

ICC-ES Evaluation Report

ESR-1233

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This report is subject to re-examination in one year.

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DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07280—Water-resistive Barriers
REPORT HOLDER:
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EVALUATION SUBJECT:
**STO GUARD® WITH GOLD COAT® AND STO GUARD®
WITH EMERALDCOAT® WATER-RESISTIVE BARRIERS**
1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)

Properties evaluated:

- Surface-burning characteristics
- Water-resistive barrier

2.0 USES

Sto Guard® with Gold Coat® and Sto Guard® with EmeraldCoat® are used as alternatives to the water-resistive barrier specified in the IBC and IRC when installed over wood and gypsum-based sheathing in exterior walls of non-fire-resistance-rated construction of any construction type.

Sto Guard® with Gold Coat® is used over sheathing where EIFS cladding is to be used. Sto Guard® with Gold Coat® may be used behind other wall covering materials, but requires a single layer of building paper to serve as a slip sheet when used behind portland cement plaster (stucco).

Sto Guard® with EmeraldCoat® is used over sheathing where EIFS cladding will not be used.

3.0 DESCRIPTION
3.1 General:

The Sto Guard® system consists of a sheathing joint treatment, a rough opening treatment and a water-resistive barrier coating. The joint treatment consists of: 266 Sto

Gold Fill®, and 919 Sto Detail Mesh (interchangeable with 276 Sto Guard Mesh or 278 Sto Guard Mesh, which vary in width only). The water-resistive barrier coating is either Sto Gold Coat® or Sto EmeraldCoat®. Sto Guard® has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E 84.

265 Sto Gold Coat®, 266 Sto Gold Fill®, and 919 Sto Detail Mesh are also sold under the names PROSOCO R-Guard Fill, PROSOCO R-Guard Spray Wrap and PROSOCO R-Guard Tape 9.5 (interchangeable with PROSOCO R-Guard 4.25).

3.1.1 266 Sto Gold Fill®: 266 Sto Gold Fill® is a ready-mixed, flexible joint compound packaged in 5-gallon (19 L) pails, having a one-year shelf life when stored at temperatures between 38°F and 90°F (3.3°C and 32.2°C).

3.1.2 265 Sto Gold Coat®: 265 Sto Gold Coat® is a ready-mixed, flexible, polymer-based liquid coating packaged in 5-gallon (19 L) pails, having a one-year shelf life when stored at temperatures between 38°F and 90°F (3.3°C and 32.2°C).

3.1.3 919 Sto Detail Mesh: 919 Sto Detail Mesh is a 4.2 oz/yd² (142 g/m²), polymer-coated, glass-fiber reinforcing mesh packaged in 9-inch-wide-by-150-foot-long (229 mm by 46 m) rolls.

3.1.4 264 Sto EmeraldCoat®: Sto EmeraldCoat® is a ready-mixed, flexible, polymer-based liquid coating packaged in 5-gallon (19 L) pails and having a one-year shelf life when stored at temperatures between 38°F and 90°F (3.3°C and 32.2°C).

3.2 Water Vapor Transmission:

The water vapor transmission (WVT) values [in compliance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38)] are as follows:

Sto EmeraldCoat®:

- Single layer 8.5 Perms = 58.7 g/m² per 24 hours
- Double layer 3.5 Perms = 24.5 g/m² per 24 hours

Sto Gold Coat®:

- Single layer 7.7 Perms = 53.1 grams/m² per 24 hours
- Double layer 3.1 Perms = 21.8 grams/m² per 24 hours

Sto Gold Fill® with Sto Detail Mesh: 7.10 perm = 119 grams/m² per 24 hours

3.3 Sheathing:

The use of Sto Guard® is limited to applications over the following sheathing materials:

- Gypsum sheathing board complying with ASTM C 79
- G-P Dens-Glass® Gold complying with a current evaluation report.

- Plywood, Exposure 1, complying with U.S. DOC PS-1.
- Oriented Strand Board (OSB), Exposure 1, complying with U. S. DOC PS-2.

4.0 INSTALLATION

4.1 General:

Installation of Sto Guard® must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation.

4.2 Substrate Preparation:

Sto Guard® must be installed on the exterior side of vertical exterior walls over the exterior sheathing. Surfaces must be free of all bond-inhibiting materials, including dirt, oil and other foreign matter. Sto Guard® must be applied only when the surface and ambient temperatures are 40°F (4°C) and rising during the application and drying period. Working time will decrease as surface and ambient temperatures increase.

Sto Guard® must not be installed on damp surfaces, below-grade surfaces, or on surfaces subject to water immersion. Damaged sheathing must be removed and replaced. Sheathing must be installed as required by the applicable code. Sto Guard® must be covered with an exterior wall finish complying with the requirements of the applicable code or a current evaluation report. See Figures 1 through 8 for installation details.

Sto Gold Fill® must be troweled over all sheathing joints, rough openings, and inside and outside building corners. Sto Detail Mesh shall be immediately embedded in the Sto Gold Fill® and troweled smooth. Sheathing joints require a minimum 4-inch (101 mm) width of mesh. Rough openings and corners require a minimum 9-inch (228 mm) width of mesh. Fastener heads and surface defects must be spot-coated with Sto Gold Fill®. The system must not be applied over irregular surfaces. The substrate to be coated must be continuous, without joints, holes, etc., exceeding $\frac{1}{32}$ inch (0.8 mm) in size. Surface defects larger than $\frac{1}{32}$ inch (0.8 mm) must be treated with Sto Gold Fill® prior to application of Sto Gold Coat®. The application thickness of Sto Gold Fill™ must not exceed $\frac{1}{16}$ inch (1.6 mm).

4.3 Coating Sto Gold Coat® Application:

4.3.1 Sto Gold Coat® Application over Exterior Gypsum Sheathing, Dens-Glass Gold or Exterior Plywood: The substrate must be prepared as described in Section 4.2. Sto Gold Coat® must be applied with a nap roller in a single, uniform coat to a wet thickness of 10 mils [0.01 inch (0.25 mm)]. For application over Dens-Glass Gold sheathing, a $\frac{3}{4}$ -inch (19.1 mm) nap roller must be used. For application over plywood and gypsum sheathing, a $\frac{1}{2}$ -inch (12.7 mm) nap roller must be used. The coating must not be applied in rainy conditions.

4.3.2 Sto Gold Coat® Application over Oriented Strand Board (OSB): A two-coat application of Sto Gold Coat® is required over OSB. The first coat of Sto Gold Coat® must be applied over the substrate prior to treatment of sheathing joints, rough openings, and corners. The second coat of Sto Gold Coat® must be applied to the prepared substrate, as described in Section 4.2 , with a $\frac{3}{4}$ -inch (19.1 mm) nap roller. The substrate receiving the second coat of Sto Gold Coat® must be continuous, without joints, holes, etc., exceeding $\frac{1}{32}$ inch (0.8 mm) in size. The second coat of Sto Gold Coat® must be applied over the treated surface in a single, uniform coating to a wet thickness of 10 mils [0.01 inch (0.25 mm)]. The coating must not be applied in rainy conditions.

4.3.3 Curing and Drying: Sto Gold Coat® must be dry to the touch and may be over-coated within two to four hours after application, under normal conditions. Drying time varies depending on temperature/humidity and surface conditions. A minimum of 24 hours is required before any adhesive attachment of exterior finish to the final Sto Guard® system surface is made, if required. Surfaces must be protected from rain and freezing until completely dry.

4.4 Sto EmeraldCoat® Application:

4.4.1 Sto EmeraldCoat® Application over Sheathing:

The substrate must be prepared as described in Section 4.2. Sto EmeraldCoat® is applied with a nap roller or appropriate spray equipment in a single uniform coat to a wet thickness of 10 mils [0.01 inch (0.25 mm)]. For application over Dens-Glass Gold sheathing and orientated strand board (OSB) a $\frac{3}{4}$ -inch (19.1 mm) nap roller is used. OSB sheathing may require touch-up with a second application of Sto EmeraldCoat® where wood strands are raised. Surfaces must be inspected and touched up as needed before installation of wall covering materials. For application over plywood and gypsum sheathing, a $\frac{1}{2}$ -inch (12.7 mm) nap roller is used. The coating must not be applied in rainy conditons.

4.4.2 Curing and Drying: Sto EmeraldCoat® must be dry to the touch and may be over-coated within two to four hours after application. Drying time varies depending on temperature/humidity and surface conditions. Surfaces must be protected from rain and freezing until completely dry.

5.0 CONDITIONS OF USE

The Sto Guard® system described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

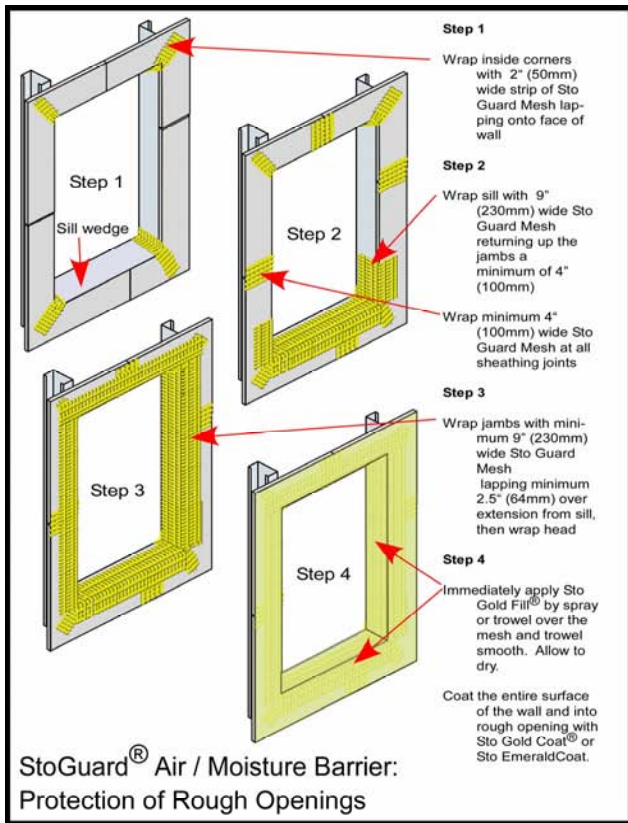
- 5.1 Installation must comply with this report, the manufacturer's published instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 Special inspections are required at the jobsite in accordance with IBC Sections 1704.1 and 1704.13, which also apply for compliance with the IRC. See Figure 9 for the inspection form.
- 5.3 The Sto Guard® system is limited to installations on vertical walls and must not be used on parapets or on sloped or horizontal surfaces.
- 5.4 The Sto Guard® system must be covered with an exterior wall finish or covering complying with the applicable code or a current evaluation report.
- 5.5 The Sto Guard® system must not be used for repairing moving cracks, joints or cracks wider than $\frac{1}{8}$ inch (3.2 mm).

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Coatings Used as Weather-resistive Barriers over Exterior Sheathing (AC212), dated February 2005 (editorially revised October 2008).

7.0 IDENTIFICATION

Packages of the Sto Guard® materials described in this report must be identified by a label bearing the manufacturer's name (Sto Corp.) and address, product name, identification of components, lot or batch number, quantity of material in packaged mix, storage instructions and shelf life, expiration date (when applicable) and the evaluation report number (ESR-1233).



For SI: 1 inch = 25.4 mm

Figure 1

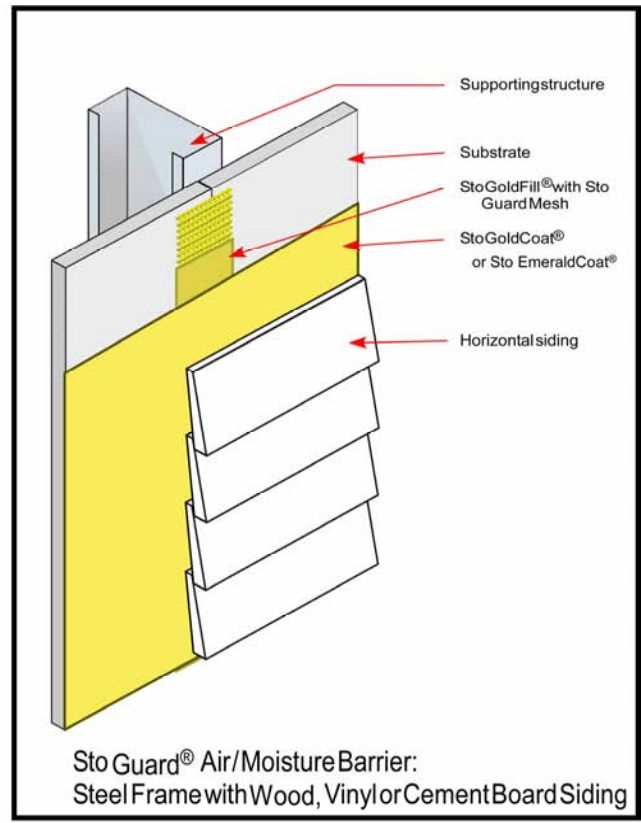


Figure 2

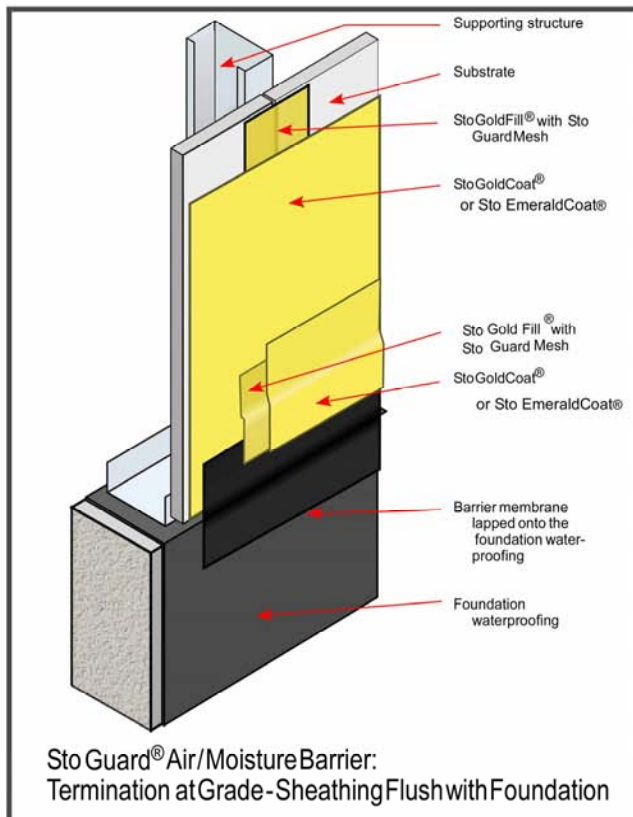


Figure 3

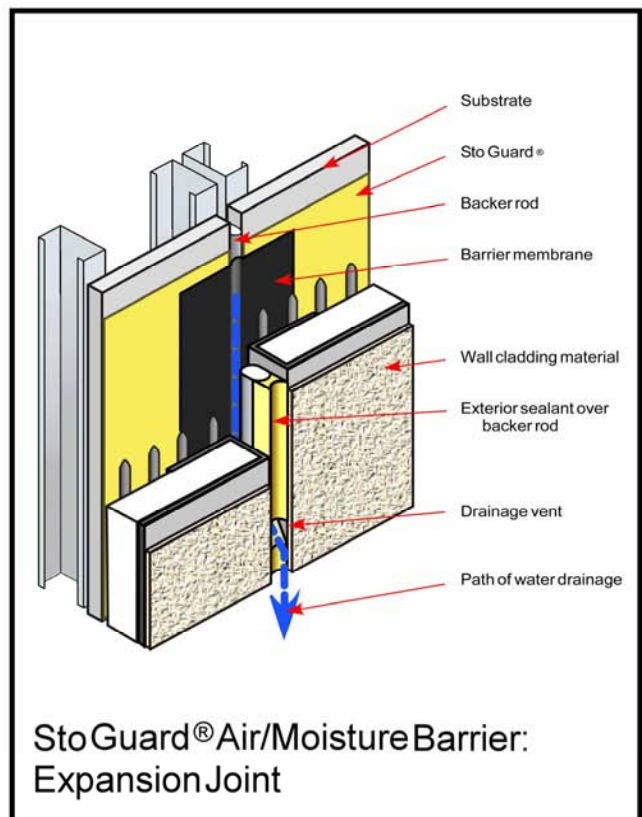


Figure 4

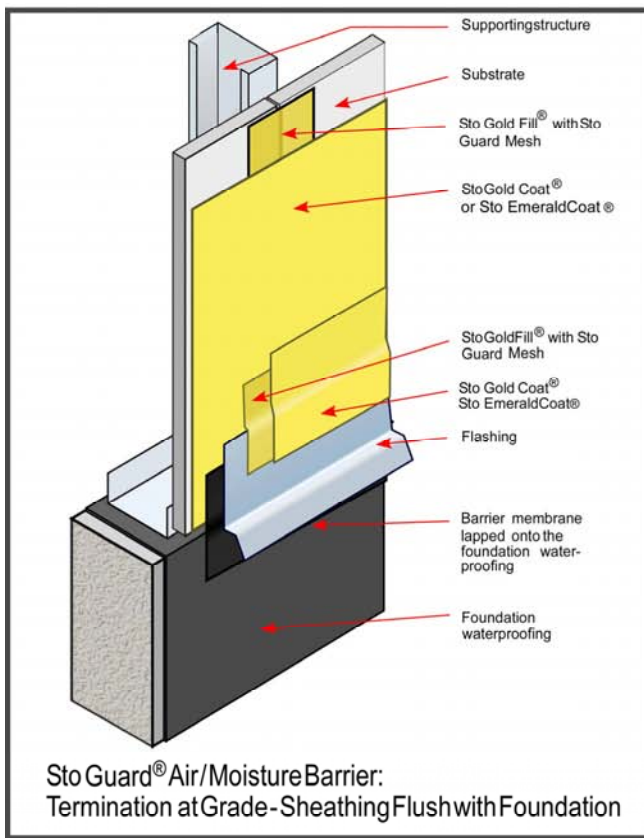


Figure 5

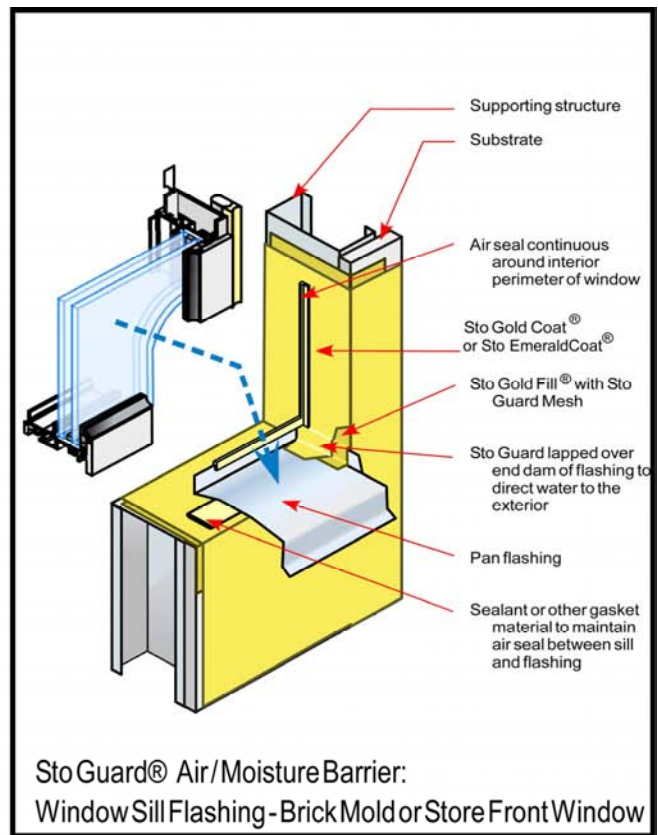


Figure 6

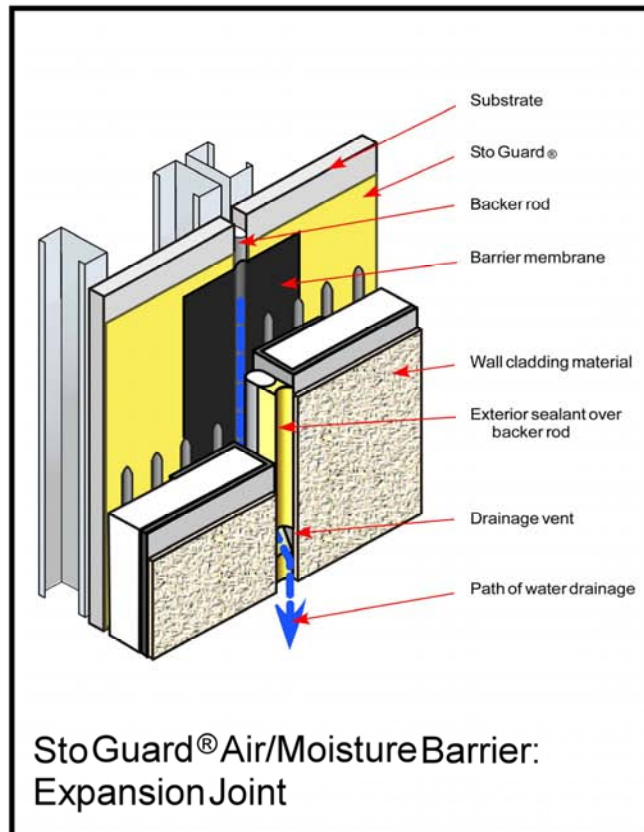


Figure 7

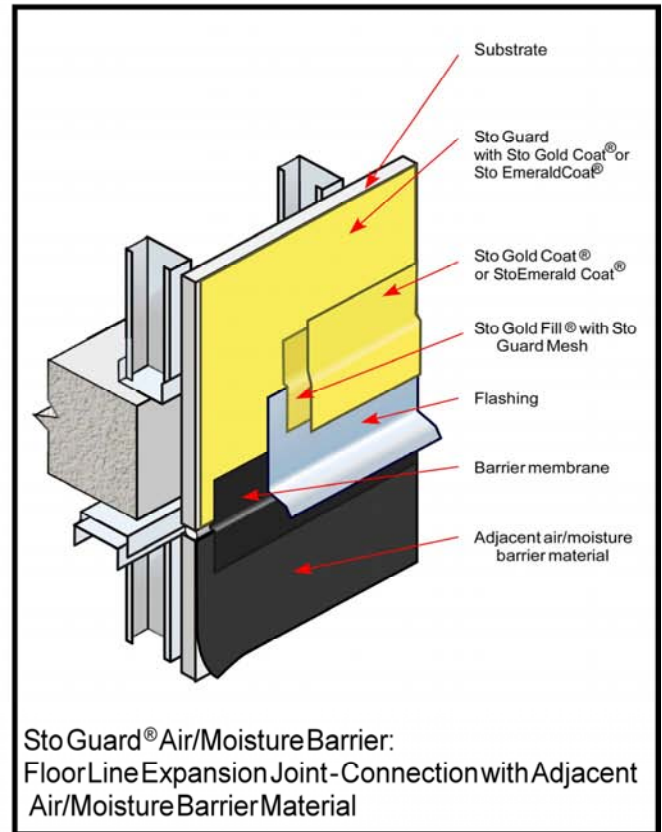


Figure 8

(WATER-RESISTIVE COATING CONTRACTOR NAME)

Completion Date: _____

THE WATER-RESISTIVE COATING INSTALLED ON THE STRUCTURE LOCATED AT THE ADDRESS INDICATED BELOW:

_____ CONFORMS

TO (WATER-RESISTIVE COATING MANUFACTURER NAME) RECOMMENDED INSTALLATION PRACTICES AND SECTION (S) _____ OF EVALUATION REPORT ESR-_____.

Address of Structure:

Product Component Names:

Reinforcing Fabric _____
Coating _____

INSTALLATION

CONFORMS

A. Substrate Type and Tolerance

B. Water-resistive Coating

C. The information entered above is offered in testimony that the water-resistive coating application conforms with the manufacturer's installation methods and procedures, and the water-resistive coating manufacturer's evaluation report.

NOTE: An installation card shall be received from the water-resistive coating installer indicating that the water-resistive coating application conforms with the water-resistive coating evaluation report and water-resistive coating manufacturer's installation methods and procedures must accompany this declaration.

Water-resistive Coating Contractor Company Name and Address:

Signature of responsible Officer: _____
Typed Name and Title of Officer: _____
Telephone Number: (_____) _____

cc: Original: Building Department
Copy: Water-resistive Coating Manufacturer

FIGURE 9