

# ICC-ES Evaluation Report

**ESR-1019**

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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07110—Dampproofing**  
**Section: 07130—Sheet Waterproofing**

**REPORT HOLDER:**

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**EVALUATION SUBJECT:****DELTA®-MS “CLEAR” MEMBRANE****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)

**Properties evaluated:**

- Foundation dampproofing
- Wall waterproofing (IRC only)

**2.0 USES**

Delta®-MS “Clear” Membrane is a below-grade, exterior-wall, sheet membrane that performs as a foundation wall dampproofing material. In those jurisdictions adopting the IRC, the membrane may be considered as a foundation wall waterproofing material for use in applications of low hydrostatic pressure (i.e., locations with perched watertables).

**3.0 DESCRIPTION**

Delta®-MS “Clear” Membrane is a high-density polyethylene (HDPE), semirigid, thermally formed sheet membrane, “dimpled” on one side to provide an air gap between the membrane and the wall surface. The membrane has a compressive strength of 5200 lbs/ft<sup>2</sup> (250 kN/m<sup>2</sup>) and a dimple height of 0.31 inch (8 mm).

The membrane system includes rolls of membrane material, termination bars of Delta® Flash, molding strips for vertical terminations, Delta® Plugs or Delta® Fasteners, screws for insulated concrete forms (ICFs) and permanent wood foundations (PWFs), and nails for concrete block and poured concrete foundations. The use of water-based sealants for sealing the seams in Delta®-MS “Clear” is recommended for all ICF foundations and extruded

polystyrene (EPS) backed forms. Delta®-MS “Clear” Membrane is inert, with no volatiles or solutes to contaminate the soil.

Delta®-MS “Clear” Membrane is installed with the “dimple” protrusion side against the foundation wall (refer to Figures 1 and 2), thus forming a continuous air gap around the basement wall. This membrane functions to keep basements dry as follows:

- The membrane keeps ground moisture (rain water) from coming into direct contact with the wall surface.
- The air gap allows construction moisture and water vapor permeating from the interior space to condense against the membrane, flow down to the footing and drain away from the building.
- The air gap system continues to function despite any future foundation wall shifting or cracking.
- The air gap system functions on concrete, parged concrete block, insulated concrete forms or treated wood foundations, without additional wall surface treatment.

**4.0 INSTALLATION**

Installation of Delta®-MS “Clear” Membrane 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.

Except for concrete block foundation walls, which are required to be parged, primer material or other special treatment of the wall surface is not required prior to application of the membrane. Chalk lines must be made on the foundation wall at grade and at the height of the foundation dampproofing membrane to establish placement of the upper edge of the membrane and the sealant bead. The membrane must be unrolled and applied to the substrate with the flat flange on the top such that wrinkles or waves in the membrane are avoided.

The membrane must be fastened along the top edge and in the dimpled body below the orange identification strip with fastener supplied by the report holder; screws for ICF and EPS backed forms and nails for concrete block and poured concrete walls. The fastening must be in accordance with the manufacturer’s published installation instructions. For ICF foundations, fastener spacing is determined by the attachment strips as marked by the manufacturer of the ICF Block system. DELTA®-MOLD-STRIP, DELTA®-FLASH, or DELTA®-TERMINATION BAR must be located along the top flange of the membrane and must be fastened to the membrane at 8 inches (20 mm) on

center. When the spacing of the ICF attachment strips is equal to or less than 12 inches (305 mm) on center, DELTA<sup>®</sup>-T-FAST<sup>®</sup>ner may be used, the DELTA<sup>®</sup>-MOLD-STRIP, DELTA<sup>®</sup>-FLASH, or DELTA<sup>®</sup>-TERMINATION BAR are not required. The membrane must be lapped a minimum of 4 inches (100 mm) horizontally and 6 inches (150 mm) vertically. The dimples must be interlocked. A continuous 1/2-inch (12.7 mm) bead of sealant must be applied at all lapped edges of the membrane and between the plug and nail locations at lapped edges. See Figures 1 and 2 for details of the system.

Solvent-based sealants must not be used to seal the membrane to the foundation at the flat tab when Delta<sup>®</sup>-MS "Clear" is installed over ICF foundations and EPS backed forms.

Delta<sup>®</sup>-MS "Clear" Membrane must be installed tight to foundation wall penetrations, sealed at the entire intersection between the membrane and the penetrating item. Flashing must be installed in accordance with the manufacturer's published installation instructions available at [www.cosella-dorken.com](http://www.cosella-dorken.com).

## 5.0 CONDITIONS OF USE

The Delta<sup>®</sup>-MS "Clear" Membrane 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 installation instructions and this report, this report shall govern.
- 5.2 The backfill of the foundation must be clean soil free of rocks or other deleterious materials and placed (for jurisdictions adopting the IBC, the backfill shall be placed in lifts and compacted) so as not to damage the foundation or the membrane system. The design

and construction of the foundation is outside the scope of this report.

- 5.3 Delta<sup>®</sup>-MS "Clear" Membrane materials must be stored out of direct sunlight and at temperatures above -24F(-31°C). Delta<sup>®</sup>-MS materials must not be installed when temperatures are below -24F (-31°C).
- 5.4 Delta<sup>®</sup>-MS "Clear" Membrane must be backfilled within 30 days of its installation to protect the material from prolonged exposure to ultraviolet radiation (sunlight).
- 5.5 Delta<sup>®</sup>-MS "Clear" Membrane must not be installed on foundation walls greater than 16 feet (4.88 m) in height.
- 5.6 The Delta<sup>®</sup>-MS "Clear" Membrane may be used as dampproofing under the IBC. Use of the membrane under the IBC as waterproofing is outside the scope of this report.
- 5.7 The design and installation of the foundation drainage system is outside the scope of this report. The foundation drainage system must be installed in accordance with IBC Section 1807.4 or IRC Section R405, as applicable.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Rigid Polyethylene, Below-grade, Dampproofing and Wall Waterproofing Material (AC114), dated February 2004 (editorially revised September 2008).

## 7.0 IDENTIFICATION

The Delta<sup>®</sup>-MS "Clear" Membrane described in this report must be identified by a stamp on the packaging that bears the manufacturer's name (COSELLA-DÖRKEN PRODUCTS, INC.), the product type and the evaluation report number (ESR-1019).

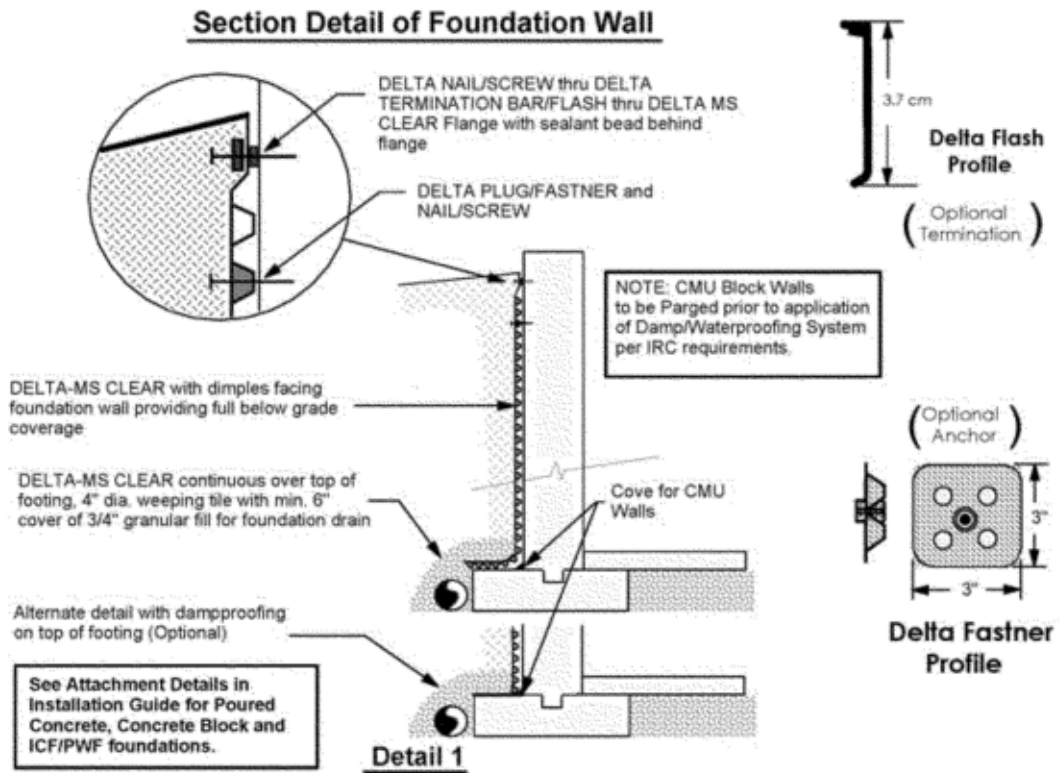


FIGURE 1—FOUNDATION WALL

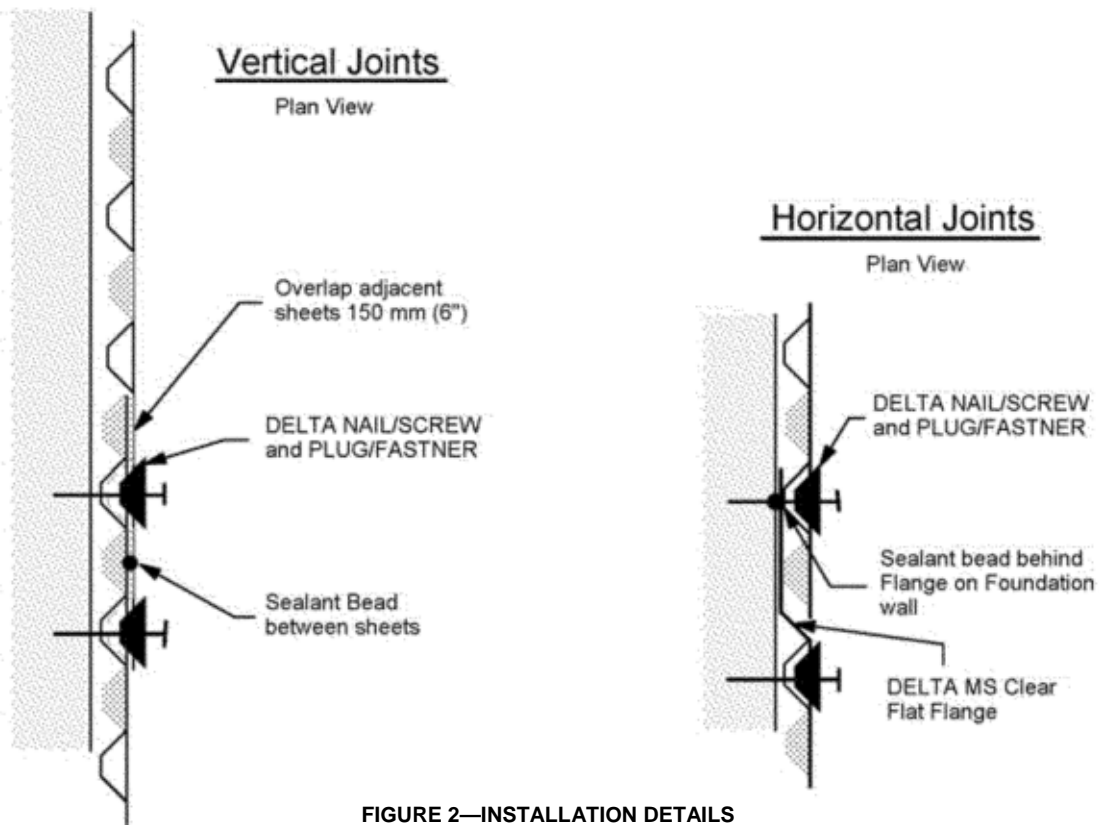


FIGURE 2—INSTALLATION DETAILS