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DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07305—Roofing Felt and Underlayment

REPORT HOLDER:

ELK PERFORMANCE NONWOVEN FABRICS, INC.
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EVALUATION SUBJECT:

ELK VERSASHIELD™ UNDERLAYMENT

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

Properties evaluated:

- Physical properties
- Fire classification

2.0 USES

Elk VersaShield™ Underlayment is used as an alternative to ASTM D 226, Type I or Type II, roofing underlayment specified in Chapter 15 of the IBC and Chapter 9 of the IRC, or Type 15 or asphalt-saturated felt Type 30 roofing underlayment specified in Chapter 15 of the UBC.

When installed in accordance with Section 4.2.1 of this report, Elk VersaShield™ Underlayment 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, Section R907.4 of the IRC or Section 1516.3 of the Chapter 15 Appendix to the UBC.

The underlayment is also used as a component of classified (rated) roofing assemblies as described in Section 4.3, when installed in accordance with this report.

3.0 DESCRIPTION

Elk VersaShield™ Underlayment 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:

Elk VersaShield™ Underlayment 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.

Elk VersaShield™ Underlayment 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. 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, or to have a severe climate underlayment under the UBC, a self-adhesive polymer bitumen sheet, complying with ASTM D 1970 or the ICC-ES Acceptance Criteria for Severe Climate Underlayments (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, Section R907 of the IRC or Appendix Chapter 15 of the UBC. The new roof covering is installed over the Elk VersaShield™ Underlayment 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, Elk VersaShield™ Underlayment can be used as an alternative to the covering materials specified in Section 1510.4 of the IBC, Section R907.4 of the IRC or Section 1516.3 of the UBC

Appendix Chapter 15. 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, Elk VersaShield™ Underlayment can be used as an alternative to Type 15 or Type 30 underlayment with any noncombustible roof covering complying with Section 1504.2 of the UBC; the exceptions to Sections 1505.2 and 1505.3 of the 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 the VersaShield™ Underlayment 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 Elk VersaShield™ Underlayment 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 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** Elk VersaShield™ Underlayment is produced in Ennis, Texas, and Waxahachie, Texas, under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668).

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 May 2006).

7.0 IDENTIFICATION

Each roll of underlayment bears a label indicating the Elk Performance Nonwoven Fabrics, Inc., name and address, the plant identification, the product name, the roll number, the name of the inspection agency (Underwriters Laboratories Inc.) and the evaluation report number (ESR-2053).

TABLE 1—ROOF CLASSIFICATION OF ASSEMBLIES INCORPORATING VERSASHIELD UNDERLAYMENT

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 ^{5,7}	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 ⁵	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 ⁵	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 ⁵	¹⁵ / ₃₂ -inch plywood or spaced sheathing	One layer VersaShield	A	Unlimited
Copper, 0.016-inch thickness (0.406 mm), shingles or panels ⁵	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 ^{5,6}	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 ^{3,4}	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 ^{3,4}	¹⁵ / ₃₂ -inch plywood	Two layers VersaShield	A	0.091667
	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
Duro-Last PVC, 0.040-inch (ESR-1660)	¹⁵ / ₃₂ -inch plywood	One layer VersaShield	B	0.091667

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 UBC Standard 15-2 (ASTM E 108), as applicable to the systems defined in this table.

³The evaluation report on the single-ply membrane must include the same classification on the same assembly described in this report. Actual roof slope is determined by the maximum existing membrane classification incline in the ICC-ES evaluation report, but cannot exceed 1¹/₂:12, except Class A uninsulated PVC single-ply roof membrane assemblies may be installed on slopes not exceeding 2:12. The membrane must also be UL classified.

⁴For insulated systems, the ICC-ES evaluation report for the single-ply membrane must include a Class A roof classification over the insulation used. Actual roof slope is determined by the maximum slope allowed in the ICC-ES evaluation report for the insulated system, but cannot exceed 1¹/₂:12. The membrane must also be UL classified over the insulation used.

⁵Thickness for metal roof coverings is the minimum code allowable thickness. Panels are defined as having a minimum installed exposure of 3 square feet, and shingles as having an installed exposure of less than 3 square feet, as specified in Section 1.3 of the ICC-ES Acceptance Criteria for Metal Roof Coverings (AC166), Section 1502.1 of the IBC, and Section R202 of the IRC. Standing seam systems are recognized under the definition of panels.

⁶When installed over the underlayment in jurisdictions enforcing the IBC or IRC, aluminum shingles and panels must have a minimum thickness of 0.019 inch (0.483 mm) and 0.024 inch (0.610 mm), respectively.

⁷Stone coated steel shingles or panels are defined as steel shingles or panels having a coating of stone granules or chips, bonded to the exposed surfaces with an acrylic resin or polymer basecoat, and must be described in this manner in a current ICC-ES evaluation report.

TABLE 2—EVALUATION REPORT CROSS-REFERENCE

COMPANY	ICC-ES EVALUATION REPORT NUMBER	RECOGNIZED PRODUCT
Metals USA Building Products, Canada Inc.	ESR-1286	Type“S” Tile, Classic Tile, Steelstone Tile, Flat Panels, Impression Tiles
ATAS International, Inc.	ER-4623	Scanroof Steel Roofing Panels
	ER-5235	Standing Seam Steel Shingle Panels; Permeshake Aluminum Panels ¹
Carlisle Syntec Incorporated	ESR-1184	STDEPDM Sure-Seal® Elastomeric Membrane
Carlisle Syntec Incorporated	ESR-1463	EPDM and TPO Elastomeric Membranes
Classic Products, Inc.	ER-2002	Rustic Shingles and Rough Shake Aluminum Roofing Panels
Custom Built Metals ²	ER-4566	Standing Seam Metal Roofing, Steel Panels; Aluminum Panels ¹
Perfection, A Division of Classic Products	ER-5322	Country Manor Shake Aluminum Roofing Panels
Delta Building Products, Ltd.	ESR-1790	Aluminum and Steel Roofing Shingles and Panels
Duro-Last, Inc.	ESR-1660	Membrane Roof Covering
GAF Material Corporation	ER-6030	Everguard TPO Single PlyRoof Membrane Systems
GenFlex Roofing Systems	ER-6092	TPO Single Ply Roofing Systems
Gerard Roofing Technologies	ESR-1188	Gerard Guardian, Diplomat and Granite Ridge Panels
IB Roof Systems	ER-5405	CPA Membrane Roof Covering
Met-Tile Incorporated	NER-278	Met-Tile Steel Roofing Panels
Mule Hide Products Co., Inc.	ER-5867	Mule-Hide EPDM Membrane Roofing Systems
Metro Roof Products	ER-5218	Metro Coated Steel Roofing Panels
Custom Bilt Metals	ER-5318	Vail Titan Select Metal. Vail Majestic Copper, RIVA Select and Riva Classic Metal Roof Coverings
Soprema, Inc.	ER-5561	Soprema Modified Bitumen Roofing Systems
Stevens Roofing Systems	ESR-1209	Hi-Tuff Hypalon (CSM) and Hi-Tuff EP (TPO) Membrane Roof Coverings
Tamko Building Products, Inc.	ESR-1129	Metalworks Steel Roofing Shingles
Decra Roofing Systems, Inc.	ESR-1753	Decra Tile, Decra Shake, and Decra Shingle Plus Steel Roofing Panels
Decra Roofing Systems, Inc.	ESR-1754	Decra Tile Plus, Decra Shake Plus, and Decra Shingle Plus Steel Roofing Panels
Decra Roofing Systems, Inc.	ER-4361	Typhoon Tile, Typhoon Shake, and Titan Tile Steel Roofing Panels
Decra Roofing Systems, Inc.	ESR-1483	Decra Shingle Steel Roofing Panels
Zappone Manufacturing	ER-4995	Zappone Aluminum and Copper Shingles

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

²The Custom Built Metals steel standing seam system having a thickness of 0.015 inch (0.38 mm) is not recognized by this report.