

# ICC-ES Evaluation Report

**ESR-2932\***

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**DIVISION: 07 00 00—THERMAL AND MOISTURE  
PROTECTION**
**Section: 07 25 00—Water-Resistive Barriers/Weather  
Barriers**
**Section: 07 27 00—Air Barriers**
**REPORT HOLDER:**
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**EVALUATION SUBJECT:**
**DELTA® WATER RESISTIVE BARRIERS: DELTA®-MAXX,  
DELTA®-MAXX PLUS, DELTA®-FOXX, DELTA®-FOXX  
PLUS, DELTA®-VENT S, DELTA®-VENT S PLUS, DELTA®-  
FASSADE S AND DELTA®-FASSADE S PLUS**
**1.0 EVALUATION SCOPE**
**Compliance with the following codes:**

- 2009 and 2006 *International Building Code*® (IBC)
- 2009 and 2006 *International Residential Code*® (IRC)
- 2009 and 2006 *International Energy Conservation Code*® (IECC)

**Properties evaluated:**

- Water resistance
- Air leakage (DELTA®-MAXX, DELTA®-MAXX PLUS, DELTA®-VENT S and DELTA®-VENT S PLUS only)

**2.0 USES**

The DELTA® water-resistive barrier products (DELTA®-MAXX, DELTA®-MAXX PLUS, DELTA®-FOXX, DELTA®-FOXX PLUS, DELTA®-VENT S, DELTA®-VENT S PLUS, DELTA®-FASSADE S and DELTA®-FASSADE S PLUS) recognized in this report are used as water-resistive barriers on the exterior side of exterior walls of buildings. The DELTA®-MAXX, DELTA®-MAXX PLUS, DELTA®-FOXX, DELTA®-FOXX PLUS, DELTA®-VENT S, DELTA®-VENT S PLUS, DELTA®-FASSADE S and DELTA®-FASSADE S PLUS water-resistive barrier products may be used in buildings of any construction type under the IBC and construction permitted under the IRC. DELTA®-MAXX and DELTA®-MAXX PLUS are equivalent to 60-minute Grade D paper as described in the exception to IBC

Section 2510.6 and the exception to IRC Section R703.6.3. DELTA®-FOXX, DELTA®-FOXX PLUS, DELTA®-VENT S, DELTA®-VENT S PLUS, DELTA®-FASSADE S and DELTA®-FASSADE S PLUS are equivalent to Grade D paper as described in IBC Section 2510.6 and IRC Section R703.6.3. DELTA®-MAXX, DELTA®-MAXX PLUS, DELTA®-VENT S and DELTA®-VENT S PLUS may also be used as air barrier materials under IRC Section N1102.4.1 and IECC Sections 402.4 and 502.4.

**3.0 DESCRIPTION**
**3.1 DELTA®-MAXX and DELTA®-MAXX PLUS:**

DELTA®-MAXX and DELTA®-MAXX PLUS consists of a polyester, nonwoven, needle-punched layer, coated on one side with a polyurethane film, except that the DELTA®-MAXX PLUS includes a self-adhesive strip to aid in the installation of the water-resistive barrier. The self-adhesive strip does not replace mechanical fasteners used to attach the water-resistive barrier as required by the code. The product has a nominal weight of 3.7 pounds per 100 square feet (182 g/m<sup>2</sup>) and is produced in rolls 4.9 feet (1.5 m) wide and 164 feet (50 m) long. DELTA®-MAXX and DELTA®-MAXX PLUS have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E 84. The product has an air leakage rate not exceeding 0.02 L/s-m<sup>2</sup> at 75 Pa [0.004 cfm/ft<sup>2</sup> at 0.3 inch w.g. (1.57 psf)] when used as an air barrier material under IRC Section N1102.4.1 and IECC Sections 402.4 and 502.4.

**3.2 DELTA®-FOXX and DELTA®-FOXX PLUS:**

DELTA®-FOXX and DELTA®-FOXX PLUS consists of a layer of nonwoven, thermo-bonded polyester coated on one side with an acrylic coating, except that the DELTA®-FOXX PLUS includes a self-adhesive strip to aid in the installation of the water-resistive barrier. The self-adhesive strip does not replace mechanical fasteners used to attach the water-resistive barrier as required by the code. The product has a nominal weight of 5.5 pounds per 100 square feet (270 g/m<sup>2</sup>) and is produced in rolls 4.9 feet (1.5 m) wide and 164 feet (50 m) long. DELTA®-FOXX and DELTA®-FOXX PLUS have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E 84.

**3.3 DELTA®-VENT S and DELTA®-VENT S PLUS:**

DELTA®-VENT S and DELTA®-VENT S PLUS consist of polypropylene spun fiber (nonwoven) inner and outer layers and a polypropylene film center layer, except that the DELTA®-VENT S PLUS includes a self-adhesive strip to aid in the installation of the water-resistive barrier. The

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self-adhesive strip does not replace mechanical fasteners used to attach the water-resistive barrier as required by the code. The product has a nominal weight of 2.9 pounds per 100 square feet (140 g/m<sup>2</sup>) and is produced in rolls 4.9 feet (1.5 m) wide and 164 feet (50 m) long. DELTA<sup>®</sup>-VENT S and DELTA<sup>®</sup>-VENT S PLUS have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E 84. The product has an air leakage rate not exceeding 0.02 L/s-m<sup>2</sup> at 75 Pa [0.004 cfm/ft<sup>2</sup> at 0.3 inch w.g. (1.57 psf)] when used as an air barrier material under IRC Section N1102.4.1 and IECC Sections 402.4 and 502.4.

### 3.4 DELTA<sup>®</sup>-FASSADE S and DELTA<sup>®</sup>-FASSADE S PLUS:

DELTA<sup>®</sup>-FASSADE S and DELTA<sup>®</sup>-FASSADE S PLUS consists of a layer of nonwoven, thermo-bonded polyester coated on one side with an acrylic coating, except that the DELTA<sup>®</sup>-FASSADE S PLUS includes a self-adhesive strip to aid in the installation of the water-resistive barrier. The self-adhesive strip does not replace mechanical fasteners used to attach the water-resistive barrier as required by the code. The product has a nominal weight of 5.5 pounds per 100 square feet (270 g/m<sup>2</sup>). The product is produced in rolls 4.9 feet (1.5 m) wide and 164 feet (50 m) long. DELTA<sup>®</sup>-FASSADE S and DELTA<sup>®</sup>-FASSADE S PLUS have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E 84.

## 4.0 INSTALLATION

### 4.1 General:

The report holder's published installation instructions and this report must be strictly adhered to. If requested by the code official, a copy of this report must be available at the jobsite during installation.

### 4.2 Water-resistive Barrier:

When installed as water-resistive barriers, the products described in this report are installed after wall framing is completed. The roll is placed approximately 1 foot (305 mm) from the starting corner and fastened to the sheathing with corrosion-resistant staples, large-headed nails, or roofing nails spaced at a maximum of 32 inches (812 mm) on center; and is then unrolled around the building and fastened, as set forth in the report holder's published installation instructions, at top and bottom sill plates and at framing members. A minimum of 6 inches (152 mm) of overlap is required for vertical seams and 2 inches (50.8 mm) for horizontal seams, except where the report holder's installation instructions specify a greater overlap dimension. When used over wood-based sheathing in exterior plaster applications, one layer of DELTA<sup>®</sup>-MAXX or DELTA<sup>®</sup>-MAXX PLUS or two layers of DELTA<sup>®</sup>-FOXX, DELTA<sup>®</sup>-FOXX PLUS, DELTA<sup>®</sup>-VENT S, DELTA<sup>®</sup>-VENT S PLUS, DELTA<sup>®</sup>-FASSADE S or

DELTA<sup>®</sup>-FASSADE S PLUS must be applied over the sheathing in accordance with IBC Section 2510.6 or IRC Section R703.6.3, as applicable. For cementitious coatings or exterior insulation and finish systems, application of the barrier must be in accordance with the evaluation report on the exterior coating.

### 4.3 Air Barrier Material:

When used as an air barrier, the DELTA<sup>®</sup>-MAXX, DELTA<sup>®</sup>-MAXX PLUS, DELTA<sup>®</sup>-VENT S and DELTA<sup>®</sup>-VENT S PLUS materials must be installed in accordance with the Cosella-Dorken Products, Inc., installation instructions and this report.

## 5.0 CONDITIONS OF USE

The products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The products must be installed in accordance with the report holder's published installation instructions, the requirements of the applicable code and this report. In the event of a conflict between this report and the published installation instructions, this report governs.
- 5.2 The products must be covered by an exterior wall finish complying with the requirements of the applicable code.
- 5.3 The air leakage rates noted in Section 3.1 for DELTA<sup>®</sup>-MAXX and DELTA<sup>®</sup>-MAXX PLUS, Section 3.3 for DELTA<sup>®</sup>-VENT S and DELTA<sup>®</sup>-VENT S PLUS are for the products' use as air barrier materials only. The design and evaluation of the air barrier assembly, of which the products are a component, is outside the scope of this report.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38), dated June 2011.
- 6.2 Reports of surface burning characteristics testing in accordance with ASTM E 84.
- 6.3 Reports of air leakage testing in accordance with ASTM E 2178 (DELTA<sup>®</sup>-MAXX, DELTA<sup>®</sup>-MAXX PLUS, DELTA<sup>®</sup>-VENT S and DELTA<sup>®</sup>-VENT S PLUS only).

## 7.0 IDENTIFICATION

The products described in this report are identified by a label on the container of each roll of membrane, and by printing on the product, that includes the report holder's name (Cosella-Dorken Products Inc.), the city and country of manufacture (Herdecke, Germany), the product name, the date of manufacture and the evaluation report number (ESR-2932).