



**NEMO|etc.**

Certificate of Authorization #32455  
353 Christian Street, Unit #13  
Oxford, CT 06478  
(203) 262-9245

ENGINEER

EVALUATE

TEST

CONSULT

**EVALUATION REPORT**

**Tarco Roofing**

One Information Way, Suite 225  
Little Rock, AR 72202  
(254) 913-7750

**Evaluation Report 10880.07.08-R16**

**FL10450-R16**

**Date of Issuance: 07/11/2008**

**Revision 16: 10/15/2022**

**SCOPE:**

This Evaluation Report is issued under [Rule 61G20-3](#) and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7<sup>th</sup> Edition (2020) Florida Building Code** sections noted herein.

**DESCRIPTION: Tarco Roof Underlayments for use in FBC non-HVHZ jurisdictions**

**LABELING:** Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.  
**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

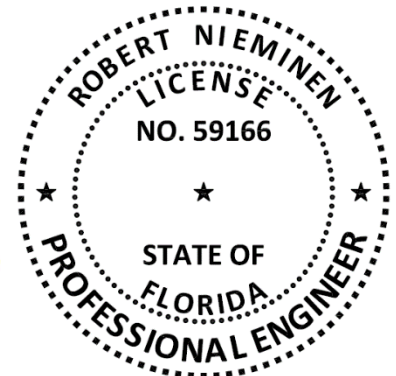
This Evaluation Report consists of pages 1 through 11.

Prepared by:

**Digitally signed  
by Robert  
Nieminen**

**Date: 2022.10.17  
'09:10:00 -04'00**

This item has been digitally signed and sealed by  
Robert Nieminen, P.E.  
Printed copies of this document are not  
considered signed and sealed, and the signature  
must be verified on any electronic copies.  
Robert Nieminen, Florida P.E. 59166, FBC ANE1983  
NEMO ETC, LLC, Florida CA #32455



**CERTIFICATION OF INDEPENDENCE:**

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

©2018, NEMO ETC, LLC

**ROOFING COMPONENT EVALUATION:**
**1. SCOPE:**
**Product Category:** Roofing

**Sub-Category:** Underlayment

**Compliance Statement:** Tarco Roof Underlayments, as produced by Tarco Roofing, have demonstrated compliance with the following sections of the **7<sup>th</sup> Edition (2020) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

SECTION	PROPERTY	STANDARD	YEAR
1504.3.1	Wind resistance	FM 4474	2011
1507.1.1 / R905.1.1	Material standard	ASTM D226	2009
1507.1.1, 1507.2.4, 1507.2.9.2 / R905.1.1, R905.2.8.2	Material standard	ASTM D1970	2015
1507.2.9.2, 1507.6.5 / R905.2.8.2, R905.5.4	Material standard	ASTM D3909	2014
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tear strength	ASTM D4533	2015
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tensile strength	ASTM D5035	2011
1507.1.1.1(5) / R905.1.1.1(5)	Liquid water transmission	ASTM D4869	2016
1507.2.9.2, 1507.6.5 / R905.2.8.2, R905.5.4	Material standard	ASTM D6380	2013
1507.3.3 / R905.3.3	Material standard	FRSA/TRI, Sixth Edition	2018
TAS 110	Accelerated Weathering	ASTM D4798	2011

**3. REFERENCES:**

ENTITY	EXAMINATION	REFERENCE	DATE	ENTITY	EXAMINATION	REFERENCE	DATE
ERD (TST6049)	FM 4474	T6460.06.07-R2	06/26/07	NEMO (TST6049)	ASTM D4798	4j-TAR-19-SSUDL-01.A	08/27/19
ERD (TST6049)	FM 4474	T37610.07.11	06/29/11	NEMO (TST6049)	ASTM D5035/D4798	4j-TAR-20-SSUDL-01.A	02/22/21
ERD (TST6049)	ASTM D1970	T45250.04.13-R2	04/18/13	NEMO (TST6049)	ASTM D1970	4j-TAR-20-SSUDL-02.A	03/29/21
ERD (TST6049)	D226 & D4869	SC4950.02.14-R2	02/27/14	NEMO (TST6049)	ASTM D1623/D4798	4j-TAR-20-SSUDL-03.A	05/04/21
ERD (TST6049)	FM 4474	TAR-SC5670.03.16	03/21/16	NEMO (TST6049)	ASTM D3909	4j-TAR-21-SSUDL-01.A	10/01/21
ERD (TST6049)	ASTM D226	TAR-SC13965.02.17-R1	02/27/17	NEMO (TST6049)	FRSA/TRI	4j-TAR-21-SSUDL-01.D.R1	10/01/21
ERD (TST6049)	ASTM D4533/D4798	TAR-SC16115.10.17-1	10/25/17	NEMO (TST6049)	ASTM D226, Type II	4j-TAR-21-SSUDL-01.B	12/21/21
ERD (TST6049)	FRSA/TRI	TAR-SC16115.10.17-2	10/25/17	NEMO (TST6049)	Tensile adhesion	4j-TAR-21-SSUDL-03.A	06/02/22
NEMO	FBC Cross-List	Listing Agreement	01/20/20	NEMO (TST6049)	ASTM D6083	4j-TAR-22-SSUDL-01.A	07/25/22
NEMO	FBC Cross-List 2	Listing Agreement 2	03/22/21	NEMO (TST6049)	ASTM D1970	4j-TAR-21-SSUDL-04.A	10/14/22
NEMO (TST6049)	FRSA/TRI	TAR-SC8020.06.18	06/05/18	<a href="#">UL (QUA9625)</a>	QA	Service Cnfrm (INDIA)	11/22/16
NEMO (TST6049)	Tensile adhesion	4S-TAR-18-002.07.18-1	07/20/18	<a href="#">UL (QUA9625)</a>	QA	Service Confirm (PA)	06/28/17
NEMO (TST6049)	Tensile adhesion	4S-TAR-18-002.07.18-2	07/20/18	<a href="#">UL (QUA9625)</a>	QA	Service Confirm (TX)	08/13/18
				<a href="#">UL (QUA9625)</a>	QA	Florida BCIS	Current

**4. PRODUCT DESCRIPTION:**

<b>TABLE 1: EVALUATED UNDERLAYMENTS</b>			
<b>PRODUCT</b>	<b>MATERIAL STANDARD</b>	<b>PLANT(S)</b>	<b>DESCRIPTION</b>
LeakBarrier® MS300 Ice and Water Armor	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, mineral surfaced, SBS modified roof underlayment
SRS Distribution TopShield Ice & Water G300	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, mineral surfaced, SBS modified roof underlayment
LeakBarrier® PS200 <sup>HT</sup> Ice and Water Armor	FRSA/TRI 09-18 and TAS 103	Greencastle, PA	self-adhering, glass mat reinforced, fabric surfaced, SBS modified roof underlayment
LeakBarrier® PS200 <sup>MU</sup> Ice and Water Armor	ASTM D1970	Greencastle, PA	self-adhering, glass mat reinforced, smooth poly film surfaced, SBS modified roof underlayment
LeakBarrier® NR600 Ultra Ice and Water Armor	ASTM D1970 and FRSA/TRI 09-18	Greencastle, PA	self-adhering, polyester-fabric surfaced, SBS modified roof underlayment
LeakBarrier® SS400 Ice and Water Armor	ASTM D1970	Greencastle, PA	self-adhering, fiberglass reinforced, smooth surfaced modified underlayment
#30 ASTM Specification Felt	ASTM D226, Type II	Greencastle, PA	asphalt-saturated organic felt
LeakBarrier® EasyLay®	ASTM D226, Type II	Belton, TX	asphalt-coated polyester fabric roof underlayment
Fiberglass Mineral Surfaced Roll Roofing	ASTM D3909	Greencastle, PA	glass-fiber-reinforced, asphalt-coated, granule surfaced underlayment used as a valley liner
ASTM Organic Mineral Surface Tile Underlayment	ASTM D6380, Class M	Greencastle, PA	asphalt-saturated organic roll roofing sheet
LeakBarrier® EasyLay® UDL 15	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Gujarat, India	woven-polymeric scrim with a textured fabric on the top surface
SRS Distribution TopShield® EL30	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Gujarat, India	woven-polymeric scrim with a textured fabric on the top surface
LeakBarrier® EasyLay® UDL 30	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Gujarat, India	woven-polymeric scrim with a textured fabric on the top surface

## 5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).
- 5.3 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 **Tarco Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.
- 5.6 Allowable Roof Covers:

TABLE 2: ROOF COVER OPTIONS								
UNDERLAYMENT	ASPHALT SHINGLES (1507.2)	CLAY AND CONCRETE TILE (1507.3)		METAL		SLATE OR SLATE-TYPE SHINGLES (1507.7)	WOOD	
		MECHANICAL ATTACH	ADHESIVE- OR MORTAR-SET	PANELS (1507.4)	SHINGLES (1507.5)		SHINGLES (1507.8)	SHAKES (1507.9)
LeakBarrier MS300	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
TopShield Ice & Water G300	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier PS200 <sup>HT</sup>	Yes	Yes	Yes (Table 2A)	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier PS200 <sup>MU</sup>	Yes	No	No	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier NR600 Ultra	Yes	Yes	Yes (Table 2A)	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier SS400	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier EasyLay	Yes	Yes (Section 5.6.2 Table 4B)	Yes (Section 5.6.2 Table 4B)	No	No	Yes	No	No
LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30	Yes	Yes (Section 5.6.2 Table 4B)	Yes (Section 5.6.2 Table 4B)	Yes	Yes	Yes	No	No
TopShield EL30	Yes	Yes (Section 5.6.2 Table 4B)	Yes (Section 5.6.2 Table 4B)	Yes	Yes	Yes	No	No
#30 ASTM Specification Felt	Yes	Yes (Section 5.6.2)	Yes (Section 5.6.2)	Yes	Yes	Yes	Yes	Yes
Fiberglass Mineral Surfaced Roll Roofing	Yes (Valley Liner)	No	No	No	No	No	No	No
ASTM Organic Mineral Surface Tile Underlayment	Yes (Valley Liner)	Yes (Cap Sheet in 2-ply system)	Yes (Cap Sheet in 2-ply system) (Table 2A)	No	No	No	No	No

5.6.1 Adhesive- or mortar-set tile is limited to use of following underlayment / tile-adhesive combinations.

TABLE 2A: ALLOWABLE UNDERLAYMENT / TILE-ADHESIVE COMBINATIONS <sup>1</sup>		
UNDERLAYMENT	ADHESIVE / MORTAR	FLORIDA PRODUCT APPROVAL
LeakBarrier PS200 <sup>HT</sup>	Dupont "Tile Bond™ Roof Tile Adhesive"	FL22525
LeakBarrier PS200 <sup>HT</sup> , LeakBarrier NR600 Ultra or ASTM Organic Mineral Surface Tile Underlayment	ICP Adhesives and Sealants "Polyset® AH-160"	FL6332
LeakBarrier PS200 <sup>HT</sup>	ICP Adhesives and Sealants "Polyset® RTA-1"	FL6276
ASTM Organic Mineral Surface Tile Underlayment	Mortar meeting <a href="#">FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual</a> , Sixth Edition requirements and holding current Florida Local or Statewide Product Approval.	

5.6.2 #30 ASTM Specification Felt, EasyLay, LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30 may be used as a mechanically attached anchor sheet followed by an asphalt-applied ASTM Organic Mineral Surface Tile Underlayment.

### 5.7 Allowable Substrates:

TABLE 3: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS			
UNDERLAYMENT	APPLICATION	PRIMER	SUBSTRATES
LeakBarrier MS300	self-adhering	(Optional) ASTM D41	plywood; OSB or structural concrete
TopShield Ice & Water G300			
LeakBarrier PS200 <sup>HT</sup>			
LeakBarrier PS200 <sup>MU</sup>			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
LeakBarrier MS300	self-adhering	none	ASTM D226 Type II felt; ASTM D4869 Type III or IV felt; LeakBarrier EasyLay, LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30
TopShield Ice & Water G300			
LeakBarrier PS200 <sup>HT</sup>			
LeakBarrier PS200 <sup>MU</sup>			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
LeakBarrier MS300	self-adhering	ASTM D41	metal (flashing metal, valley metal, etc.)
TopShield Ice & Water G300			
LeakBarrier PS200 <sup>HT</sup>			
LeakBarrier PS200 <sup>MU</sup>			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
ASTM Organic Mineral Surface Tile Underlayment	hot asphalt	ASTM D41	structural concrete
ASTM Organic Mineral Surface Tile Underlayment	hot asphalt	None	ASTM D226 Type II felt, ASTM D4601 base sheet

<sup>1</sup> Refer to Tile Manufacturer's or Adhesive Manufacturer's Florida Product Approval for Overturning Moment Resistance Performance.

## 5.8 **Attachment Limitations:**

5.8.1 For use under mechanically attached NON-TILE prepared roof coverings, attachment shall be in accordance with the manufacturer's installation instructions, but – for mechanically attached underlayments or base sheets - not less than **FBC 1507.1.1** or **R905.1.1**.

5.8.2 For use under tile roof systems, attachment shall be in accordance with the manufacturer's installation instructions, but – for mechanically attached base sheets - not less than:

- [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition, Appendix A, Table 1 (for Two-Ply Asphalt Applied Hot Mop Underlayment)  
or
- [Table 4A](#) or [Table 4B](#) (for other underlayment systems).

## 5.8.3 **Wind Resistance for Underlayment Systems in Tile Roof Applications:**

The following wind uplift limitations apply to underlayment systems that are not prescriptive in the [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition.

The Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied).

### 5.8.3.1 **Direct-to-Deck:**

The maximum design pressure for the selected assembly shall meet or exceed that required under [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition, Appendix A, Table 1A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

<b>TABLE 4A: ALLOWABLE DESIGN PRESSURES, DIRECT-TO-DECK UNDERLAYMENT IN TILE ROOF APPLICATIONS</b>						
<b>SYSTEM No.</b>	<b>DECK</b>	<b>PRIMER</b>	<b>JOINT TREATMENT</b>	<b>BASE PLY</b>	<b>CAP PLY</b>	<b><a href="#">MAX. DESIGN PRESSURE (PSF)</a></b>
UDL-1.	Min. 15/32-inch plywood	(Optional) ASTM D41	None	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-75.0
UDL-2.	Min. 15/32-inch plywood	(Optional) ASTM D41	Min. 4-inch wide strips of LeakBarrier PS200 <sup>MU</sup> or LeakBarrier EasyBase	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-120.0
UDL-3.	Structural concrete	(Optional) ASTM D41	N/A	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-217.5

### 5.8.3.2 Mechanically-Attached Base Sheet:

The maximum design pressure for the selected assembly shall meet or exceed that required under [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition, Appendix A, Table 1A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

Alternatively, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**. Elevated pressure zones shall employ an attachment density by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are [ANSI/SPRI WD1](#), [FM Loss Prevention Data Sheet](#) 1-29 and [Roofing Application Standard](#) RAS 117. Assemblies marked with an asterisk\* carry the limitations set forth in Section 2.2.10.1 of [FM Loss Prevention Data Sheet](#) 1-29 (February 2020) for enhancements.

TABLE 4B: ALLOWABLE DESIGN PRESSURES, 2-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS						
SYSTEM No.	DECK	BASE SHEET		BASE PLY	CAP PLY	MAX. DESIGN PRESSURE (PSF)
		TYPE	ATTACH			
UDL-4.	Min. 15/32-inch plywood	LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at three (3) equally spaced, staggered center rows.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-45.0*
UDL-5.	Min. 15/32-inch plywood	LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at three (3) equally spaced, staggered center rows. ASTM D41 primer at tin caps.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier NR600 Ultra, self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-45.0*
UDL-6.	Min. 19/32-inch plywood	LeakBarrier EasyLay	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 7-inch o.c. at the 4-inch wide side laps and 7-inch o.c. at three (3) equally spaced, staggered center rows.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-60.0
UDL-7.	Min. 15/32-inch plywood	LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced, staggered center rows.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-60.0
UDL-8.	Min. 15/32-inch plywood	LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced, staggered center rows. ASTM D41 primer at tin caps.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	LeakBarrier NR600 Ultra, self-adhered and back-nailed using 12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps spaced 12-inch o.c. within the self-adhering side laps	-60.0



<b>TABLE 4B: ALLOWABLE DESIGN PRESSURES, 2-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS</b>						
SYSTEM No.	DECK	BASE SHEET		BASE PLY	CAP PLY	<a href="#">MAX. DESIGN PRESSURE (PSF)</a>
		TYPE	ATTACH			
UDL-9.	Min. 15/32- inch plywood	LeakBarrier EasyLay	Simplex MAXX Cap Fasteners ( <a href="#">NOA 18-1227.05</a> ); 8-inch o.c. at the 4- inch wide side laps and 8-inch o.c. at four (4) equally spaced staggered center rows.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12- inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self- adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-82.5
UDL-10.	Min. 15/32- inch plywood	LeakBarrier EasyLay	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps; 4-inch o.c. at the 4-inch wide side laps and 4- inch o.c. at four (4) equally spaced, staggered center rows.	(Optional) LeakBarrier PS200 <sup>MU</sup> , self-adhered and back-nailed in accordance with Tarco installation instructions, max. 12- inch o.c.	LeakBarrier PS200 <sup>HT</sup> , self- adhered and back-nailed in accordance with Tarco installation instructions, max. 12-inch o.c.	-120.0

## 5.9 Exposure Limitations:

<b>TABLE 5: EXPOSURE LIMITATIONS</b>		
UNDERLAYMENT	PREPARED ROOF COVER INSTALLATION TYPE	MAXIMUM EXPOSURE (DAYS)
LeakBarrier PS200 <sup>HT</sup> or LeakBarrier NR600 Ultra	Adhesive-set tile or mechanically attached	180
ASTM Organic Mineral Surface Tile Underlayment	Adhesive- or mortar-set tile or mechanically attached	180
LeakBarrier EasyLay	Mechanically attached	180
LeakBarrier EasyLay UDL 30	Mechanically attached	180
LeakBarrier MS300, PS200 <sup>MU</sup> , SS400 or TopShield Ice & Water G300	Mechanically attached	30
LeakBarrier EasyLay UDL 15 or TopShield EL30	Mechanically attached	30
#30 ASTM Specification Felt	Mechanically attached	1

- 5.10 Tile Slippage Limitations: When loading roof tiles on the underlayment in direct-deck tile roof assemblies, the maximum roof slope shall be as follows. These slope limitations can only be exceeded by using battens during loading of the roof tiles.

<b>TABLE 6: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS</b>			
UNDERLAYMENT*	TILE PROFILE	STAGING METHOD	MAXIMUM SLOPE
LeakBarrier PS200 <sup>HT</sup>	Flat or Lugged	6-tile stack (4 over 2)	6:12
LeakBarrier NR600 Ultra	Flat or Lugged	6-tile stack (4 over 2)	6:12
ASTM Organic Mineral Surface Tile Underlayment	Flat	6-tile stack (4 over 2)	5:12
	Lugged	6-tile stack (4 over 2)	6:12

Notes: \*Tarco Roofing specifies a minimum 48 cure-time after the installation of self-adhering membranes and before loading of roofing tiles.

- 5.11 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components mentioned herein that are produced by a Product Manufacturer other than the report holder on [Page 1](#) of this Evaluation Report.



## 6. INSTALLATION:

- 6.1 **Tarco Roof Underlayments** shall be installed in accordance with **Tarco Roofing** installation instructions subject to the Limitations set forth in [Section 5](#) herein and the specifics noted below.
- 6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application, and prime the substrate (if applicable).

### 6.3 #30 ASTM Specification Felt:

#### 6.3.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved mechanically attached underlayment (ASTM D226, Type II) in **FBC Table 1507.1.1.1** or **FBC Residential Table R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

#### 6.3.2 Tile Applications:

#30 ASTM Specification Felt is limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from [FRSA/TRI](#) *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, followed by ASTM Organic Mineral Surface Tile Underlayment applied in hot asphalt, or other FBC Approved hot-asphalt applied cap sheet. Refer to [FRSA/TRI](#), Sixth Edition, Appendix A, Table 1 for attachment requirements.

### 6.4 LeakBarrier EasyLay:

#### 6.4.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved mechanically attached underlayment (ASTM D226, Type II) in **FBC Table 1507.1.1.1** or **FBC Residential Table R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

#### 6.4.2 Tile Applications:

LeakBarrier EasyLay is limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from [FRSA/TRI](#) *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition

- When LeakBarrier EasyLay is followed by ASTM Organic Mineral Surface Tile Underlayment applied in hot asphalt, or other FBC Approved hot-asphalt applied cap sheet, refer to [FRSA/TRI](#), Sixth Edition, Appendix A, Table 1 for attachment requirements.
- When LeakBarrier EasyLay is followed by LeakBarrier PS200<sup>HT</sup>, refer to [Section 5.8.3.2](#) herein for attachment requirements.

### 6.5 LeakBarrier EasyLay UDL 15, TopShield EL30 or LeakBarrier EasyLay UDL 30:

#### 6.5.1 Non-Tile Applications:

Shall be installed in compliance with requirements for a synthetic underlayment in **FBC 1507.1.1.1(2, Exception), 1507.1.1.1(3, Exception) or 1507.1.1.1(5)** or **FBC Residential R905.1.1.1(2, Exception), R905.1.1.1(3, Exception) or R905.1.1.1(5)** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

#### 6.5.2 Tile Applications:

LeakBarrier EasyLay UDL 15, TopShield EL30 and LeakBarrier EasyLay UDL 30 are limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from [FRSA/TRI](#) *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, followed by LeakBarrier PS200<sup>HT</sup>, self-adhered. Refer to [Section 5.8.3.2](#) herein for attachment requirements.

<b>6.6</b>	<b>LeakBarrier® MS300, LeakBarrier® PS200<sup>MU</sup>, LeakBarrier® SS400 Ice and Water Armor or TopShield Ice &amp; Water G300:</b>
------------	---

- 6.6.1 Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **1507.1.1.3** or **FBC Residential R905.1.1.1** or **R905.1.1.3** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.

When installed over a mechanically attached, FBC Approved ASTM D226 Type II felt or ASTM D4869, Type III or IV felt, the felt shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

6.6.2 Multi-Ply Underlayment Systems:

LeakBarrier® SS400 Ice and Water Armor followed by LeakBarrier® SS400 Ice and Water Armor is allowable for use under mechanically attached prepared roof systems. Limits of use are those associated with the top-layer material. This is not a requirement, but is allowable if a multi-ply underlayment system is desired.

<b>6.7</b>	<b>LeakBarrier® PS200<sup>HT</sup> or LeakBarrier® NR600 Ultra:</b>
------------	---

6.7.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **1507.1.1.3** or **FBC Residential R905.1.1.1** or **R905.1.1.3** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.

When installed over a mechanically attached, FBC Approved ASTM D226 Type II felt or ASTM D4869, Type III or IV felt, the felt shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

6.7.2 Tile Applications:

Shall be installed in compliance with requirements for a Self-Adhered Membrane in the [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition, and the manufacturer's installation instructions.

Refer to [Section 5.8](#) for attachment limitations.

Refer to [Table 6](#) for tile staging limitations.

<b>6.8</b>	<b>ASTM Organic Mineral Surface Tile Underlayment:</b>
------------	--

- 6.8.1 ASTM Organic Mineral Surface Tile Underlayment may be used as a valley liner in accordance with **FBC 1507.2.9.2** or **FBC Residential R905.2.8.2**. Installation shall be in accordance with the manufacturer's instructions.

6.8.2 Tile Applications:

ASTM Organic Mineral Surface Tile Underlayment are limited to use as the Hot Asphalt applied "Cap Sheet" in the "TWO-PLY SYSTEM" from [FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual](#), Sixth Edition.

Refer to [Section 5.8](#) for attachment limitations.

Refer to [Table 6](#) for tile staging limitations.

<b>6.9</b>	<b>Fiberglass Mineral Surface Roll Roofing and ASTM Organic Mineral Surface Tile Underlayment:</b>
------------	--

- 6.9.1 Fiberglass Mineral Surface Roll Roofing is limited to use as a valley liner in accordance with **FBC 1507.2.9.2** or **FBC Residential R905.2.8.2**. Installation shall be in accordance with the manufacturer's instructions.

**7. BUILDING PERMIT REQUIREMENTS:**

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

**8. MANUFACTURING PLANTS:**

Contact the named QA entity for manufacturing facilities covered by F.A.C. [Rule 61G20-3](#) QA requirements. Refer to [Section 4](#) herein for products and production locations having met codified material standards.

**9. QUALITY ASSURANCE ENTITY:**

[UL LLC – QUA9625](#); (360) 817-5512; [bsai.inspections@ul.com](mailto:bsai.inspections@ul.com)

- END OF EVALUATION REPORT -