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ICC-ES Evaluation Report

ESR-2053

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Reissued 07/2018
This report is subject to renewal 07/2020.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
SECTION: 07 30 05—ROOFING FELT AND UNDERLAYMENT

REPORT HOLDER:

GAF

EVALUATION SUBJECT:

**VERSASHIELD® FIRE-RESISTANT ROOF DECK PROTECTION AND
VERSASHIELD™ UNDERLAYMENT**



“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”



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A Subsidiary of the International Code Council®

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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical properties
- Fire classification

2.0 USES

VersaShield® Fire-Resistant Roof Deck Protection (previously known as VersaShield® Underlayment) is used as an alternative to ASTM D226, Type I or Type II, roofing underlayment specified in Chapter 15 of the IBC and Chapter 9 of the IRC.

When installed in accordance with Section 4.2.1 of this report, VersaShield® Fire-Resistant Roof Deck Protection can also be used over existing wood shakes or shingles as an alternative to the covering materials specified in Section 1510.4 of the IBC or Section R907.4 of the IRC.

VersaShield® Fire-Resistant Roof Deck Protection is also used as a component of classified roofing assemblies as described in Section 4.3, when installed in accordance with this report.

3.0 DESCRIPTION

VersaShield® Fire-Resistant Roof Deck Protection is a resin-bound chopped-glass-fiber substrate, coated on both sides with a mineral-filled aqueous coating. The underlayment has a weight of 15 pounds per 100 square feet (0.73 kg/m²), and is supplied in rolls.

4.0 INSTALLATION

4.1 General:

VersaShield® Fire-Resistant Roof Deck Protection is installed in accordance with the requirements of the applicable code, the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions are to be available at the jobsite during the installation.

VersaShield® Fire-Resistant Roof Deck Protection is limited to use over spaced or solid sheathing, or over existing asphalt shingles, wood shakes or wood shingles installed on spaced or solid sheathing. Prior to application of the underlayment, the deck surface is to be free of dust and dirt, loose nails and other protrusions. Damaged sheathing is to be replaced. The underlayment is applied at right angles to the slope of the roof, beginning at the low point of the roof, and is laid with minimum 2-inch (51 mm) horizontal and 6-inch (152 mm) vertical lapped joints. It is attached with a sufficient number of nails, having tin caps or 1-inch-diameter (25.4 mm) plastic caps, to hold the underlayment in place until the roof covering is applied, except in areas subject to high winds where the underlayment fastening must comply with the high wind attachment requirements specified in Section 1507 of the 2012 IBC or Section R905 of the 2012 IRC. The underlayment may be bent to a minimum 1/2-inch (12.7 mm) radius, but is not to be creased. At junctions between the roof deck and vertical surfaces, the underlayment is installed a minimum of 3 inches (76 mm) up the vertical surface.

In areas of the roof required to have an ice barrier under Chapter 15 of the IBC or Chapter 9 of the IRC, a self-adhesive polymer bitumen sheet, complying with ASTM D1970 or the ICC-ES Acceptance Criteria for Self-adhered Underlayments for Use as Ice Barriers (AC48), is to be applied. The underlayment is to be applied over the solid substrate in sufficient courses so that the underlayment extends up the roof a distance equal to the distance inside the exterior wall line of the building that is specified by the applicable code. The underlayment, applied in the field of the roof, is to completely overlap the ice barrier (severe climate underlayment) protection a minimum of 2 inches (51 mm).

Installation of the roof covering can proceed immediately following the underlayment application. The underlayment is to be covered by a roof covering within the time set forth in the manufacturer's published installation instructions.

4.2 Reroofing:

The existing roof must be inspected in accordance with Section 1510 of the IBC or Section R907 of the IRC. The new roof covering is installed over the VersaShield® Fire-Resistant Roof Deck Protection in accordance with the roof covering manufacturer's published installation instructions. The new roof covering must be recognized in a current ICC-ES evaluation report, and, when applicable, the evaluation report must address installation over wood shake, wood shingle or asphalt shingle roofs.

4.2.1 Existing Wood Shakes or Shingles: Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, VersaShield® Fire-Resistant Roof Deck Protection can be used as an alternative to the covering materials specified in Section 1510.4 of the IBC or Section R907.4 of the IRC. The underlayment covers the entire existing wood roof. Battens used for the new roof covering system are installed over the underlayment. The underlayment may be placed under or over counterbattens, spaced a maximum of 24 inches (610 mm) on center. The underlayment is fastened to the counterbattens with a sufficient number of nails, having tin caps or 1-inch-diameter (25.4 mm) plastic caps, to hold the underlayment in place until the horizontal battens and roof covering are applied. When counterbattens are installed over the underlayment or when counterbattens are not used, the underlayment is fastened directly to the existing roof covering in the same manner.

4.2.2 Existing Asphalt Shingles: When installed over existing asphalt shingles, the underlayment is applied over the existing roof covering and fastened through the shingles to the sheathing with a sufficient number of nails, having tin caps or 1-inch-diameter (25.4 mm) plastic caps, to hold the underlayment in place until the roof covering is applied.

4.3 Roof Classification:

When installed in accordance with this report, VersaShield® Fire-Resistant Roof Deck Protection can be used as an alternative to Exception 2 to Section 1505.2 of the 2012 and 2009 IBC, the Exception to Sections 1505.2 and 1505.3 of the 2006 IBC, and Section R902.1 of the IRC; or any roofing assembly having a Class A, B or C roof classification, without reducing the roof classification. When installed in accordance with Section 4.1 and Table 1 of this report, roofing assemblies incorporating VersaShield® Fire-Resistant Roof Deck Protection have the roof classification specified in Table 1. The roof coverings must be recognized in a current ICC-ES evaluation report as shown in Table 2.

5.0 CONDITIONS OF USE

The VersaShield® Fire-Resistant Roof Deck Protection 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 installation 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 Installation is limited to roofs with a minimum slope of 2:12 (16.67 percent slope) or to the minimum slope required for the roof covering in accordance with the applicable code, whichever is greater.
- 5.3 Installation is limited to use with roof coverings that do not involve hot asphalt or coal-tar pitch.
- 5.4 Installation is limited to use with approved roof coverings that are mechanically fastened through the underlayment to the sheathing or rafters.
- 5.5 Installation is limited to roofs with ventilated attic spaces in accordance with the requirements of the applicable code.
- 5.6 VersaShield® Fire-Resistant Roof Deck Protection is produced in Conover, North Carolina, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Nonasphaltic Fiberglass-based Roof Underlayment (AC160), dated January 2000 (editorially revised February 2014).

7.0 IDENTIFICATION

- 7.1 Each roll of underlayment bears a label indicating the GAF name and address, the plant identification, the product name, the roll number, and the evaluation report number (ESR-2053).
- 7.2 The report holder's contact information is the following:

GAF
1 CAMPUS DRIVE
PARSIPPANY, NEW JERSEY 07054
(973) 628-3000
www.gaf.com

TABLE 1—ROOF CLASSIFICATION OF ASSEMBLIES INCORPORATING VERSASHIELD® FIRE-RESISTANT ROOF DECK PROTECTION

ROOF COVERING ²	SUBSTRATE	UNDERLAYMENT ¹	ROOF CLASSIFICATION	MAXIMUM SLOPE
Class A asphalt glass fiber shingle	15/32-inch plywood	One layer VersaShield®	A	Unlimited
Stone coated, steel, direct to deck, 0.013-inch thickness (0.330 mm), shingles or panels	15/32-inch plywood or spaced sheathing	One layer VersaShield®	A	Unlimited
Steel direct to deck, 0.013-inch thickness (0.330 mm), shingles or panels	15/32-inch plywood or spaced sheathing	One layer VersaShield®, and one layer Type 30 asphalt saturated organic felt	A	Unlimited
	15/32-inch plywood or spaced sheathing	One layer VersaShield®	B	Unlimited
Steel over battens, 0.013-inch thickness (0.330 mm), shingles or panels	15/32-inch plywood or spaced sheathing	One layer VersaShield®	A	Unlimited
	Existing wood shakes or shingles installed over spaced or solid sheathing	Two layers VersaShield®	A	Unlimited
	Existing wood shakes or shingles installed over spaced or solid sheathing	One layer VersaShield®	B	Unlimited
Steel, 0.016-inch thickness (0.406 mm), panels or standing seam system	15/32-inch plywood or spaced sheathing	One layer VersaShield®	A	Unlimited
Copper, 0.016-inch thickness (0.406 mm), shingles or panels	15/32-inch plywood or spaced sheathing	One layer VersaShield®, and one layer Type 30 asphalt saturated organic felt	A	Unlimited
	Existing wood shakes or shingles installed over spaced or solid sheathing	Two layers of VersaShield®	A	Unlimited
	15/32-inch plywood or spaced sheathing	One layer VersaShield®	B	Unlimited
	Existing wood shakes or shingles installed over spaced or solid sheathing	One layer of VersaShield®	B	Unlimited
Aluminum, 0.018-inch (0.457 mm), shingles, panels, or standing seam system	15/32-inch plywood or spaced sheathing	Two layers VersaShield®	A	Unlimited
	15/32-inch plywood or spaced sheathing	One layer VersaShield®	B	Unlimited
	Existing wood shakes or shingles installed over spaced or solid sheathing	One layer VersaShield®	B	Unlimited
TPO, CSM, CPA, EPDM, cap sheet, or modified bitumen single-ply membranes	15/32-inch plywood	Two layers VersaShield®	A	1 1/2:12
	15/32-inch plywood, insulation	Two layers VersaShield®	A	1 1/2:12
	15/32-inch plywood	One layer VersaShield®	B	1 1/2:12
PVC single-ply membrane	15/32-inch plywood	Two layers VersaShield®	A	2:12
	15/32-inch plywood, insulation	Two layers VersaShield®	A	1 1/2:12
	15/32-inch plywood	One layer VersaShield®	B	1 1/2:12

For **SI**: 1 inch = 25.4 mm.

¹Underlayment must be installed in accordance with Section 4.0 of this report.

²Roof coverings must be recognized in a current ICC-ES evaluation report. The roof covering must comply with the Class A or B flame-spread requirements of UL790 (ASTM E108), as applicable to the systems defined in this table.

TABLE 2—EVALUATION REPORT CROSS-REFERENCE

COMPANY	ICC-ES EVALUATION REPORT NUMBER	RECOGNIZED PRODUCT
Carlisle Syntec	ESR-1463	EPDM, PVC and TPO Single-Ply Membranes
Delta Building Products, Ltd.	ESR-1790	Aluminum and Steel Roofing Shingles and Panels
Decra Roofing Systems, Inc.	ESR-1754	Decra Villa Tile, Decra Shake XD™ and Decra Shingle XD™ Steel Roofing Panels
Decra Roofing Systems, Inc.	ESR-2901	Steel Roofing Panels: Decra Tile, Decra Shake, Decra Shingle Plus
Gerard Roofing Technologies	ESR-1188	Gerard, Allmet, Storm Loc, Energy Loc, Armor, Eco Loc, Rof Loc, Storm Loc, and Stormtile Brands of Guardian, Granite Ridge, Diplomat and Diplomat Plus Steel Roofing Panels
Gerard Roofing Technologies	ESR-1491	Steel Roofing Panels: Tile; Shake; Canyon Shake; Barrel Vault; NB Tile in the following brands: Allmet, Armor, Eco Loc, Energy Loc, Gerard, Roof Loc, Stone Loc, Storm Loc, Stormtile
Firestone Building Products Company, LLC	ESR-2831	Firestone UltraPly™ TPO and TPO XR Singly Ply Roofing Membranes
Ideal Roofing Company Ltd.	ESR-3101	Wakefield Bridge (26 gage) Steel Panels and Wakefield Bridge (29 gage) Steel Panels
Ideal Roofing Company Ltd.	ESR-3100	HF-16 and HF-20.25 Roof Panels
DaVinci Roofscapes, LLC	ESR-2119	DaVinci Slate, DaVinci Shake, Bellaforte Shake and Bellaforte Slate Roof Shingles
Feroof Co., Ltd.	ESR-3331	Steel Roofing Panels: Veneto I, Veneto II, Rio, Rio EZ, Diva, Wood, Zissen and Slate
Ensoltis Green Hybrid Roofing LLC	ESR-2904	Ensoltis Savanna S Roof Tile
Custom-Bilt Metals	ESR-2048	Custom-Bilt Standing Seam Metal Roof: CB-150 and SL-1750
2001 Company, Inc., dba Kelly Company-2001 Inc.	ESR-3185	2001 Company Inc. EPDM, PVC and TPO Single-Ply Roofing Membranes
Roser Co., Ltd	ESR-1763	Roser Steel Roofing Panels: Spany, Roser Bond, Rowood, Tuscany Tile and Stonewood Shake
Berridge Manufacturing Company	ESR-3486	Berridge Cee-Lock and Zee-Lock Standing Seam Roof Panels

¹The aluminum panels are limited to Class B roof covering assemblies.