

# ICC-ES Evaluation Report

**ESR-1252**

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**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**  
**Section: 07 30 05—Roofing Felt and Underlayment**

**REPORT HOLDER:**

**TAMKO BUILDING PRODUCTS LLC.**

**EVALUATION SUBJECT:**

**TW METAL AND TILE UNDERLAYMENT AND TW UNDERLAYMENT**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2018, 2015 and 2012 *International Residential Code*® (IRC)

**Properties evaluated:**

- Physical properties
- Ice barrier

**2.0 USES**

TW Metal and Tile Underlayment and TW Underlayment are self-adhering membranes used as alternates to the ASTM D226 Type I and II underlayments specified in Chapter 15 of the IBC and Chapter 9 of the IRC. Additionally, the membranes may be used as alternatives to the ice barrier required by IBC Chapter 15 and IRC Chapter 9.

**3.0 DESCRIPTION**

**3.1 TW Underlayment:**

A nominally 40-mil-thick, unreinforced modified bitumen membrane with a polymeric film on the top surface. The membrane is backed with a release film, to protect the membrane adhesive. The membrane is black in color and is produced in rolls 39<sup>3</sup>/<sub>8</sub> inches (1000 mm) wide in various lengths.

**3.2 TW Metal and Tile Underlayment:**

TW Metal and Tile Underlayment is a nominally 60-mil-thick (1.52 mm) membrane, composed of fiberglass-mat reinforcement, modified bitumen and a textured polymeric film on the exposed surface. The product has a silicone-treated release sheet on the back that is removed

prior to attachment to the substrate. The membrane is supplied in rolls that are 39<sup>3</sup>/<sub>8</sub> inches (1000 mm) wide and available in various lengths.

**4.0 INSTALLATION**

**4.1 General:**

Installation of TAMKO TW Metal and Tile Underlayment and TW Underlayment membranes 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.

Prior to application of the membrane, the deck surface must be free of frost, dust and dirt, loose nails, and other protrusions. Damaged sheathing must be replaced. Installation is limited to plywood substrates. The membrane is to be applied only when the ambient air and substrate temperatures are above 40°F (4.4°C).

**4.2 Underlayment Applications:**

The membranes may be cut into 10- to 15-foot (3048 to 4572 mm) lengths and rerolled. The release film is peeled back approximately 1 to 2 feet (305 to 610 mm) and the membrane aligned with the lower edge of the roof and set in place. The remainder of the membrane is applied directly to the roof deck by removing the film and firmly pressing the membrane into place. The end seams must be overlapped a minimum of 6 inches (152 mm). Edge seams must be overlapped 4 inches (102 mm) for TW Metal and Tile Underlayment and TW Underlayment. The subsequent courses of membrane are applied parallel to the eave, from the lower edge of the roof upwards in a shingle-lap manner.

If the membrane becomes misaligned, the roll is to be cut and restarted. The membrane is pressed firmly into place, from the center to edge. After application, the membrane must be inspected, and any defects repaired. "Fish mouths" are slit, pressed flat, and covered with a patch of membrane of sufficient width and length to overlap each side and end of the slit a minimum of 3 inches (76 mm).

Installation of the roof covering can proceed immediately following application of the membrane. TW Metal and Tile Underlayment and TW Underlayment are to be covered by the roof covering within the time set forth in the manufacturer's published installation instructions. For reroofing application, the same procedures apply after removal of the existing roof covering and roofing felts to expose the roof deck.

#### 4.3 Ice Barrier:

In areas of the roof required to have an ice barrier under IBC Chapter 15 or IRC Chapter 9, the membrane must be installed in sufficient courses to extend up the roof for a minimum distance of 24 inches (610 mm) inside the exterior wall line of the building. The roof underlayment, in the field of the roof, must overlap the ice barrier.

#### 4.4 Flashing:

Flashing must be in accordance with the applicable code. Flashing around protrusions must be over the lower course of the underlayment and under the upper course of the underlayment, to prevent water backup. When used, metal drip edges must be installed beneath the underlayment at eaves and over the underlayment at rakes.

#### 5.0 CONDITIONS OF USE

The TAMKO TW Metal and Tile Underlayment and TW Underlayment membranes described in this report comply with, or are suitable alternates 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 applicable code and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's installation instructions, this report governs.
- 5.2 Installation is limited to use on plywood substrates.
- 5.3 Installation is limited to structures located in areas where nonclassified roof coverings are permitted or as a component of a classified roofing assembly when specifically recognized as such in a listing approved by the code official.
- 5.4 Installation must be limited to roofs with a slope of 2:12 (16.67%) or greater.
- 5.5 Installation must be limited to use with roof coverings that do not involve hot asphalt or coal-tar pitch.
- 5.6 Installation is limited to use with roof coverings that are mechanically fastened through the underlayment to the sheathing or rafters.
- 5.7 Installation must be limited to roofs with ventilated attic spaces.

5.8 The membrane must be installed only when the ambient air and substrate temperatures are above 40°F (4.4°C).

5.9 The TW Metal and Tile Underlayment are manufactured at the TAMKO Building Products plant located in Joplin, Missouri, and the TW Underlayment membrane is manufactured at the Columbus, Kansas, plant, under a quality control program with inspections provided by ICC-ES.

#### 6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Self-adhered Roof Underlayment for Use as Ice Barriers (AC48), dated February 2012 (editorially revised May 2018).

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Roof Underlayments (AC188), dated February 2012 (editorially revised May 2018).

#### 7.0 IDENTIFICATION

7.1 The TAMKO TW Metal and Tile Underlayment and TW Underlayment membranes described in this report are identified by a label, on the container of each roll of membrane, bearing the TAMKO Building Products name, the product name, the manufacturing location and the evaluation report number (ESR-1252).

7.2 The report holder's contact information is the following:

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