



Protecto Wrap Company
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Protecto Deck Membrane Waterproofing System

CSI Section:
07 30 05 Roofing Felt and Underlayment

1.0 SCOPE OF LISTING

Protecto Wrap Company's Protecto Deck Membrane Waterproofing System is recognized for conformance with the following standards as detailed in Section 3.0:

- ASTM D5147
- ASTM E108
- ANSI A118.10
- TAS-114

2.0 LIMITATIONS

Use of the Protecto Wrap Company's Protecto Deck Membrane Waterproofing System recognized in this report is subject to the following limitations:

2.1 The Protecto Deck Membrane Waterproofing System shall be installed in accordance with the manufacturer's published installation instructions and this report. Where there is a conflict, the more restrictive requirements shall govern.

2.2 Protecto Wrap Company's Protecto Deck Membrane Waterproofing System shall be installed on slopes not less than 1/4:12 (2.1% slope) and shall be sloped to drain.

2.3 The supporting structure shall be designed to support the loads and is beyond the scope of this report.

2.4 The Protecto Deck Membrane Waterproofing System is not intended for exposed uses. The membrane shall be protected during construction and covered with tile or stone within 30 days.

2.5 When installing tile over Protecto Deck, a thinset thickness of 3/8-inch (9.5 mm) or less shall be maintained after the tile is embedded.

2.6 The ASTM E108 Class A Roof Covering Classification is applicable only where installed over non-combustible decks (such as steel, concrete, or gypsum) and where covered with tile or stone.

2.7 The Protecto Wrap Company's Protecto Deck Membrane Waterproofing System recognized in this report is produced by Protecto Wrap Company in Denver, Colorado.

3.0 PRODUCT USE

3.1 General: The Protecto Deck Membrane Waterproofing System has been evaluated as a waterproofing membrane beneath thinset tile applications, pedestal paver systems and decorative concrete surfaces. Protecto Deck Membrane Waterproofing System has been successfully tested as noted in Section 3.2, 3.3, 3.4 and 3.5 of this report.

3.2 Physical Property Tests: The physical properties for Protecto Deck, based on testing, are shown in Table 1 of this report.

TABLE 1 - Physical Property Tests		
PROPERTY	STANDARD	RESULTS
Seam Strength	ASTM D 751 Procedure B	127 lb/in
Waterproofness	ASTM D4068	Pass
Peak Load Test at 0°F	ASTM D5147	MD = 147 lbf/in - width
		CMD = 90 lbf/in - width
Elongation Test at 0°F	ASTM D5147	MD = 33 %
		CMD = 47 %
Peak Load Test at 73°F	ASTM D5147	MD = 109 lbf/in-width
		CMD = 57 lbf/in-width
Ultimate Elongation Test at 73°F	ASTM D5147	MD = 40%
		CMD = 100%
Tear Strength	ASTM D5147	MD = 165 lbf
		CMD = 101 lbf
Low Temp Flex Test at 0°F	ASTM D5147	MD = PASS
		CMD = PASS
Dimensional Stability	ASTM D5147	MD = 0.2 %
		CMD = 0.1 %
Compound Stability Test at 215°F	ASTM D5147	MD = PASS
		CMD = PASS
Unrolling	ASTM D5636	@ 40 F = PASS
		@ 140 = PASS
Thickness	ASTM D5147	83 Mils
Net Mass	ASTM D228	47 lb/100 ft ²
Heat Conditioning	ASTM D5147	As shown in col #1
Roof Covering Classification	ASTM E108	Class "A" when tested as an assembly

3.3 ANSI A118.10 Testing: The test results for Protecto Deck, unless noted otherwise, are shown in Table 2 of this report.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.



**TABLE 2 - ANSI A118.10 Testing**

PROPERTY	STANDARD	RESULTS
Fungi Resistance	ANSI A118.10	Pass
Seam Strength	ASTM D751 B	TD = 780 lbf/in
		LD=1,450 lbf/in
Dimensional Stability Test Conditioned 48hr at 15±2F	ASTM D1204	TD = 0.03%
		LD = 0.07%
Dimensional Stability Test Conditioned 48hr at 158±2F	ASTM D1204	TD = 0.6%
		LD = 0.2%
Waterproofness	ASTM D4068	PASS
Shear Strength ¹ Cure 7-Days at 73.4±3.6°F & 50±5%RH Rate 200±20 psi/min	ANSI A118.10 ASTM C482	PASS
7-day shear strength ¹		69 PSI
7-day water immersion shear strength ¹		64 PSI
4-week shear strength ¹		77 PSI
12-week shear strength ¹		75 PSI
100-day water immersion shear strength ¹		65 PSI
Robinson Floor Tester ²	ASTM C627	10 Cycles Passed

¹ Testing applied to samples consisting of Protecto Deck covered by a bonded area with Type X tile.

² Protecto Deck applied to a concrete surface that has been coated with BT Primer applied at an application rate of 150-200 ft²/gal (3.6 – 5.0 m²/L).

3.4 Wind Uplift - Protecto Wrap Company's Protecto Deck Membrane Waterproofing System consists of two deck designs - Concrete and Wood. Allowable uplift loads for each assembly are noted in Sections 3.4.1 and 3.4.2 of this report.

3.4.1 Concrete Decking Design Components:

Deck: Minimum 2,500 psi compressive strength concrete (deck shall be primed with Protecto Wrap Company's BT Primer at a spread rate of 200 sf per gallon).

Base Sheet: Protecto Deck, 36 inches wide, with a minimum 3-inch-wide adhesive overlap strip (which is self-adhered).

Cap Sheet: 6-inch-by-6-inch ANSI A137.1 porcelain tile installed with Custom Building Products Pro lite mortar and notched using a ¼-inch-by-¼-inch square-notched trowel.

Wind Uplift: When tested according to ANSI/FM 4474, Appendix B, TAS 114, the Protecto Deck Membrane Waterproofing System exhibited an allowable wind uplift resistance of 502.5 psf.

3.4.2 Wood Decking Design Components:

Deck: The decking consists of 19/32-inch-thick CDX plywood over nominal No. 2 wood trusses spaced at 24 inches-on-center. The plywood is attached using 0.113-inch by 2³/₈-inch-long ring shank nails installed at 6 inches-on-center around the perimeter and 6 inches-on-center in the field.

Cover Board: The cover board is ½-inch-thick National Gypsum PermaBase Cement Board (primed with Protecto Wrap Company's BT Primer at a spread rate of 200 sf per gallon). The cement board is attached using forty 1⁵/₈-inch-long, Type S-12 screws per 3-foot-by-5-foot board (1 fastener per 0.375-ft²).

Base Sheet: The base sheet is Protecto Deck, 36 inches wide, with a minimum 3-inch-wide adhesive overlap strip (which is self-adhered).

Cap Sheet: The cap sheet is 6-inch-by-6-inch ANSI A137.1 porcelain tile installed with Custom Building Products ProLite Mortar spread using a ¼-inch-by-¼-inch square-notched trowel.

Wind Uplift: When tested according to ANSI/FM 4474 and Appendix D, TAS 114, the Protecto Deck Membrane Waterproofing System exhibited an allowable wind uplift resistance of 60 psf.

3.5 Roof Covering Classification: Protecto Deck Membrane Waterproofing System, where installed over noncombustible decking and covered with one layer of Versa Bond thinset mortar mixed per the bag instructions and applied using a ¼-inch-by-¼-inch square-notched trowel exhibited an ASTM E108 Class A Roof Covering Classification.

4.0 PRODUCT DESCRIPTION

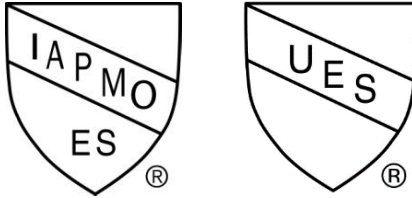
Protecto Deck Membrane Waterproofing System is a cold applied, 60-mil self-adhering primary waterproofing membrane for use beneath thinset tile applications, pedestal paver systems, and decorative concrete surfaces. Protecto Deck Membrane Waterproofing System is composed of reinforced fabric top sheet coated on one side with a rubberized asphalt adhesive for bonding to primed substrates.

5.0 IDENTIFICATION

Protecto Deck Membrane Waterproofing System is identified by the Protecto Wrap Company name and trademark, product name and listing report number (UEL-



5020). The identification includes the IAPMO Uniform Evaluation Service Mark of Conformity. Either Mark of Conformity may be used as shown below:



or

IAPMO UES UEL-5020

6.0 SUBSTANTIATING DATA

Data in accordance with ASTM D751, ASTM D4068, ASTM D5147, ASTM D228, ANSI A 118.10, ASTM D751 Procedure B, ASTM D1204, ASTM D4068, ASTM C482, ASTM C627, ANSI/FM Approvals 4474 Appendix B, TAS 114, ASTM E108, and the manufacturer's descriptive literature and installation instructions. Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This listing report describes the results of research carried out by IAPMO Uniform Evaluation Service on Protecto Wrap Company's Protecto Deck Membrane Waterproofing System to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product listing. Products are manufactured at location noted in Section 2.7 of this report under a quality control program with periodic inspections under the surveillance of IAPMO UES.

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For additional information about this Listing report please visit www.uniform-es.org or email us at info@uniform-es.org