requirements.

### **3.04 Field Quality Control**

- A. The Contractor shall be responsible for the proper application of the Dryvit materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.

### **3.05 CLEANING**

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

### **3.06 PROTECTION**

- A. The Dryvit NewBrick materials shall be protected from weather and other sources of damage until permanent protection in the form of flashings, sealants, etc. are installed. Contractor shall take precautions to prevent condensation and/or heat build-up when using a tarp or plastic as protection.

## **Disclaimer**

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

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

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Dryvit Systems Canada  
129 Ringwood Drive  
Stouffville, ON L4A 8C1  
(800) 263-3308

[www.dryvit.ca](http://www.dryvit.ca)

Printed in Canada R1: 2017-10-06  
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