NEMO|etc.
Certificate of Authorization #32455
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ENGINEER **TEST** **CONSULT**

P.E. EVALUATION REPORT (PEER)

Polyglass USA, Inc.
1111 West Newport Center Drive
Deerfield Beach, FL 33442
(954) 233-1330

PEER-PLYG-002.A-R40
FL5259-R43 (NON-HVHZ)
Date of Issuance: 02/24/2009
Revision 40: 06/19/2024

SCOPE:
This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. 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 product described herein has been evaluated for compliance with the **8th Edition (2023) Florida Building Code** sections noted herein.

DESCRIPTION: Polyglass Roof Underlayments (NON-HVHZ)

LABELING: Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.

CONTINUED COMPLIANCE: This PEER 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 PEERs 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 PEER 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 PEER is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire PEER 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 PEER consists of pages 1 through 16.

Prepared by:

Digitally signed by Robert Nieminen
Date: 2024.06.19 '10:03:19 -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

ROBERT NIEMINEN LICENSE NO. 59166 STATE OF FLORIDA PROFESSIONAL ENGINEER

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.
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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 PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: **Roof Underlayments**, as produced by **Polyglass USA, Inc.**, have demonstrated compliance with the following sections of the **8th Edition (2023) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations of Use set forth herein.

2. STANDARDS:

SECTION	PROPERTY	STANDARD
1504.2.1.4	Wind resistance	FM 4474
1504.2.1.4	Wind resistance	UL 1897
1504.7	Impact resistance	ASTM D3746
1507.1.1 / R905.1.1	Material standard	ASTM D226
T1507.10.2 / TR905.9.2	Material standard	ASTM D2626
1507.1.1, 1507.2.9.2 / R905.1.1, R905.2.8.2	Material standard	ASTM D1970
1507.3.3 / R905.3.3	Material standard	FRSA/TRI Manual
1507.10.2	Material standard	ASTM D4601
1507.11.2 / R905.11.2	Material standard	ASTM D6163
1507.11.2 / R905.11.2	Material standard	ASTM D6164
1507.11.2 / R905.11.2	Material standard	ASTM D6222
1507.11.2 / R905.11.2	Material standard	ASTM D6509
TAS 110	Accelerated Weathering	ASTM D4798
TAS 110	Material standard	TAS 103

3. REFERENCES:

ENTITY	EXAMINATION	REFERENCE	DATE
ERD (TST 6049)	TAS 103, TAS 114(C)	P45270.05.14	05/12/14
ERD (TST 6049)	ASTM D1623	P46520.10.14	10/03/14
ERD (TST 6049)	TAS 103	P44360.10.14-R1	10/07/14
ERD (TST 6049)	TAS 103	PLYG-SC7550.03.15	03/24/15
ERD (TST 6049)	ASTM D1623	P40390.04.15	04/03/15
ERD (TST 6049)	ASTM D1623, TAS 103	PLYG-SC10130.06.16-2	06/27/16
ERD (TST 6049)	ASTM D1970, D4798	PLYG-SC10130.06.16-1	06/27/16
ERD (TST 6049)	TAS 103	PLYG-SC10130.06.16-3	06/27/16
ERD (TST 6049)	ASTM D1970, D4798	PLYG-SC8080.07.16	07/29/16
ERD (TST 6049)	TAS 103 (tile slippage)	PLYG-SC13040.12.16	12/27/16
ERD (TST 6049)	TAS 103 (tile slippage)	PLYG-SC12115.08.17	08/08/17
ERD (TST 6049)	TAS 103	PLYG-SC13035.08.17	10/31/17
NEMO (TST 6049)	ASTM D1970	4-PLYG-18-004.03.18	03/29/18
NEMO (TST 6049)	ASTM D1623, TAS 103	4S-ICP-18-001.07.18-R1	07/23/18
NEMO (TST 6049)	ASTM D6163	4S-PLYG-18-002.01.19-A	01/24/19
NEMO (TST 6049)	ASTM D6222	4S-PLYG-18-002.05.19-C	05/20/19
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-G	10/08/19
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-I	10/08/19
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-L	10/09/19
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.12.19-F	12/18/19
NEMO (TST 6049)	TAS 103	4j-PLYG-19-SSUDL-02.A	01/02/20
NEMO (TST 6049)	ASTM D6222	4S-PLYG-18-002.12.19-K-R1	01/07/20
NEMO (TST 6049)	ASTM D1970, D4798	4S-PLYG-18-004.01.20.H	01/14/20
NEMO (TST 6049)	ASTM D1970, D4798	4S-PLYG-18-004.01.20.K	01/14/20
NEMO (TST 6049)	ASTM D6164	4S-PLYG-18-004.01.20.B	01/16/20
NEMO (TST 6049)	TAS 103 (tile slippage)	4S-PLYG-18-004.01.20.A	01/16/20
NEMO (TST 6049)	ASTM D1623, TAS 103	4p-DOW-19-SSLAP-01.A-R2	02/10/20
NEMO (TST 6049)	TAS 103	PLYG-SC15855.05.20.A	05/29/20
NEMO (TST 6049)	TAS 103	4j-PLYG-20-SSUDL-01	07/06/20
NEMO (TST 6049)	ASTM D6164	4q-PLYG-22-SSMBB-01.D	07/28/23
NEMO (TST6049)	ASTM D226, D2626	4j-PLYG-23-SSMBB-05.A	08/31/23
NEMO (TST6049)	Criticality	4j-PLYG-23-SSMBB-05.B	08/31/23
NEMO (TST6049)	ASTM D1623, TAS 103	4j-PLYG-23-SSMBB-04.A	12/12/23
NEMO (TST6049)	ASTM D1623, TAS 103	4j-PLYG-23-SSMBB-03	01/17/24
NEMO (TST6049)	ASTM D6164	4q-PLYG-22-SSMBB-01.E	06/17/24
PRI (TST5878)	ASTM D4601	MSA-039-02-03	09/27/17
PRI (TST5878)	ASTM D1623, TAS 103	DAPF-002-01	03/08/18
ATI/ITS (TST1527)	UL1897	Q7507.03-450-44-R2	02/09/24
ERD (TST 6049)	Wind Uplift	11757.04.01-1-R1	04/25/01
ERD (TST 6049)	Wind Uplift	11757.08.01-1	08/13/01
ERD (TST 6049)	Wind Uplift	11776.06.02	01/16/03
ERD (TST 6049)	Wind Uplift	P1740.01.07	01/04/07
ERD (TST 6049)	Wind Uplift	P1738.02.07-R2	02/05/07
ERD (TST 6049)	Wind Uplift	P9260.03.08	03/21/08
ERD (TST 6049)	Wind Uplift	P30540.11.09-R1	11/23/09
ERD (TST 6049)	TAS 117(B), TAS 114(C)	P11030.11.09-2	11/30/09
ERD (TST 6049)	TAS 114(J)	P39680.03.13	03/04/13
ERD (TST 6049)	Wind Uplift	P41630.08.13	08/06/13
ERD (TST 6049)	Wind Uplift	P11751.05.03-R1	11/26/13
ERD (TST 6049)	Wind Uplift	P11781.11.03-R1	11/26/13
ERD (TST 6049)	Wind Uplift	PLYG-SC8905.05.16-1	05/17/16
ERD (TST 6049)	UL1897	PLYG-SC12025.10.16	10/12/16
FM (TST 1867)	Wind Uplift	FM 3004091	01/12/00
FM (TST1867)	FM 4470/4474	PR454230 (DATA)	01/26/22
NEMO (TST 6049)	Wind Uplift	4L-PLYG-18-003.01.19	01/11/19
NEMO (TST6049)	UL1897	4a-PLYG-23-LSWUS-05.A	09/01/23
Polyglass USA	Materials Affidavit	Polystick Compound	08/18/11
Polyglass USA	Materials Affidavit	Polystick Compound	01/13/21

Entity	Examination	Reference	Date
NEMO (TST 6049)	ASTM D6222	4q-PLYG-19-SSMBB-05.A	07/23/20
NEMO (TST 6049)	ASTM D4798, D1623	4j-PLYG-19-SSUDL-05.A	09/10/20
NEMO (TST 6049)	ASTM D1970	4j-PLYG-20-SSUDL-05.A	09/30/20
NEMO (TST 6049)	TAS 103	4j-PLYG-20-SSUDL-05.C	09/30/20
NEMO (TST 6049)	TAS 103	4j-PLYG-20-SSUDL-11.A	10/21/20
NEMO (TST 6049)	ASTM D1970, D4798	4S-PLYG-18-004.12.19.D	10/27/20
NEMO (TST 6049)	TAS 103	4j-PLYG-19-SSUDL-01.A	11/18/20
NEMO (TST 6049)	ASTM D1623, TAS 103	4p-ICP-20-SSLAP-01.A	12/15/20
NEMO (TST 6049)	ASTM D1623, TAS 103	4p-ICP-20-SSLAP-03.A-R1	03/04/21
NEMO (TST 6049)	ASTM D4798, D1623	4j-PLYG-20-SSUDL-13.A	03/15/21
NEMO (TST 6049)	ASTM D1623, TAS 103	4j-PLYG-20-SSUDL-07.A	10/29/21
NEMO (TST 6049)	ASTM D1623, TAS 103	4j-PLYG-20-SSUDL-09.A	10/29/21
NEMO (TST 6049)	ASTM D1970, D4798	4j-PLYG-21-SSUDL-03.A	10/29/21
NEMO (TST 6049)	ASTM D1970	4j-PLYG-21-SSUDL-04.B	01/17/22
NEMO (TST6049)	ASTM D1970	4j-PLYG-21-SSUDL-09.A	02/14/22
NEMO (TST 6049)	ASTM D1970, D4798	4j-PLYG-21-SSUDL-03.A	04/21/22
NEMO (TST 6049)	TAS 103	4j-PLYG-21-SSUDL-04.A.R1	07/05/22
NEMO (TST 6049)	ASTM D1970	4j-PLYG-22-SSUDL-01.A	09/08/22
NEMO (TST 6049)	ASTM D1970	4j-PLYG-22-SSUDL-02.A	09/08/22
NEMO (TST 6049)	ASTM D4798, D3746	4j-PLYG-22-SSUDL-06.A	06/14/23
NEMO (TST 6049)	TAS 103	4j-PLYG-22-SSUDL-01.B	03/31/23
NEMO (TST6049)	ASTM D6509	4q-PLYG-22-SSMBB-01.A	06/14/23

Entity	Examination	Reference	Date
Polyglass USA	SOPE	TFRM-0045	01/02/24
PRI (TST5878)	UL1897	708T0058-1	01/13/21
PRI (TST5878)	UL1897	708T0058-6	02/17/21
PRI (TST5878)	UL1897	708T0058-7	02/25/21
PRI (TST5878)	UL1897	708T0193.4	06/13/23
PRI (TST5878)	UL1897	708T0193.1	06/15/23
PRI (TST5878)	UL1897	708T0193.2	06/15/23
PRI (TST5878)	UL1897	708T0193.3	06/15/23
PRI (TST5878)	UL1897	708T0167.1	06/20/23
PRI (TST5878)	UL1897	708T0167.2	06/20/23
PRI (TST5878)	UL1897	708T0168.1	06/20/23
PRI (TST5878)	UL1897	708T0227.1	11/06/23
PRI (TST5878)	UL1897	708T0227.3	11/06/23
PRI (TST5878)	UL1897	708T0234.3	01/18/24
PRI (TST5878)	UL1897	708T0235.3	01/19/24
PRI (TST5878)	UL1897	708T0227.2-1	02/12/24
PRI (TST5878)	UL1897	708T0247.4	04/05/24
UL (QUA9625)	Traceability	ML File R14571	05/13/14
UL (QUA9625)	Quality Control	Service Confirmation (FL)	09/13/18
UL (QUA9625)	Quality Control	Service Confirmation (TX)	11/07/19
UL (QUA9625)	Quality Control	Service Confirmation (Italy)	04/24/23
UL (QUA9625)	Quality Control	Order 14853192 (Serbia)	06/15/23
UL (QUA9625)	Quality Control	Florida BCIS	Current

4. Product Description:

Table 1: Evaluated Underlayments

Product	Material Standard	Plant(s)	Description
Elastobase V	ASTM D6163	FL	Fiberglass-reinforced, SBS modified bitumen base sheet
Elastobase P	ASTM D6164	FL	Polyester-reinforced, SBS modified bitumen base sheet
Elastoflex S6 G	ASTM D6164 FRSA/TRI	FL, PA	Polyester-reinforced, SBS modified bitumen cap sheet
Elastoflex S6 G FR	ASTM D6164 FRSA/TRI	FL	Polyester-reinforced, SBS modified bitumen cap sheet
Elastoflex SA V Flashing Strips	ASTM D1970	NV	Sef-adhering, fiberglass-reinforced, SBS modified bitumen flashing strips
HydraGuard Dual Pro	ASTM D1970	FL	Nominal 60-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polyester fabric surface
HydraGuard Tile Pro	ASTM D1970 FRSA/TRI, TAS 103	FL	Nominal 60-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polyester fabric surface
PolyAnchor HV	ASTM D226, D2626	Serbia	Nominal 55-mil thick, modified bitumen, glass-mat reinforced nailable anchor sheet and roof underlayment
Polyflex G	ASTM D6222 FRSA/TRI	FL	Polyester-reinforced, APP modified bitumen cap sheet
Polyflex G FR	ASTM D6222 FRSA/TRI	FL	Polyester-reinforced, APP modified bitumen cap sheet
Polyflex SA P	ASTM D6222 FRSA/TRI	FL, TX	Polyester-reinforced, APP modified bitumen cap sheet
Polyflex SA P FR	ASTM D6222 FRSA/TRI	FL, TX	Polyester-reinforced, APP modified bitumen cap sheet
Polybase V	ASTM D6509	FL	Fiberglass-reinforced, APP modified bitumen base sheet

TABLE 1: EVALUATED UNDERLAYMENTS			
PRODUCT	MATERIAL STANDARD	PLANT(S)	DESCRIPTION
Polyglass G2 Base Sheet	ASTM D4601	AL	Fiberglass-reinforced, asphaltic base sheet
Polystick IR-Xe	ASTM D1970	FL, PA, TX	Nominal 60-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, with an aggregate surface
Polystick MTS Plus	ASTM D1970 FRSA/TRI, TAS 103	FL, NV, PA, TX, Ponte di Piave TV (Italy)	Nominal 60-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, surfaced with polyolefinic film surface
Polystick MX	ASTM D1970[1]	FL, NV, PA	Nominal 55-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polypropylene film surface
Polystick TU Max	ASTM D1970 FRSA/TRI, TAS 103	FL, PA, TX	Nominal 60-mil thick rubberized asphalt waterproofing membrane with a 190 g/m^2 polyester fabric surface
Polystick TU P	FRSA/TRI, TAS 103	FL, PA, TX	Nominal 130-mil thick rubberized asphalt waterproofing membrane, glass-fiber/polyester reinforced, with a granular surface
Polystick TU Plus	ASTM D1970 FRSA/TRI, TAS 103	FL, PA, TX, Ponte di Piave TV (Italy)	Nominal 80-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, with a polyester fabric surface
Polystick XFR	ASTM D1970 FRSA/TRI, TAS 103	NV, TX	Nominal 80-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, surfaced with a textured film 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 PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.

5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).

5.3 This PEER 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 PEER 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 **Polyglass 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.

[1] ***Polystick MX*** *has been found through comparative testing to have a lesser coefficient of friction than ASTM D226 roofing felt in a dry condition, tested at standard laboratory conditions. Agreement between purchaser and seller, as set forth in Section 4.3, Note 1 of ASTM D1970-17, should be established as to slip resistance*

5.6 Allowable Roof Covers:

TABLE 2: ROOF COVER OPTIONS						
FBC NON-HVHZ:	*1507.2*	*1507.3*		*1507.4 & 1507.5*	*1507.7*	*1507.8 & 1507.9*
UNDERLAYMENT	ASPHALT SHINGLES	CLAY AND CONCRETE TILE		METAL	SLATE OR SLATE-TYPE SHINGLES	WOOD
		MECHANICAL ATTACH	ADHESIVE-SET			
Elastobase V	Yes (Alternate to D226, Type II)	Yes (as Base Sheet, See Table 4B)	Yes (as Base Sheet, See Table 4B)	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)
Elastobase P	Yes (Alternate to D226, Type II)	No	No	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)
PolyAnchor HV	Yes (Alternate to D226, Type II)	Yes (as Base Sheet, See Table 4B)	Yes (as Base Sheet, See Table 4B)	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)	Yes (Alternate to D226, Type II)
Polybase V	No	Yes (as Base Sheet, See Table 4B)	Yes (as Base Sheet, See Table 4B)	No	No	No
Polyglass G2 Base	No	Yes (as Base Sheet, See Table 4B)	Yes (as Base Sheet, See Table 4B)	No	No	No
Elastoflex S6 G	No	Yes	Yes (Table 2A)	No	No	No
Elastoflex S6 G FR	No	Yes	No	No	No	No
HydraGuard Dual Pro	Yes	No	No	Yes	Yes	Yes[2]
HydraGuard Tile Pro	Yes	Yes	Yes (Table 2A)	Yes	Yes	Yes[2]
Polyflex G	No	Yes	Yes (Table 2A)	No	No	No
Polyflex G FR	No	Yes	No	No	No	No
Polyflex SA P	No	Yes	Yes (Table 2A)	No	No	No
Polyflex SA P FR	No	Yes	Yes (Table 2A)	No	No	No
Polystick IR-Xe	Yes	No	No	No	Yes	Yes[2]
Polystick MTS Plus	Yes	Yes	No	Yes	Yes	Yes[2]
Polystick MX	Yes	No	No	Yes	Yes	Yes[2]
Polystick TU Max	No	Yes	Yes (Table 2A)	Yes	No	Yes[2]
Polystick TU P	No	Yes	Yes (Table 2A)	No	No	Yes[2]
Polystick TU Plus	Yes	Yes	Yes (Table 2A)	Yes	Yes	Yes[2]
Polystick XFR	Yes	Yes	No	Yes	Yes	Yes[2]

[2] *Used as min. 3 ¾-inch wide joint-strips per FBC 1507.1.1.1(2) / FBC R905.1.1.1(2) or installed in full-coverage atop ASTM D226, Type II felt, Elastobase V, Elastobase P or PolyAnchor HV mechanically attached in accordance with FBC Table 1507.1.1.1 or FBC Residential Table R905.1.1.1.*

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

TABLE 2A: ALLOWABLE UNDERLAYMENT / TILE-ADHESIVE COMBINATIONS[3]					
	TILE-ADHESIVE OPTIONS AND FLORIDA PRODUCT APPROVAL				
	DAP GLOBAL		DUPONT DE NEMOURS	ICP CONSTRUCTION	
	STORMBOND	STORMBOND 2	TILE BOND	POLYSET AH-160	POLYSET RTA-1
UNDERLAYMENT	FL14506	FL14506	FL22525	FL6332	FL6276
Elastoflex S6 G	Yes	Yes	Yes	Yes	Yes
Polyflex G	No	No	No	No	Yes
Polyflex SA P	Yes	Yes	Yes	Yes	Yes
Polyflex SA P FR	No	No	No	No	Yes
Polystick TU Max	Yes	Yes	Yes	Yes	Yes
Polystick TU P	Yes	Yes	Yes	Yes	Yes
Polystick TU Plus, HydraGuard Tile Pro	Yes	Yes	Yes	Yes	Yes

5.7 Allowable Substrates:

TABLE 3: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS				
UNDERLAYMENT	APPLICATION	SUBSTRATES (DESIGNED TO MEET WIND LOADS FOR PROJECT)		
		TYPE	PRIMER	MATERIAL(S)
HydraGuard Dual Pro, HydraGuard Tile Pro, Polystick IR-Xe, Polystick MTS Plus, Polystick MX, Polystick TU Max, Polystick TU P, Polystick TU Plus, Polystick XFR, Polyflex SA P or Polyflex SA P FR	self-adhering	Deck / sheathing	(Optional) ASTM D41	plywood, OSB, Southern Yellow Pine or Huber Engineered Woods "ZIP System" Panels
			ASTM D41	structural concrete
		Insulation	(Optional) ASTM D41 or WB-3000	ASTM C1289 Type II Class 1 polyisocyanurate, ASTM C1289 Type V polyisocyanurate-composite, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board
		Base Sheet	N/A	ASTM D226, Type II felt, Elastobase V, Elastobase P or PolyAnchor HV
Elastoflex S6 G or Elastoflex S6 G FR	hot asphalt	Deck	ASTM D41	structural concrete
		Insulation	(Optional) ASTM D41	DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board
		Base Sheet	N/A	ASTM D226, Type II felt, Elastobase V, Elastobase P or Polyglass G2 Base
Polyflex G or Polyflex G FR	torch-applied	Deck	ASTM D41	structural concrete
		Insulation	(Optional) ASTM D41	DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board
		Base Sheet	N/A	Elastobase V, Elastobase P, Polyglass G2 Base or Polybase V

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 subject to the following limitations:

- For mechanically attached underlayments or base sheets over wood sheathing, attachment shall be not less than **FBC 1507.1.1** or **R905.1.1**.
- For mechanically attached underlayments or base sheets over insulated steel deck, fasteners shall consist of FBC Approved steel-deck roofing screws fitted with stress plates (Category: Roofing; Subcategory: Roofing Fasteners), spaced as noted in **1507.1.1** or **R905.1.1**. Screws and stress plates shall come from the same Product Manufacturer.

[3] *Refer to Tile Manufacturer's or Adhesive Manufacturer's Florida Product Approval for Overturning Moment Resistance Performance.*

5.8.2 Wind Resistance for Underlayment Systems in Tile Roof Applications:
The following wind uplift limitations apply to tile underlayment systems. The Maximum Design Pressure ('MDP') 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).

5.8.2.1 Adhered, Direct-to-Deck Underlament Systems:
The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Manual, 7th Edition**, Appendix A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

TABLE 4A: ALLOWABLE DESIGN PRESSURES, ADHERED, DIRECT-TO-DECK UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS

SYSTEM NO.	DECK	PRIMER	JOINT TREATMENT	BASE PLY	CAP PLY	MDP (PSF)
UDL-1.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	None	Elastoflex SA V Flashing Strips	Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-52.5
UDL-2.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category or nominal 1-inch SYP **wood plank**	None	None	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-90.0
UDL-3.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category or nominal 1-inch SYP **wood plank**	WB-3000	None	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed within the selvedge-edge side laps using 12 ga. x 1¼" ring shank nails through 32 ga., 1-5/8" diameter tin caps spaced 12-inch o.c.	-105.0
UDL-4.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	(Optional) PG100 or ASTM D41	Elastoflex SA V Flashing Strips	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-135.0
UDL-5.	Nominal 1-inch **wood plank**	(Optional) PG100 or ASTM D41	None	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-150.0
UDL-6.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	None	None	None	Polystick TU Max, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed within the selvedge-edge side laps using 12 ga. x 1¼" ring shank nails through 32 ga., 1-5/8" diameter tin caps spaced 12-inch o.c.	-165.0
UDL-7.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	(Optional) PG100 at 0.5 gal/sq.	None	Polystick MTS Plus, self-adhered and back-nailed within the selvedge-edge side laps using 12 ga. x 1¼" ring shank nails through 32 ga., 1-5/8" diameter tin caps spaced 12-inch o.c.	Polystick TU Max, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed within the selvedge-edge side laps using 12 ga. x 1¼" ring shank nails through 32 ga., 1-5/8" diameter tin caps spaced 12-inch o.c.	-202.5
UDL-8.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	PG100 at 0.5 gal/sq.	None	None	Polystick TU Max, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed within the selvedge-edge side laps using 12 ga. x 1¼" ring shank nails through 32 ga., 1-5/8" diameter tin caps spaced 12-inch o.c.	-255.0

TABLE 4A: ALLOWABLE DESIGN PRESSURES, ADHERED, DIRECT-TO-DECK UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS						
SYSTEM NO.	DECK	PRIMER	JOINT TREATMENT	BASE PLY	CAP PLY	MDP (PSF)
UDL-9.	Structural concrete	PG100 or ASTM D41	None	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	HydraGuard Tile Pro, Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-202.5
UDL-10.	Structural concrete	PG100 or ASTM D41	None	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-622.5

5.8.2.2 Mechanically-Attached, Multi-Ply Underlayment Systems:

The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Manual, 7th Edition**, Appendix A 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 or Roofing Application Standard RAS 117 or RAS 137. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 for enhancements.

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS **Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch						
SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-11.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	One (1) layer ASTM D226, Type II felt	Min. 11 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 4-inch o.c. at the 2-inch wide side laps and 4-inch o.c. at two (2) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-45.0*
UDL-12.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (poly-film top surface)	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8" diameter tin caps; 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-45.0
UDL-13.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (sand top surface)	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8" diameter tin caps; 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-45.0

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS **Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch						
SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-14.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS2**, 15/32 category over nominal 2x10 No. 2 SYP lumber supports	PolyAnchor HV	Min. 1 ¼-inch long Simplex Original Cap Nails (with annular grooved shank) installed to engage SYP lumber supports; 24-inch o.c. at the 4-inch wide side laps and 24-inch o.c. at eight (8) equally spaced center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using Simplex Original Cap Nails** (with annular grooved shank), max. 12-inch o.c.	-45.0
UDL-15.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8" diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-45.0
UDL-16.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Elastobase V (poly-film top surface)	Simplex Original Cap Nails** (with annular grooved shank); 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-52.5
UDL-17.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Elastobase V (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)	Simplex Original Cap Nails** (with annular grooved shank); 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-52.5
UDL-18.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	Elastobase V (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)	Min. 11 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 8-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at three (3) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-60.0
UDL-19.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Polyglass G2 Base or Polybase V (requires use of torch-applied underlayment)	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 8-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at four (4) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or torch-applied or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-67.5
UDL-20.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V (poly-film top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-67.5

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS

****Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch**

SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-21.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V (sand top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-67.5
UDL-22.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V or Polybase V	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.	None	Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-67.5
UDL-23.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	PolyAnchor HV	Simplex Original Cap Nails** (with annular grooved shank); 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) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using Simplex Original Cap Nails** (with annular grooved shank), max. 12-inch o.c.	-67.5
UDL-24.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	Tamko "No. 30 UL" (FL12328)	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8" diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-67.5
UDL-25.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Tamko "No. 30 UL" (FL12328)	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8" diameter tin caps; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced, staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-67.5
UDL-26.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Polyglass G2 Base or Polybase V (requires use of torch-applied underlayment)	Dekfast DF-#14-PH3 with DF-PLT-2-7/8-H (FL20311), OMG #14 Heavy Duty with OMG Acutrac Flat Bottom Plates (FL699) or Trufast HD with Trufast 3-inch Insulation Plates (FL4500); 10-inch o.c. at the 4-inch wide side laps and 10-inch o.c. at three (3) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or torch-applied or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-75.0
UDL-27.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS2**, 15/32 category over nominal 2x10 No. 2 SYP lumber supports	PolyAnchor HV	Min. 12 ga. x min. 1 ¼-inch long annular ring shank roofing nails with 32 ga., 1-5/8-inch diameter tin caps installed to engage SYP lumber supports; 24-inch o.c. at the 4-inch wide side laps and 24-inch o.c. at eight (8) equally spaced center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-75.0

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS

****Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch**

SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-28.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 10-inch o.c. at the 4-inch wide side laps and 10-inch o.c. at three (3) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-75.0
UDL-29.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-82.5
UDL-30.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	Elastobase V (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)	OMG #12 Standard Roofgrip or OMG #14 Heavy Duty with OMG 3" Round Metal Plates or OMG AccuTrac Flat Bottom Metal Plates (FL699); 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c. or Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-90.0
UDL-31.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (poly-film top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows. PG100 or ASTM D41 primer applied to stress plates.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-90.0
UDL-32.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (sand top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-90.0
UDL-33.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V or Polybase V	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.	None	Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-90.0
UDL-34.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	Elastobase V (poly-film top surface)	Min. 11 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 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) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-97.5

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS

****Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch**

SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-35.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (poly-film top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows. PG100 or ASTM D41 primer applied to stress plates.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-105.0
UDL-36.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V (sand top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-105.0
UDL-37.	**OSB**, APA rated sheathing, 24/16, Exposure 1, **PS2**, 7/16 category	Elastobase V or Polybase V	TRUFAST Versa-Fast Fasteners & Plates (FL4500); two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet; 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.	None	Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-105.0
UDL-38.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS1**, 15/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 5-inch o.c. at the 4-inch wide side laps and 5-inch o.c. at four (4) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-105.0
UDL-39.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-112.5
UDL-40.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps; 5-inch o.c. at the 4-inch wide side laps and 5-inch o.c. at three (3) equally spaced staggered center rows.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-120.0
UDL-41.	**Plywood**, APA rated sheathing, 32/16, Exposure 1, **PS2**, 15/32 category	PolyAnchor HV	Simplex Original Cap Nails** (with annular grooved shank); 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) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using Simplex Original Cap Nails** (with annular grooved shank), max. 12-inch o.c.	-127.5

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, MULTI-PLY UNDERLAYMENT SYSTEMS IN TILE ROOF APPLICATIONS **Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch						
SYSTEM NO.	DECK	BASE SHEET		BASE PLY	CAP PLY	MDP (PSF)
		TYPE	ATTACH			
UDL-42.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V (poly-film top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); one (1) screw per plate in the center hole; 9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows. PG100 or ASTM D41 primer applied to stress plates.	(Optional) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-127.5
UDL-43.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V (sand top surface)	TRUFAST Versa-Fast Fasteners & Plates (FL4500); one (1) screw per plate in the center hole; 9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.	None	Elastoflex S6 G, applied in full mopping of hot asphalt and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-127.5
UDL-44.	**OSB**, APA rated sheathing, 40/20, Exposure 1, **PS2**, 19/32 category	Elastobase V or Polybase V	TRUFAST Versa-Fast Fasteners & Plates (FL4500); one (1) screw per plate in the center hole; 9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.	None	Polyflex G, torch-applied and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	-127.5
UDL-45.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, **PS1**, 19/32 category	PolyAnchor HV	Min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 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) Polystick MTS Plus, self-adhered and back-nailed in accordance with Polyglass' installation instructions, max. 12-inch o.c.	Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick MTS Plus, self-adhered and back-nailed using min. 12 ga. x 3/8-inch head-diameter, annular ring shank roofing nails** with 32 ga., 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-135.0

5.9 Exposure Limitations:

TABLE 5: EXPOSURE LIMITATIONS		
UNDERLAYMENT	PREPARED ROOF COVER INSTALLATION TYPE	MAXIMUM EXPOSURE (DAYS)
Elastobase V, Elastobase P, Polyglass G2 Base, Polybase V or PolyAnchor HV	Mechanically attached	30
Polystick IR-Xe or Polystick MX	Mechanically attached	90
HydraGuard Dual Pro, Polystick MTS Plus, Polystick TU Max, Polystick TU P or Polystick XFR	Any type (per Table 2)	180
HydraGuard Tile Pro or Polystick TU Plus	Any type (per Table 2)	360
Elastoflex S6 G, Elastoflex S6 G FR, Polyflex G, Polyflex G FR, Polyflex SA P or Polyflex SA P FR	Adhesive-set tile roof system	180
	Mechanically attached	UNLIMITED

5.10 Tile Slippage Limitations: When loading roof tiles on the underlayment, the maximum roof pitch shall be as follows. These pitch limitations can only be exceeded by using battens or loading boards during loading of the roof tiles.

TABLE 6: TILE SLIPPAGE LIMITATIONS

UNDERLAYMENT	TILE PROFILE	STAGING METHOD	MAXIMUM STAGING PITCH
Elastoflex S6 G or S6 G FR	Flat or Lugged	Prohibited without battens or loading boards	N/A
HydraGuard Tile Pro	Flat or Lugged	6-tile stack (4 over 2)	7:12
Polyflex G or G FR	Flat or Lugged	6-tile stack (4 over 2)	4:12
Polyflex SA P or SA P FR	Flat or Lugged	6-tile stack (4 over 2)	4:12
Polystick MTS Plus	Flat or Lugged	Prohibited without battens or loading boards	N/A
Polystick TU Max	Flat	6-tile stack (4 over 2) or 10-tile stack	7:12
	Lugged	6-tile stack (4 over 2)	7:12
	Lugged	10-tile stack	6:12
Polystick TU P	Flat or Lugged	6-tile stack (4 over 2)	7:12
Polystick TU Plus	Flat or Lugged	6-tile stack (4 over 2)	7:12
	Flat or Lugged	10-tile stack	6:12
Polystick XFR	Flat or Lugged	Prohibited without battens or loading boards	N/A

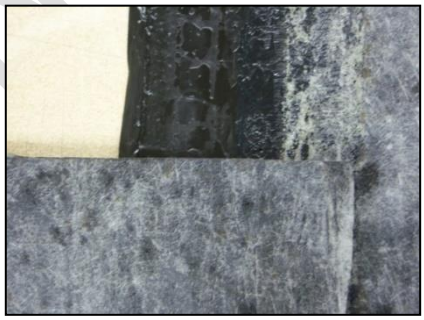
6. INSTALLATION:

6.1 Polyglass Roof Underlayments shall be installed in accordance with Polyglass published installation instructions subject to the Limitations of Use herein and the specifics noted below.

6.1.1 Consult Polyglass requirements for back-nailing at pitch of 2:12 or greater.

6.1.2 All fabric-surfaced, aggregate-surfaced and granule-surfaced end-laps shall have a 6-inch wide, uniform layer of PG500 or POLYPLUS 50 applied within the end-lap.

6.1.3 All seal-lap seams (selvage laps) must be firmly rolled with a in accordance with Polyglass requirements to ensure full contact and adhesion. For HydraGuard Dual Pro and HydraGuard Tile Pro, align the edge of the top sheet to the end of the glue pattern (the sheet will overlap the fabric).



View of Overlap Seam of HydraGuard Dual Pro and HydraGuard Tile Pro

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 Refer to Section 6.4 for underlayments having prescriptive codified minimum attachment or Tables 4A and 4B for underlayment systems having maximum design pressures established in accordance with FBC 1504.2.1.4.

6.4 Underlayment Assemblies with Prescriptive Minimum Attachment for use in NON-TILE applications:

6.4.1

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 1:** Underlayment adhered to deck
DECK DESCRIPTION:	Code-minimum, new or existing (roof replacement) wood or structural concrete deck to the satisfaction of the Authority Having Jurisdiction (refer to Table 3 for specific underlayment/substrate combinations)
UNDERLAYMENT:	**HydraGuard Dual Pro, HydraGuard Tile Pro, Polyflex SA P, Polyflex SA P FR, Polystick IR-Xe, Polystick MTS Plus, Polystick MX, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick XFR**, self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and back-nailed in accordance with Polyglass requirements.
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in Table 2 herein.

6.4.2

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 2:** Self-adhering strips to deck-joints followed by underlayment mechanically attached to deck
DECK DESCRIPTION:	Code-minimum, new or existing (roof replacement) wood deck to the satisfaction of the Authority Having Jurisdiction
SECONDARY WATER BARRIER:	**Elastoflex SA V Flashing Strips** self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1507.1.1.1(2) or R905.1.1.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.
UNDERLAYMENT:	**Elastobase V, Elastobase P, PolyAnchor HV** or FBC Approved ASTM D226, Type II felt, in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1, with a minimum 4-inch side lap and 6-inch end lap, mechanically fastened to deck
FASTENERS:	Min. 0.083-inch diameter annular ring or deformed shank nails with metal or plastic caps* with a nominal cap diameter of not less than 1-inch and minimum thickness as follows.

Cap Type	**Minimum thickness**
Metal cap	32 ga. sheet metal
Power-driven metal cap	0.010-inch
Plastic cap	0.035-inch (outside edge thickness)

	The nail shall be of sufficient length to penetrate through the roof sheathing, or not less than 0.75-inch into the roof sheathing.
*NOTE:	Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph.
FASTENING:	Grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, wood shakes or wood shingles, subject to the allowable roof covers in Table 2 herein.

6.4.3

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 3:** Two-layer underlayment mechanically fastened to deck
DECK DESCRIPTION:	Code-minimum, new or existing (roof replacement) wood deck to the satisfaction of the Authority Having Jurisdiction
UNDERLAYMENT:	Two (2) layers of **Elastobase V, Elastobase P or PolyAnchor HV** in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3).
FASTENERS:	Min. 0.083-inch diameter annular ring or deformed shank nails with metal or plastic caps* with a nominal cap diameter of not less than 1-inch and minimum thickness as follows.

Cap Type	**Minimum thickness**
Metal cap	32 ga. sheet metal
Plastic cap	0.035-inch (outside edge thickness)

	The nail shall be of sufficient length to penetrate through the roof sheathing, or not less than 0.75-inch into the roof sheathing.
*NOTE:	Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph.
FASTENING:	Grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3).
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, wood shakes or wood shingles, subject to the allowable roof covers in Table 2 herein.

6.4.4

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 1 combined with Option 2 or 3:** Optional self-adhering strips to deck-joints followed by base sheet mechanically fastened to deck followed by underlayment adhered to base sheet
DECK DESCRIPTION:	Code-minimum, new or existing (roof replacement) wood deck to the satisfaction of the Authority Having Jurisdiction
SECONDARY WATER BARRIER:	(Optional) **Elastoflex SA V Flashing Strips** self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1507.1.1.1(2) or R905.1.1.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.
BASE SHEET:	One (1) layer of **Elastobase V, Elastobase P, PolyAnchor HV** or FBC Approved ASTM D226, Type II felt, in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1, with a minimum 4-inch side lap and 6-inch end lap, mechanically fastened to deck or Two (2) layers of **Elastobase V, Elastobase P, PolyAnchor HV** or FBC Approved ASTM D226, Type II felt in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3), mechanically fastened to deck
FASTENERS:	Min. 0.083-inch diameter annular ring or deformed shank nails with metal or plastic caps* with a nominal cap diameter of not less than 1-inch and minimum thickness as follows.

Cap Type	**Minimum thickness**
Metal cap	32 ga. sheet metal
Power-driven metal cap	0.010-inch
Plastic cap	0.035-inch (outside edge thickness)

The nail shall be of sufficient length to penetrate through the roof sheathing, or not less than 0.75-inch into the roof sheathing.

*NOTE: Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph.

FASTENING:	Grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1 or FBC Section 1507.1.1.1(3) or R905.1.1.1(3).
UNDERLAYMENT: BASE PLY:	(Optional) **Polystick MTS Plus or Polystick XFR**, self-adhering and back-nailed in accordance with Polyglass requirements.
UNDERLAYMENT: CAP PLY:	**HydraGuard Dual Pro, HydraGuard Tile Pro, Polyflex SA P, Polyflex SA P FR, Polystick IR-Xe, Polystick MTS Plus, Polystick MX, Polystick TU Max, Polystick TU P, Polystick TU Plus or Polystick XFR** self-adhering and back-nailed in accordance with Polyglass requirements.
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in Table 2 herein.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction 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

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