

DELTA®-DRY STUCCO & STONE – Ventilated Rainscreen

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section provides information regarding above grade ventilated rainscreen for enclosure walls.
- B. Related Sections include the following:
 - 1. Section 05400 – Cold-formed metal framing: Gypsum-type exterior above-grade wall sheathing.
 - 2. Section 06100 – Rough Carpentry: Wood-type exterior above-grade wall sheathing.
 - 3. Section 07260 – Weather Barriers: Other vapor retarders and air barriers.
 - 4. Section 09260 – Gypsum board assemblies: Gypsum-type exterior above-grade wall sheathing.
 - 5. Section 09111 – Non-structural metal framing: Gypsum-type exterior above-grade wall sheathing.

1.2 REFERENCES

- A. AATCC 127 (1998) - Water Penetration Resistance.
- B. ASTM C 695-02a (2005) - Standard Test Method for Compressive Strength.
- D. ASTM D 1777-96 (2002) - Standard Test Method for Thickness of Textile Materials.
- E. ASTM D 5261 (2003) - Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
- F. ASTM E 96/96M (2005), Method A - Standard Test Method for Water Vapor Transmission of Materials.
- G. CAN/ULC-S102.2 (2003) - Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies.

1.3 SUBMITTALS

- A. See Section 01300 – Administrative Requirements, for submittal procedures.
- B. Product Data: Include manufacturer’s written instructions, detail drawings showing ventilation and drainage details, technical data, and tested physical and performance properties.
- C. Shop Drawings: Provide 1/2" = 1' scale drawings (or larger) showing relationship of rainscreen product to:
 - 1. Framing or blocking members
 - 2. Girts
 - 3. Thermal insulation
 - 4. Sheathing
 - 5. Water-resistive barrier

6. All exterior cladding and corner conditions
7. Door and window frames
8. Balcony and railing penetrations
9. Structural tie-back penetrations
10. Pipe, conduit, duct, or any other wall penetrations

D. Samples:

1. 4" x 4" (100 mm x 100 mm) sample of rainscreen material
2. Provide materials and fasteners for mock-up

E. Manufacturer's Instructions: Provide manufacturer's instructions showing the recommended procedures and sequences of installation of the rainscreen product, and storage and handling requirements and recommendations. See www.dorken.com for downloadable installation instructions.

F. Manufacturer's Product Warranty

1.4 QUALITY ASSURANCE

A. Rainscreen manufacturer shall have an on-going quality control program with inspections by a nationally recognized independent organization.

B. Source Limitations: Obtain all rainscreen material through one source from a single manufacturer.

C. Installer Qualifications: Company specializing in performing work of this type, incorporating rainscreen materials.

D. Manufacturer's Representative Qualifications: Approved or accredited and employed or authorized by rainscreen manufacturer to perform specified field quality control activities.

E. Pre-installation Meeting: Conduct meeting at project site to comply with requirements in Division 1, Section "Project Management and Coordination." Review requirements for rainscreen, including surface preparation specified under other sections, substrate condition and pre-treatment, forecasted weather conditions, special details and flashings, installation procedures, testing and inspection procedures, protection, and repairs.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to project site in original packaging with seals unbroken, labelled with manufacturer's name, and product brand name.

B. Store product rolls under cover, on a clean, level surface, either flat or upright.

C. Provide cover for products while stored on site before installation, protected from direct sunlight and UV exposure.

D. When products must be stored for extended periods of time, store at temperatures above minus 24° F (minus 30° C).

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the following products:
1. Dual cavity 3-dimensional rainscreen membrane with drainage and ventilation channels with factory-installed mortar screen. Rainscreen product shall be furnished in standard rolls of 1 m wide by 14 m long (3'3" x 46').
 - a. DELTA®-DRY STUCCO & STONE, manufactured by Dörken Systems Inc.;
Phone: +1 (888) 433-5824 – www.dorken.com
 - b. Others as may be approved by Addendum.
Note: The Architect is not aware of any other material that has the compressive strength, resistance to solar-driven moisture, vapor permeability and water penetration resistance of the specified product.

2.2 RAINSCREEN PHYSICAL PROPERTIES

- A. Ventilated Rainscreen for building enclosure: High density polyethylene sheet, dimpled and grooved to provide drainage and ventilation on both sides of sheet, stabilized against oxidation and UV degradation. DELTA®-DRY STUCCO & STONE has a factory pre-installed polypropylene (PP) fabric mortar screen. It is ideal behind absorptive claddings such as manufactured stone and conventional stucco claddings.
1. Product: DELTA®-DRY STUCCO & STONE (Dörken Systems Inc)
 2. Water penetration resistance: 813 kPa (118 psi) – AATCC 127-1995
 3. Overall thickness: 10.53 mm (0.42") at 2 kPa – ASTM D1777-96 (2002)
 4. Compressive strength: 93 kN/m² (1942 lb/ft²) ASTM 6364
 5. Water vapor transmission: 22 ng/(Pa s m²) (0.14 perms) – ASTM E96, Method A
 6. Surface burning characteristics:
 - i. Flame spread: 210 – CAN/ULC-S102.2
 - ii. Smoke development: 105 – 190 – CAN/ULC-S102.2
 7. Contact surface of rainscreen to WRB: 9% (91% open)
 8. Contact surface of rainscreen to cladding: 20% (80% open)
 9. Color: silver-grey

2.3 AUXILIARY MATERIALS

- A. Single-sided Tape:
1. DELTA®-FLEXX-BAND, to repair DELTA®-DRY STUCCO & STONE at damage; distributed by Dörken Systems Inc.
- B. Fasteners:
1. Large head corrosion-resistant roofing nails, minimum 1" long.
 2. Corrosion-resistant screws, minimum 1" long

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements and other conditions affecting performance.
- B. Verify that substrates are sound enough to retain fasteners.
- C. Do not begin installation until substrates have been properly prepared.

- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 SURFACE PREPARATION

- A. Clean surfaces “broom clean” prior to installation.
- B. Prepare substrate according to manufacturer’s written recommendations for achieving the best result for the substrate under the project conditions.

3.3 RAINSCREEN INSTALLATION

- A. Install DELTA[®]-DRY STUCCO & STONE in accordance with manufacturer’s instructions.
- B. Start at lowest point and work to top, running length of sheets horizontally. The application is to incorporate ventilation at top and bottom of wall, or at least every two stories.
 - 1. Install DELTA[®]-DRY STUCCO & STONE with stud side facing the water-resistive barrier (WRB).
 - 2. Side laps and end laps shall be placed tightly to the adjacent roll. Do not overlap or interlock DELTA[®]-DRY STUCCO & STONE.
 - 3. Install sheets without gaps, large wrinkles, creases, or tears.
 - 4. Secure to substrate at edges and in the field of the sheet using fasteners and methods recommended by manufacturer. Fasteners must penetrate into solid backing or sheathing and where possible into studs.
- C. Do not seal or block rainscreen at top or bottom of installation. Leave a minimum 3/8” (10 mm) air gap open for ventilation and proper performance of the wall system.
- D. Provide drop leg shielding of ventilation area to prevent rainwater intrusion due to wind. The length of drop leg shielding is to be determined according to wind/storm for building location.

3.4 FIELD QUALITY CONTROL

- A. Engage an independent inspector to observe substrate and installation.
- B. Contact Dörken Systems Inc. for field review with contractor to achieve a satisfactory installation by periodic review of the procedures during construction, and evaluating the finished work.

3.5 PROTECTION, REPAIR AND CLEANING

- A. Protect installed rainscreen from damage due to ultraviolet light, harmful weather exposures, physical abuse, and other causes until completion of project. Do not leave installed rainscreen exposed to sunlight (UV) for more than 30 days after installation.
- B. Prior to installing subsequent construction, inspect DELTA[®]-DRY STUCCO & STONE rainscreen for tears and other damage, and repair.
- C. Repair torn rainscreen as follows: Any rips, tears or holes in the rainscreen membrane smaller than 2” in diameter should be patched with DELTA[®]-FLEXX-BAND centered over the tear. Any rips, tears, or holes larger than 2” in diameter should be patched with DELTA[®]-DRY STUCCO & STONE. Cut a piece of DELTA[®]-DRY STUCCO & STONE the diameter of the tear. Center the patch over the tear and fasten with approved fasteners or tape edges of patch with DELTA-FLEXX BAND.

- D. Remove mud and similar marks with a water scrub. If chemicals have been spilled on rainscreen, treat as a tear and repair as stated above.

END OF SECTION