City of Belle Isle Job Site Card ROOF PERMIT 2020-04-025

Site Address: 6810 Seminole Dr 32812 **Issue Date:** 12/20/2019 **Parcel #:** 29-23-30-4389-02-021
Class: □ Residential **Description of Work:** Roof for new SFR

Issued: Kinsella Leslie - Homeowner **Business Phone:** 407 509-9225
Name: Kinsella Leslie - Homeowner
Payment Date & Method: 4 / 10 / 2020 □ Picked up in person email □ Emailed
□ Visa □ Master Card □ Amex □ Discover □ Check / Money Order # 3543

ROOF	INSPECTOR	DATE	COMMENTS
NEW ROOFS ONLY Code 700 Deck Nailing, Dry-In, Flashing			This inspection only applies for a brand new roof only!
Both new & re-roof Code 710 In - Progress			This inspection consists of all underlayment/black paper coverage and only 25% shingle coverage.
Both new & re-roof Code 720 Final			After the In Progress has been passed, then the entire roof is covered with shingles.

PLEASE NOTE: In order to schedule any inspections, the **PERMIT / plans-specs.** must be issued and **POSTED** on the **JOB SITE! THIS WILL AVOID ANY FAILED INSPECTIONS & RE-INSPECTION FEES.** A permit **expires** in 6 months if approved inspections are not recorded /scheduled within that time frame. You are responsible for scheduling and keeping track all of your inspections - ☆ **Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 3:00 p.m. Please include the following requirements in your request: project address, permit number, type of inspection, date requested, contact name and phone number, gate code if applicable. AM or PM, may be requested, but we cannot guarantee an time of arrival)**

Universal Engineering Sciences - 3532 Maggie Blvd., Orlando, FL 32811407-581-8161 * Fax 407-581-0313
www.universalengineering.com

"WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT."

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd. Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

RECEIVED APR 03 2020 FM

APPLICATION FOR ROOFING PERMIT

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

DATE OF APPLICATION: 04/03/2020 **ROOF PERMIT NUMBER** 2020-04-025

PLEASE PRINT. The undersigned hereby applies for a permit to make installations as indicated below:

Project Address 6810 Seminole Drive, Belle Isle, FL ___32809 ✓32812

Property Owner LESLIE KINSELLA Phone 407 509 9225

Property Owner's Mailing Address 2915 Nela Ave City Belle Isle

State FL Zip Code 32809 **Parcel Id Number:** 29-23-30-4389-02-021

REQUIRED! To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

Class of Building: Old ☐ New ☑ **Type of Building:** Residential ☑ Commercial ☐ Other ☐

Type of Work: New Roof ☑ ReRoof ☐

- **REQUIRED! Florida Product Approval Form – NOTE: installation instructions must be posted on-site before your first inspection!!**

Please indicate the nature of work by completing the information below:

Roof Square Footage: 6,470 SqFT **Number of Stories:** 2 **Job Valuation: $** 18,190 VS = 38,820

Type: Asphalt Shingles ☐ Metal ☑ Modified Bitumen ☐ Other: ___

I hereby certify that the above is true and correct to the best of my knowledge and make Application for Permit as outlined above, and if same is granted I agree to conform to all Florida Building Code Regulations and City Ordinances regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable Town and/or State of Florida codes and/or ordinances. By signing below, I recognize Republic Services is by legal contract the sole authorized provider of garbage, recycling, yard waste, and commercial garbage and construction debris collection and disposal services with the city limits of the City. Contractors, homeowners and commercial businesses may contact Republic Services at 407-293-8000 to setup accounts for Commercial, Construction Roll Off, or other services needed. Rates are fixed by contract and are available at City Hall or from Republic Services. The City enforces the contract through its code enforcement office. Failure to comply will result in a stop work order.

LICENSE HOLDER SIGNATURE Leslie Kinsella Home owner Builder LICENSE # ___

LICENSE HOLDER NAME LESLIE KINSELLA. COMPANY NAME BY OWNER

Street Address 2915 Nela Ave

City Belle Isle State FL Zip Code 32809 Phone Number 407 509 9225

Email Address IRishFire66@AOL.com PAID 4-10-20 VISA 3543

(bldg part pre-approved on bldg plans)

Building Official: OTC **Date** 4-8-20

Verified Contractor's Licenses & Insurance are on file ☑ Date 4-8-20

O/B DISC 1ST IK 25

Zoning Fee	$ 0 (new)
Building Fee	$ 215.-
Review Fee	$ 107.50
1% BCAIB Fee	$ 3.23
1.5% DCA Fee	$ 4.84
Total Permit Fee	$ 330.57

NOTE: The Building Permit Number is required if the Roof Installation is associated with any construction or alteration where a Building Permit has been issued. Building Permit Number 2019-12-007

38 x 5 = 190
215 ÷ 2
107.50 = (322.50)

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

RECEIVED BY: APR 03 2020

Product Approval Form

DATE: 04/03/2020 PERMIT # 2019-12-007

PROJECT ADDRESS 6810 Seminole Drive, Belle Isle, FL ___32809 ✓32812

As required by Florida Statue 553.842 and Florida Administrative Code 9B-72m, please provide the information and approval numbers of the building components listed below if they will be utilized on the building or structure. FL Approved products are listed online at **www.floridabuilding.org** or can be obtained from the local product supplier. The following information must be turned in with permit application and available onsite for inspections:

- **NOTE: The Installation instructions must be posted on-site before your first inspection!!**

Product Type	Manufacturer	Model/Series	FL Product Approval #
EXTERIOR DOORS			
Swinging			
Sliding			
Sectional/Rollup			
Other			
WINDOWS			
Single/Dbl Hung			
Horizontal Slider			
Casement			
Fixed			
Mullion			
Skylights			
Other			
STRUCTURAL COMPONENTS			
Wood Connectors			
Wood Anchors			
Truss Plates			
Insulation Forms			
Lintels			
Other			

Product Type	Manufacturer	Model/Series	FL Product Approval #
WALL PANELS			
Sliding			
Soffits			
Storefront			
Glass Block			
Other			
ROOFING PRODUCTS			
Asphalt Shingles			
Non Struct Metal	Drexel Inc	STUARTLINE	FL17679 - R5
Roofing Tiles			
Single Ply Roof			
Underlayment	Polyglass USA	Polystick TU+	FL5259 - R29
Other			
OTHER			

It is the applicant's responsibility to verify that specific products have been installed in accordance with their limitations and with the minimum required design pressures for the structure. Specific compliance will be verified during field inspections.

Applicant Signature _____ **Date** 04/03/2020

FL #	FL17679-R5
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Drexel Metals, Inc.
Address/Phone/Email	204 Railroad Drive Ivyland, PA 18974 (502) 303-1511 jshumate@drexmet.com
Authorized Signature	Jason Shumate jshumate@drexmet.com
Technical Representative Address/Phone/Email	
Quality Assurance Representative Address/Phone/Email	
Category	Roofing
Subcategory	Metal Roofing
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Zachary R. Priest
Florida License	PE-74021
Quality Assurance Entity	Architectural Testing, Inc., an Intertek Company
Quality Assurance Contract Expiration Date	12/31/2020
Validated By	Locke Bowden P.E. ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL17679_R5_COI_DRX15002.5 2017 FBC Evaluation Report HVHZ FINAL.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM B 117	2016
ASTM G 155	2005
TAS 100	1995
TAS 110	2000
TAS 125	2003

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	04/19/2018
Date Validated	04/19/2018
Date Pending FBC Approval	04/22/2018
Date Approved	06/12/2018

Summary of Products

FL #	Model, Number or Name	Description
17679.1	Drexel Metal Roofing Systems	DMC 100NS, DMC 150SS, DMC 175S, DMC 200S, DMC 5V
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** No **Impact Resistant:** N/A **Design Pressure:** +0/-180 **Other:** See evaluation report for limits of use.		**Installation Instructions** FL17679_R5_II_DRX15002.5 2017 FBC Evaluation Report HVHZ_FINAL.pdf Verified By: Zachary R. Priest PE-74021 Created by Independent Third Party: Yes **Evaluation Reports** FL17679_R5_AE_DRX15002.5 2017 FBC Evaluation Report HVHZ_FINAL.pdf Created by Independent Third Party: Yes

Back Next

FLORIDA DEPARTMENT OF
Business & Professional Regulation

Florida dbpr

Product Approval
USER: Public User

OFFICE OF THE SECRETARY

FL #	FL17679-R5
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	Drexel Metals, Inc.
Address/Phone/Email	204 Railroad Drive Ivyland, PA 18974 (502) 303-1511 jshumate@drexmet.com
Authorized Signature	Jason Shumate jshumate@drexmet.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Metal Roofing
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Zachary R. Priest
Florida License	PE-74021
Quality Assurance Entity	Architectural Testing, Inc., an Intertek Company
Quality Assurance Contract Expiration Date	12/31/2020
Validated By	Locke Bowden P.E. Validation Checklist - Hardcopy Received
Certificate of Independence	FL17679_R5_COI_DRX15002.5 2017 FBC Evaluation Report HVHZ FINAL.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM B 117	2016
ASTM G 155	2005
TAS 100	1995
TAS 110	2000
TAS 125	2003

Equivalence of Product Standards Certified By

Sections from the Code

CREEK
TECHNICAL SERVICES, LLC

Certificate of Authorization No. 29824
17520 Edinburgh Dr
Tampa, FL 33647
(813) 480-3421

EVALUATION REPORT

FLORIDA BUILDING CODE, 6TH EDITION (2017)

Issued August 27, 2019

Manufacturer: DREXEL METALS, INC.
1234 Gardiner Lane
Louisville, KY 40213
(502) 716-7143
www.drexmet.com

Manufacturing: Port St. Lucie, FL

Quality Assurance: Architectural Testing, Inc. (QUA1844)

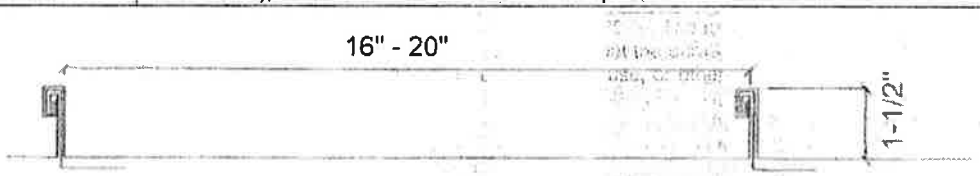
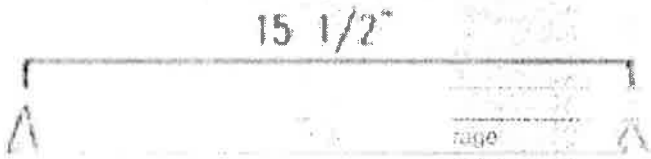
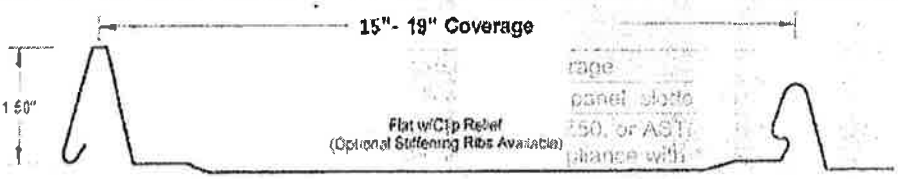
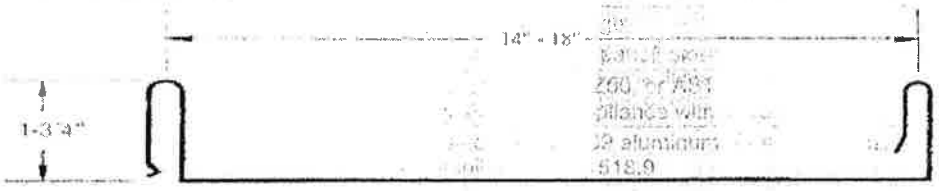
SCOPE

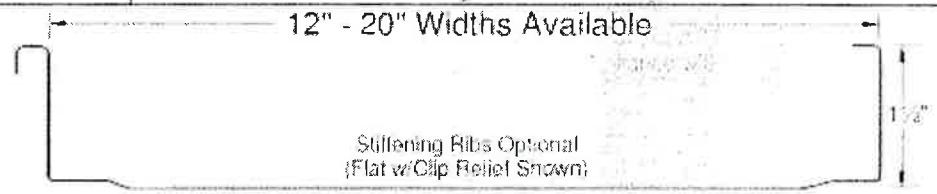
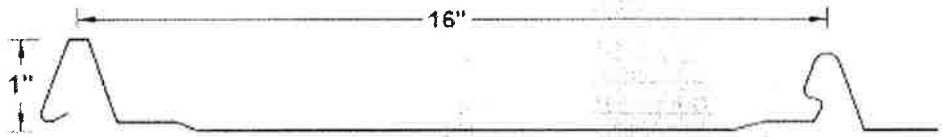
Category: Roofing
Subcategory: Metal Roofing
Code Sections: 1518.9.1, 1523.1.1, 1523.6.5, 1523.6.5.2.4, 1523.6.5.2.4.1
Properties: Wind Resistance

REFERENCES

Entity	Report No.	Standard	Year
Architectural Testing, Inc (an Intertek Company) (TST1527)	F8542.01-450-44	UL 580	2006
		UL 1897	2012
Architectural Testing, Inc (an Intertek Company) (TST1527)	G1899.01-450-18	UL 580	2006
		UL 1897	2012
Architectural Testing, Inc (an Intertek Company) (TST1527)	F0755.01-450-18	TAS 125	2003
Architectural Testing, Inc (an Intertek Company) (TST1527)	F9156.01-450-18	TAS 125	2003
Architectural Testing, Inc (an Intertek Company) (TST1527)	F9156.02-450-18	TAS 125	2003
Architectural Testing, Inc (an Intertek Company) (TST1527)	0412-1012-06	TAS 125	2003
Architectural Testing, Inc (an Intertek Company) (TST1527)	D4563.01-450-18	TAS 100	1995
Architectural Testing, Inc (an Intertek Company) (TST1527)	F9156.03-450-18	TAS 100	1995
Architectural Testing (TST1558)	C6413.02-450-18	TAS 125	2003
Architectural Testing (TST1558)	D6207-01-450-18	TAS 125	2003
Architectural Testing (TST1558)	C6413.01-450-18	TAS 100	1995
Farabaugh Engineering (TST1654)	T349-07	TAS 100	1995
Force Engineering & Testing (TST5328)	72-019T0T-07	UL 580	2006
		UL 1897	2012
Force Engineering & Testing (TST5328)	72-0314T-06A-C	UL 580	2006
		UL 1897	2012
Force Engineering & Testing (TST5328)	72-0313T-06A-C	UL 580	2006
		UL 1897	2012
Hurricane Test Laboratory (TST1527)	0412-1203.07	TAS 125	2003
Hurricane Test Laboratory (TST1527)	0412-1017-05	TAS 125	2003
Hurricane Test Laboratory (TST1527)	0412-01012-06	TAS 125	2003
Hurricane Test Laboratory (TST1527)	0412-0305-07	TAS 125	2003
PRI Construction Materials Technologies (TST5878)	VLS-005-02-01	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	VLS-004-02-01	ASTM G 155	2005a
		TAS 110	2000

PRODUCT DESCRIPTION

1.5" Mechanical Lock	**Profile:**	1.5-inch mechanical seam; Max.20-inch coverage
	Description:	Non-structural, min. 180° mechanical lock standing seam roof panel;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		
1.5" Nail Strip	**Profile:**	1.5-inch snap lock seam; Max.15.5-inch coverage
	Description:	Non-structural, snap lock standing seam roof panel; slotted nail strip;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		
Jacksonville Beach Series 1.5" Clipless	**Profile:**	1.5-inch snap lock seam; Max.19-inch coverage
	Description:	Non-structural, snap lock standing seam roof panel; slotted nail strip;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		Min. 0.032-inch Fluropon® coated ASTM B209 aluminum (F_y = min. 21 ksi); Material has demonstrated compliance with 1518.9
		
Miami Series 1.75 Snap Lock	**Profile:**	1.75-inch snap lock seam; Max. 18-inch coverage
	Description:	Non-structural, snap lock standing seam roof panel;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		Min. 0.032-inch Fluropon® coated ASTM B209 aluminum (F_y = min. 24 ksi); Material has demonstrated compliance with 1518.9
		

Palm Beach Series 1.5 Mechanical Seam	**Profile:**	1.5-inch mechanical seam; Max.20-inch coverage
	Description:	Non-structural, min. 90° mechanical lock standing seam roof panel;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		Min. 0.032-inch Fluropon® coated ASTM B209 aluminum (F_y = min. 24 ksi); Material has demonstrated compliance with 1518.9
		
Key West Series 5-V Crimp	**Profile:**	½-inch ribs; Max. 24-inch coverage
	Description:	Non-structural, through fastened roof panel
	Material:	Min. 26 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		
Stuart Line Series 1" Nail Strip	**Profile:**	1-inch snap lock seam; Max.16-inch coverage
	Description:	Non-structural, snap lock standing seam roof panel; slotted nail strip;
	Material:	Min. 24 ga. Fluropon® coated ASTM A792 AZ50, or ASTM A653 G90 steel (F_y = min. 50 ksi); Material has demonstrated compliance with 1518.9
		

LIMITATIONS

1. Fire classification is not within the scope of this evaluation.
2. The roof deck and the roof deck attachment shall be designed by others to meet the minimum design loads established for components and cladding and in accordance with FBC requirements.
3. Roof slope shall be 2:12 or greater.
4. Reroofing shall be in accordance with Section 1521.
5. Installation of the evaluated products shall comply with this report, RAS 133, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
6. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 6th Edition (2017) as evidenced in the referenced documents submitted by the named manufacturer.

2019.08.27
16:00:24
-04'00'

Zachary R. Priest, P.E.
Florida Registration No. 74021
Organization No. ANE9641

CERTIFICATION OF INDEPENDENCE

CREEK Technical Services, LLC does not have, nor will it acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

CREEK Technical Services, LLC is not owned, operated, or controlled by any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

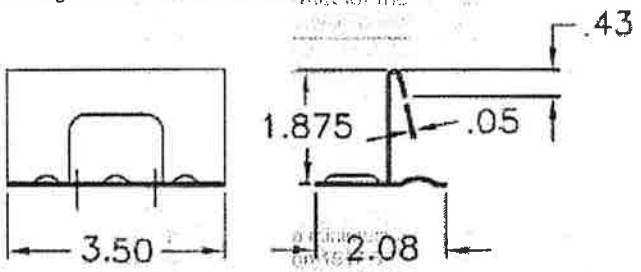
APPENDICES

1) APPENDIX A – Installation (1 pages)
2) APPENDIX B – Approved Roof Systems (5 pages)
3) APPENDIX C – Design Wind Loads (3 pages)

INSTALLATION

Note - Refer to the APPROVED ROOF SYSTEMS section of this report for specific installation details of a selected system.

Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners	#9-15 HWH wood screw with sealing washer	Shall penetrate through the sheathing a minimum 3/8 in. Must be corrosion resistant in accordance with FBC section 1517.5
	#10 HWH wood screw with sealing washer	
	#10 PH wood screw	
	#10-11 Eclipse Head wood screw with sealing washer	
	#10-13 PH wood screw	
	#12-11 PH wood screw	
	#14 WoodZAC® HWH screws	
	#14-13 TH wood screw	
	#14 PH self-drilling screw	Shall penetrate through the top rib of the steel deck a minimum 3/4 in. Must be corrosion resistant in accordance with FBC section 1517.5
Clips	1500SC 1.5-inch Sliding Clip	26 ga. top with 22 ga. base galvanized steel, in-seam clip
	Miami Series 1.75 Snap Lock Clip	0.050-inch galvanized steel in-seam clip 
	Palm Beach Series 1.5 Mechanical Seam Clip	24 ga. galvanized steel in-seam clips 
Sealants	Bostik Chem Calk 915	Shall be applied in ⅛-inch wide continuous beads along the seam
	Bostik 70-05A	

APPROVED ROOF SYSTEMS

The following notes shall be observed when using the assembly tables below.

1. Maximum Design Pressure (*MDP*) was calculated using a 2:1 margin of safety per FBC Section 1523.4.
2. Refer to **LIMITATIONS** and sections of this evaluation when using the table(s) below.
3. Refer to **INSTALLATION** section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. Underlayment shall be installed in accordance with FBC requirements. The minimum underlayment shall be ASTM D 226, Type II installed as described in FBC Section 1518.2.1 with nails and tin caps per 1517.5.
6. Steel Deck shall be designed by others in accordance with FBC requirements and shall be minimum 22 ga (F_y = min.33 ksi) Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC. In no case shall the panels be installed on less than two continuous spans, which are spaced a maximum 5-ft o.c. At minimum, the deck shall be attached with one (1) #12 x 1.5-inch HWH self-drilling screws at the bottom of each flute (maximum. 6-inch o.c. along the support). At minimum, the deck side laps shall be fastened a maximum 6-inch o.c. with #12 x 1.5-inch HWH self-drilling screws.
7. Wood Deck shall be designed by others in accordance with FBC requirements and shall be minimum 19/32-inch thick APA Span-Rated plywood sheathing or wood plank at maximum 24-inch span for new construction. Existing construction shall be the minimum plywood sheathing or wood plank thickness at maximum 24-inch span as stated in the approval tables on following pages. In no case shall the attachment be less than 8d ring shank nails spaced 6-inch o.c.

Roof System Numbers and Definitions	
1.5ML-W#	1.5 Mechanical Lock over Wood Deck (New or Existing)
1.5NS-W#	1.5 Nail Strip over WoodDeck (New or Existing)
PBR-W#	PBR or Econo Line PBR over Wood Deck (New or Existing)
J1.5C-W#	Johnsonville Beach Series 1.5" Clipless over Wood Deck (New or Existing)
M1.75-W#	Miami Series 1.75 Snap Lock over Wood Deck (New or Existing)
P1.5M-W#	Palm Beach Series 1.5 Mechanical Seam over Wood Deck (New or Existing)
K5VC-W#	Key West Series 5-V Crimp over Wood Deck (New or Existing)
S1NS-W#	Stuart Line Series 1" Nail Strip over Wood Deck (New or Existing)

Approved Systems for 1.5 Mechanical Lock over Wood Deck (New or Existing)

System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
1.5ML-W1	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. 1.5 Mechanical Lock Max. 16-inch wide	1500SC 1.5-inch Sliding Clip with two (2) #12-11 PH wood screws spaced 24-inch o.c.	**-59.75**
1.5ML-W2	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. 1.5 Mechanical Lock Max. 16-inch wide	1500SC 1.5-inch Sliding Clip with two (2) #12-11 PH wood screws spaced 6-inch o.c.	**-123.5**

Approved Systems for 1.5 Nail Strip over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
1.5NS-W1	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. 1.5 Nail Strip Max. 15.5-inch wide	One (1) #12-11 PH wood screws spaced 11-inch o.c. along the nail strip	**-78.5**

Approved Systems for PBR or Econo Line PBR over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
PBR-W1	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	26 ga. PBR Max. 36-inch wide	One (1) #9-15 HWH wood screw with sealing washer placed 1.5-inches from each side of panel lap and one (1) #9-15 HWH wood screw and sealing washer placed 1.5-inches to one side of the each intermediate rib (5 fasteners per panel; 6"-9"-9"-9"-3" pattern); Fastener rows spaced 24-inch o.c.	**-76.75**

Approved Systems for Jacksonville Beach Series 1.5" Clipless over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
J1.5C-W1	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	.032 Al Jacksonville Beach Series 1.5" Clipless Max. 19-inch coverage	One (1) #10 PH wood screws spaced 6-inch o.c. along the nail strip; Bostik 70-05A applied to both sides of the male rib prior to seam engagement;	**-76.75**
J1.5C-W2	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Jacksonville Beach Series 1.5" Clipless Max. 19-inch coverage	One (1) #10 PH wood screws spaced 6-inch o.c. along the nail strip; Bostik 70-05A applied to both sides of the male rib prior to seam engagement;	**-97.25**
J1.5C-W3	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	.032 Al Jacksonville Beach Series 1.5" Clipless Max. 19-inch coverage	One (1) #10 PH wood screws spaced 3-inch o.c. along the nail strip; Bostik 70-05A applied to both sides of the male rib prior to seam engagement;	**-108.5**

Approved Systems for Jacksonville Beach Series 1.5" Clipless over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
J1.5C-W4	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Jacksonville Beach Series 1.5" Clipless Max. 19-inch coverage	One (1) #10 PH wood screws spaced 3-inch o.c. along the nail strip; Bostik 70-05A applied to both sides of the male rib prior to seam engagement;	**-161**

Approved Systems for Miami Series 1.75 Snap Lock over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
M1.75-W1	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	.032 Al Miami Series 1.75 Snap Lock Max. 14-inch coverage	Miami Series 1.75 Snap Lock Clip with two (2) #10 PH wood screws spaced 12-inch o.c.	**-110.5**
M1.75-W2	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Miami Series 1.75 Snap Lock Max. 18-inch coverage	Miami Series 1.75 Snap Lock Clip with two (2) #10 PH wood screws spaced 16-inch o.c.	**-114.25**
M1.75-W3	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	.032 Al Miami Series 1.75 Snap Lock Max. 14-inch coverage	Miami Series 1.75 Snap Lock Clip with two (2) #10 PH wood screws spaced 6-inch o.c.	**-114.25**
M1.75-W4	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Miami Series 1.75 Snap Lock Max. 18-inch coverage	Miami Series 1.75 Snap Lock Clip with two (2) #10 PH wood screws spaced 8-inch o.c.	**-156.75**

Approved Systems for Palm Beach Series 1.5 Mechanical Seam over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
P1.5M-W1	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	.032 Al Palm Beach Series 1.5 Mechanical Seam Max. 20-inch wide 90° seam	Palm Beach Series 1.5 Mechanical Seam Clip with two (2) #10 PH wood screws spaced 24-inch o.c.	**-63.5**

Approved Systems for Palm Beach Series 1.5 Mechanical Seam over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
P1.5M-W2	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. Palm Beach Series 1.5 Mechanical Seam Max. 20-inch wide 90° seam	Palm Beach Series 1.5 Mechanical Seam Clip with two (2) #10 PH wood screws spaced 24-inch o.c.	**-93.5**
P1.5M-W3	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. Palm Beach Series 1.5 Mechanical Seam Max. 20-inch wide 90° seam	Palm Beach Series 1.5 Mechanical Seam Clip with two (2) #10 PH wood screws spaced 6-inch o.c.	**-101**
P1.5M-W4	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	24 ga. Palm Beach Series 1.5 Mechanical Seam Max. 20-inch wide 180° seam	Palm Beach Series 1.5 Mechanical Seam Clip with two (2) #10 PH wood screws spaced 6-inch o.c.	**-123.5**
P1.5M-W5	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	.032 Al Palm Beach Series 1.5 Mechanical Seam Max. 20-inch wide 180° seam	Palm Beach Series 1.5 Mechanical Seam Clip with two (2) #10 PH wood screws spaced 6-inch o.c.	**-131**

Approved Systems for Key West Series 5-V Crimp over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
K5VC-W1	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	26 ga. 5-V-Crimp Max. 24-inch wide	One (1) #10 HWH wood screw with sealing washer placed through the apex of the inside rib at the panel lap and through the center rib of the panel (12-inch o.c. across the panel); Fastener rows spaced 16-inch o.c.	**-78.5**
K5VC-W2	Min. 15/32 CDX plywood	OPTIONAL Versashield Solo	As required per FBC	26 ga. 5-V-Crimp Max. 24-inch wide	One (1) #14 WoodZAC® HWH wood screw with sealing washer placed through the apex of the inside rib at the panel lap and through the center rib of the panel (12-inch o.c. across the panel); Fastener rows spaced 8-inch o.c.	**-106.75**

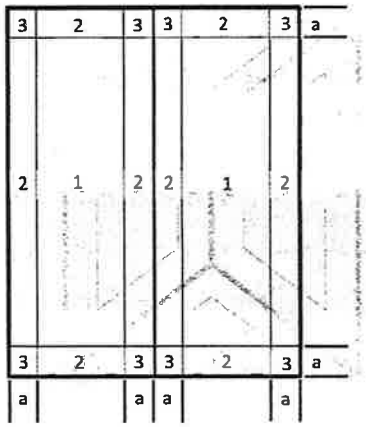
Approved Systems for Stuart Line Series 1" Nail Strip over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	*MDP* (psf)
S1NS-W1	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Stuart Line Series 1" Nail Strip Max. 16-inch coverage	One (1) #10 PH wood screws spaced 12-inch o.c. along the nail strip; Bostik Chem-Calk 915 applied along the fasteners prior to seam engagement;	**-91.25**
S1NS-W2	Min. 15/32 CDX plywood	OPTIONAL *Approved* fire barrier or insulation	As required per FBC	24 ga. Stuart Line Series 1" Nail Strip Max. 16-inch coverage	One (1) #10 PH wood screws spaced 6-inch o.c. along the nail strip; Bostik Chem-Calk 915 applied to top of male rib on fastening side prior to seam engagement;	**-136.75**

DESIGN WIND LOADS

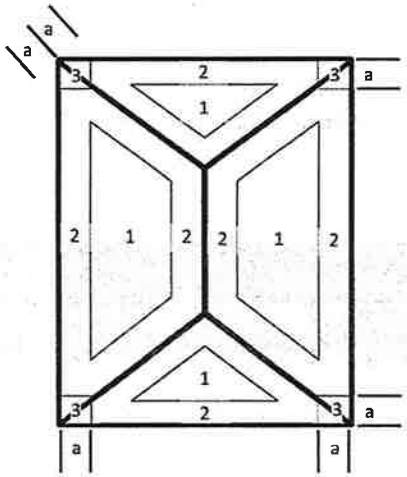
The following tables provide design wind loads for components and cladding in accordance with Section 1620 of the FBC and ASCE 7-10 under the following provisions:

1. For Hip roofs between 2:12 and 5.6:12, Zone 3 shall be treated as Zone 2.
2. Wind speeds for risk category I, II, III, and IV buildings shall be as defined in Section 1620 of the FBC.
3. Exposure C and D shall be as defined in section 1620 of the FBC.
4. Design wind load provided only for gable/hip roofs with roof slopes between 2:12 and 6.1:12
5. All calculations are based on an effective wind area of 10-ft^2 or less.
6. Topographic factors such as escarpments or hills have been excluded from the analysis
7. Overhangs have been excluded from the analysis.
8. Wind directionality factor, $K_d = 0.85$
9. Design wind loads are calculated using $P_{asd} = 0.6P_{ult}$.
10. Projects with mean roof heights greater than 60-ft shall be evaluated by a licensed design professional
11. Zones 1, 2, and 3 shall be defined as shown below. Dimension "a" shall be 10% of the least horizontal dimension or (0.4 x *Mean Roof Height)*, whichever is smaller, but not less than either 4% of the least horizontal dimension or 3ft

Gable



Hip



APPENDIX C

Gable/Hip Roofs in **Exposure C in Miami-Dade & Broward County** (Roof slopes between 2:12 and 6.1:12)								
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)					
			Risk Cat I	Risk Cat I	Risk Cat II	Risk Cat II	Risk Cat III, IV	Risk Cat III,IV
			156	165	170	175	180	186
Enclosed	1	20	-30.9	-34.6	-36.7	-38.9	-41.1	-43.9
		25	-32.3	-36.1	-38.3	-40.6	-42.9	-45.9
		30	-33.6	-37.6	-39.9	-42.3	-44.8	-47.8
		40	-35.7	-39.9	-42.4	-44.9	-47.5	-50.7
		50	-37.4	-41.8	-44.4	-47.1	-49.8	-53.2
		60	-38.8	-43.4	-46.1	-48.8	-51.6	-55.1
	2	20	-53.8	-60.1	-63.8	-67.7	-71.6	-76.4
		25	-56.2	-62.8	-66.7	-70.7	-74.8	-79.8
		30	-58.5	-65.5	-69.5	-73.7	-77.9	-83.2
		40	-62.1	-69.5	-73.8	-78.2	-82.7	-88.3
		50	-65.1	-72.8	-77.3	-81.9	-86.7	-92.6
		60	-67.5	-75.5	-80.2	-84.9	-89.9	-96.0
	3	20	-79.5	-88.9	-94.4	-100.0	-105.8	-113.0
		25	-83.0	-92.9	-98.6	-104.5	-110.5	-118.0
		30	-86.6	-96.8	-102.8	-108.9	-115.3	-123.1
		40	-91.9	-102.8	-109.1	-115.6	-122.3	-130.6
		50	-96.3	-107.7	-114.3	-121.2	-128.2	-136.9
		60	-99.8	-111.7	-118.5	-125.6	-132.9	-141.9
Partially Enclosed	1	20	-41.5	-46.4	-49.2	-52.2	-55.2	-58.9
		25	-43.3	-48.5	-51.4	-54.5	-57.7	-61.6
		30	-45.2	-50.5	-53.6	-56.8	-60.1	-64.2
		40	-47.9	-53.6	-56.9	-60.3	-63.8	-68.1
		50	-50.2	-56.2	-59.6	-63.2	-66.9	-71.4
		60	-52.1	-58.2	-61.8	-65.5	-69.3	-74.0
	2	20	-64.3	-72.0	-76.4	-81.0	-85.7	-91.5
		25	-67.2	-75.2	-79.8	-84.6	-89.5	-95.5
		30	-70.1	-78.4	-83.2	-88.2	-93.3	-99.6
		40	-74.4	-83.2	-88.3	-93.6	-99.0	-105.7
		50	-77.9	-87.2	-92.5	-98.1	-103.8	-110.8
		60	-80.8	-90.4	-95.9	-101.7	-107.6	-114.8
	3	20	-90.1	-100.8	-107.0	-113.4	-119.9	-128.1
		25	-94.1	-105.3	-111.7	-118.4	-125.3	-133.8
		30	-98.1	-109.7	-116.5	-123.4	-130.6	-139.4
		40	-104.1	-116.5	-123.6	-131.0	-138.6	-148.0
		50	-109.1	-122.1	-129.6	-137.3	-145.2	-155.1
		60	-113.1	-126.5	-134.3	-142.3	-150.6	-160.8

APPENDIX C

Gable/Hip Roofs in **Exposure D in Miami-Dade & Broward County** (Roof slopes between 2:12 and 6.1:12)								
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)					
			Risk Cat I	Risk Cat I	Risk Cat II	Risk Cat II	Risk Cat III, IV	Risk Cat III,IV
			156	165	170	175	180	186
Enclosed	1	20	-37.1	-41.5	-44.0	-46.6	-49.3	-52.7
		25	-38.4	-43.0	-45.6	-48.4	-51.2	-54.6
		30	-39.8	-44.5	-47.3	-50.1	-53.0	-56.6
		40	-41.9	-46.8	-49.7	-52.7	-55.7	-59.5
		50	-43.6	-48.8	-51.8	-54.8	-58.0	-62.0
		60	-45.0	-50.3	-53.4	-56.6	-59.9	-63.9
	2	20	-64.5	-72.2	-76.6	-81.2	-85.9	-91.7
		25	-66.9	-74.8	-79.5	-84.2	-89.1	-95.1
		30	-69.3	-77.5	-82.3	-87.2	-92.3	-98.5
		40	-72.9	-81.5	-86.5	-91.7	-97.0	-103.6
		50	-75.9	-84.9	-90.1	-95.5	-101.0	-107.8
		60	-78.3	-87.5	-92.9	-98.5	-104.2	-111.2
	3	20	-95.4	-106.7	-113.3	-120.1	-127.0	-135.6
		25	-98.9	-110.7	-117.5	-124.5	-131.7	-140.6
		30	-102.5	-114.6	-121.7	-128.9	-136.4	-145.7
		40	-107.8	-120.6	-128.0	-135.6	-143.5	-153.2
		50	-112.2	-125.5	-133.2	-141.2	-149.4	-159.5
		60	-115.7	-129.5	-137.4	-145.6	-154.1	-164.5
Partially Enclosed	1	20	-49.8	-55.7	-59.1	-62.6	-66.3	-70.7
		25	-51.6	-57.7	-61.3	-64.9	-68.7	-73.4
		30	-53.4	-59.8	-63.5	-67.3	-71.2	-76.0
		40	-56.2	-62.9	-66.8	-70.7	-74.8	-79.9
		50	-58.5	-65.5	-69.5	-73.6	-77.9	-83.2
		60	-60.4	-67.5	-71.7	-76.0	-80.4	-85.8
	2	20	-77.2	-86.4	-91.7	-97.2	-102.8	-109.8
		25	-80.1	-89.6	-95.1	-100.8	-106.6	-113.8
		30	-82.9	-92.8	-98.5	-104.4	-110.4	-117.9
		40	-87.2	-97.6	-103.6	-109.8	-116.1	-124.0
		50	-90.8	-101.6	-107.8	-114.3	-120.9	-129.1
		60	-93.7	-104.8	-111.2	-117.9	-124.7	-133.1
	3	20	-108.1	-120.9	-128.4	-136.0	-143.9	-153.7
		25	-112.1	-125.4	-133.1	-141.1	-149.2	-159.4
		30	-116.1	-129.9	-137.9	-146.1	-154.6	-165.1
		40	-122.1	-136.6	-145.0	-153.7	-162.6	-173.6
		50	-127.1	-142.2	-151.0	-160.0	-169.2	-180.7
		60	-131.1	-146.7	-155.7	-165.0	-174.6	-186.4

FL #	FL5259-R29
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	POLYGLASS USA
Address/Phone/Email	1111 W. Newport Center Drive Deerfield Beach, FL 33442 (954) 233-1330 Ext 242 malpert@polyglass.com
Authorized Signature	Maury Alpert malpert@polyglass.com
Technical Representative Address/Phone/Email	TECH REP 1111 West Newport Center Drive Deerfield Beach, FL 33442 (866) 802-8017 uspolyglasstechnical@polyglass.com
Quality Assurance Representative Address/Phone/Email	QA REP 1111 West Newport Center Drive Deerfield Beach, FL 33442 (888) 410-1375 uspolyglasstechnical@polyglass.com
Category	Roofing
Subcategory	Underlayments
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen
Florida License	PE-59166
Quality Assurance Entity	UL LLC
Quality Assurance Contract Expiration Date	10/21/2022
Validated By	John W. Knezevich, PE Validation Checklist - Hardcopy Received
Certificate of Independence	FL5259_R29_COI_2019_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1970	2015
ASTM D226	2009
ASTM D4798	2011
ASTM D6163	2008

ASTM D6164	2011
ASTM D6222	2011
ASTM D6509	2009
FM 4474	2011
FRSA/TRI April 2012	2012
UL 1897	2012

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method: Method 1 Option D

Date Submitted: 10/15/2019
Date Validated: 10/16/2019
Date Pending FBC Approval: 10/20/2019
Date Approved: 12/10/2019

Summary of Products

FL #	Model, Number or Name	Description
5259.1	Polyglass Roof Underlayments	Roofing underlayments

Limits of Use
Approved for use in HVHZ: No
Approved for use outside HVHZ: Yes
Impact Resistant: N/A
Design Pressure: +N/A/-622.5
Other: 1.) The design pressure in this application relates to one particular underlayment system (over concrete deck) for use under foam-on tile systems (where the underlayment forms part of the load-path). Refer to ER Section 5.6.1 for other systems, other deck types and associated maximum design pressures. 2.) Refer to ER Section 5 for other limits of use.

Installation Instructions
FL5259_R29_II_2019_10_FINAL_ER_POLYGLASS_UNDERLAYMENTS_FL5259-R29.pdf
Verified By: Robert Nieminen PE-59166
Created by Independent Third Party: Yes

Evaluation Reports
FL5259_R29_AE_2019_10_FINAL_ER_POLYGLASS_UNDERLAYMENTS_FL5259-R29.pdf
Created by Independent Third Party: Yes

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

ENGINEER | EVALUATE | TEST | CONSULT | CERTIFY

EVALUATION REPORT

Polyglass USA, Inc.
1111 West Newport Center Drive
Deerfield Beach, FL 33442
(954) 233-1230

Evaluation Report P12060.02.09-R25
FL5259-R29
Date of Issuance: 02/24/2009
Revision 25: 10/14/2019

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 and Florida Building Code, Residential Volume. The products described herein have been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections noted herein.

DESCRIPTION: Polyglass Roof Underlayments

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

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO|etc. requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Evaluation Report number preceded by the words "NEMO|etc. 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 16.

Prepared by:

Robert J.M. Nieminen, P.E.
Florida Registration No. 59166, Florida DCA ANE1983

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/14/2019. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO|etc. 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. 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. 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.

NEMO|etc.

ROOFING COMPONENT EVALUATION

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: **Roof Underlayments**, as produced by **Polyglass USA, Inc.**, have demonstrated compliance with the following sections of the **6th Edition (2017) 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 Uplift	FM 4474	2011
1504.3.1	Wind Uplift	UL 1897	2012
1507.2.3 / 1507.1.1	Physical Properties	ASTM D226	2009
1507.2.4 / 1507.1.1, 1507.2.9.2	Physical Properties	ASTM D1970	2015
1507.3.3	Physical Properties	FRSA/TRI April 2012	2012
1507.11.2	Physical Properties	ASTM D6163	2008
1507.11.2	Physical Properties	ASTM D6164	2011
1507.11.2	Physical Properties	ASTM D6222	2011
1507.11.2	Physical Properties	ASTM D6509	2009
TAS 110	Accelerated Weathering	ASTM D4798	2011

3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST 6049)	Wind Uplift	11757.08.01-1	08/13/2001
ERD (TST 6049)	Wind Uplift	11776.06.02	01/16/2003
ERD (TST 6049)	Wind Uplift	P1740.01.07	01/04/2007
ERD (TST 6049)	ASTM D1970	P5110.04.07-1	04/11/2007
ERD (TST 6049)	Wind Uplift	P9260.03.08	03/21/2008
ERD (TST 6049)	Wind Uplift	P30540.11.09-R1	11/30/2009
ERD (TST 6049)	Tensile Adhesion	P11030.11.09-1	11/30/2009
ERD (TST 6049)	Wind Uplift	P11030.11.09-2	11/30/2009
ERD (TST 6049)	ASTM D4977	P11030.11.09-3	11/30/2009
ERD (TST 6049)	ASTM D1970	P33360.06.10	06/25/2010
ERD (TST 6049)	TAS 103	P33370.03.11	03/02/2011
ERD (TST 6049)	Tensile Adhesion	P33370.04.11	04/26/2011
ERD (TST 6049)	ASTM D1970	P37300.10.11	10/19/2011
ERD (TST 6049)	TAS 103	P40390.08.12-1	08/06/2012
ERD (TST 6049)	Tensile Adhesion	P40390.08.12-2	08/07/2012
ERD (TST 6049)	Tensile Adhesion	C41420.09.12-3	09/11/2012
ERD (TST 6049)	Wind Uplift	P39680.03.13	03/04/2013
ERD (TST 6049)	ASTM D1970	P45370.04.13	04/26/2013
ERD (TST 6049)	Wind Uplift	P1738.02.07-R2	04/29/2013
ERD (TST 6049)	Wind Uplift	11757.04.01-1-R1	04/30/2013
ERD (TST 6049)	ASTM D6164	P37590.03.13-3A	05/06/2013
ERD (TST 6049)	ASTM D6509	P37590.03.13-1-R1	06/26/2013
ERD (TST 6049)	Wind Uplift	P41630.08.13	08/06/2013
ERD (TST 6049)	ASTM D4601	P45940.09.13	09/04/2013
ERD (TST 6049)	Wind Uplift	P11751.05.03-R1	11/26/2013
ERD (TST 6049)	Wind Uplift	P11781.11.03-R1	11/26/2013
ERD (TST 6049)	30/90 physicals	P45270.05.14	05/12/2014
ERD (TST 6049)	Tensile adhesion	6020.09.14-5	09/08/2014
ERD (TST 6049)	Tensile adhesion	6020.09.14-6	09/08/2014
ERD (TST 6049)	Tensile adhesion	P46520.10.14	10/03/2014
ERD (TST 6049)	ASTM D1970/D4798	P43290.10.14	10/17/2014
ERD (TST 6049)	Tensile adhesion	P40390.04.15	04/03/2015
ERD (TST 6049)	TAS 103	P44360.10.14-R1	05/18/2015
ERD (TST 6049)	Wind Uplift	PLYG-SC8905.05.16-1	05/17/2016
ERD (TST 6049)	ASTM D1970	PLYG-SC10130.06.16-1	06/27/2016
ERD (TST 6049)	Tensile adhesion	PLYG-SC10130.06.16-2	06/27/2016
ERD (TST 6049)	TAS 103	PLYG-SC10130.06.16-3	06/27/2016
ERD (TST 6049)	ASTM D1970/D4798	PLYG-SC8080.07.16	07/16/2016
ERD (TST 6049)	Wind Uplift	PLYG-SC12025.10.16	10/12/2016
ERD (TST 6049)	TAS 103	PLYG-SC13040.12.16	12/27/2016
ERD (TST 6049)	30/90 physicals	PLYG-SC11900.03.17	03/10/2017
ERD (TST 6049)	TAS 103	PLYG-SC12115.08.17	08/08/2017
ERD (TST 6049)	TAS 103	PLYG-SC13035.08.17	10/31/2017
FM (TST 1867)	Wind Uplift	3004091	01/12/2000
ICC-ES (EVL 2396)	IBC Compliance	ESR-1697	04/01/2019
M-D (CER 1592)	HVHZ Compliance	NOA 17-0614.22	07/06/2017
MTI (TST 2508)	ASTM D4798	JX20H7A	04/01/2008
NEMO (TST 6049)	ASTM D1970	4-PLYG-18-004.03.18	03/29/2018
NEMO (TST 6049)	Wind Uplift	4L-PLYG-18-003.01.19	01/11/2019
NEMO (TST 6049)	ASTM D6163	4S-PLYG-18-002.01.19-A	01/24/2019
NEMO (TST 6049)	ASTM D6222	4S-PLYG-18-002.05.19-C	05/20/2019
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-G	10/08/2019
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-I	10/08/2019
NEMO (TST 6049)	TAS 103	4S-PLYG-18-004.10.19-L	10/09/2019
NEMO (TST 6049)	TAS 103	4J-PLYG-19-SSUDL-01.A	10/10/2019
PRI (TST 5878)	Tensile Adhesion	PRI01111	04/08/2002
PRI (TST 5878)	TAS 103	PUSA-018-02-01	07/14/2003
PRI (TST 5878)	TAS 103	PUSA-035-02-01	09/29/2006
PRI (TST 5878)	TAS 103	PUSA-055-02-02	12/10/2007
PRI (TST 5878)	ASTM D6222	PUSA-061-02-02	01/28/2008
PRI (TST 5878)	ASTM D6164	PUSA-088-02-01	07/29/2009
Polyglass USA	P/L Affidavit	Mule-Hide Cross Ltg	03/01/2008

Entity	Examination	Reference	Date	Entity	Examination	Reference	Date
ERD (TST 6049)	TAS 103	PLYG-SC7550.03.15	03/24/2015	Polyglass USA	Materials Affidavit	Polystick Compound	08/18/2011
				UL (QUA9625)	Quality Control	Service Confirmation	09/13/2018

4. PRODUCT DESCRIPTION:

	Product	Specification	Plant(s)	Description
4.1	Elastobase	ASTM D6163	FL	Fiberglass-reinforced, SBS modified bitumen base sheet
4.2	Elastobase P	ASTM D6164	FL	Polyester-reinforced, SBS modified bitumen base sheet
4.3	Elastoflex G TU	M-D 13-004 FRSA/TRI April 2012	PA	Polyester-reinforced, modified bitumen tile underlayment composed of a sand-surfaced SBS modified bitumen back-side and granule-surfaced APP modified bitumen top-side
4.4	Elastoflex S6 G	ASTM D6164 FRSA/TRI April 2012	FL	Polyester-reinforced, SBS modified bitumen cap sheet
4.5	Elastoflex S6 G FR	ASTM D6164 FRSA/TRI April 2012	FL	Polyester-reinforced, SBS modified bitumen cap sheet
4.6	Mule-Hide SA-APP Cap Sheet	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet
4.7	HydraGuard Dual Pro	ASTM D1970	FL	Nominal 60-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polyester fabric surface
4.8	HydraGuard Tile Pro	ASTM D1970 TAS 103 FRSA/TRI April 2012	FL	Nominal 60-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polyester fabric surface
4.9	Mule-Hide SA-APP Cap Sheet (FR)	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet
4.10	Polyflex G	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet for use as an alternate to Heat Applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened or adhered tile roof systems
4.11	Polyflex G FR	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet for use as an alternate to Heat Applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems
4.12	Polyflex SA P	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet
4.13	Polyflex SA P FR	ASTM D6222 FRSA/TRI April 2012	FL	Polyester-reinforced, APP modified bitumen cap sheet
4.14	Polyglass Base	ASTM D6509	FL	Fiberglass-reinforced, APP modified bitumen base sheet
4.15	Polyglass G2 Base Sheet	ASTM D4601	AL	Fiberglass-reinforced, asphaltic base sheet
4.16	Polystick IR-Xe	ASTM D1970	FL, PA	Nominal 60-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, with an aggregate surface
4.17	Polystick MTS Plus	TAS 103 FRSA/TRI April 2012	FL, PA, TX	Nominal 60-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, surfaced with polyolefinic film surface

4. PRODUCT DESCRIPTION:

	Product	Specification	Plant(s)	Description
4.18	Polystick MU-X	ASTM D1970 (See Section 5.8)	FL, NV, PA	Nominal 54-mil thick dual-layer rubberized asphalt waterproofing membrane, fiberglass reinforced, with a polypropylene film surface
4.19	Polystick TU Max	ASTM D1970 TAS 103 FRSA/TRI April 2012	FL, PA, TX	Nominal 60-mil thick rubberized asphalt waterproofing membrane with a 190 g/m² polyester fabric surface
4.20	Polystick TU P	TAS 103 FRSA/TRI April 2012	TX	Nominal 130-mil thick rubberized asphalt waterproofing membrane, glass-fiber/polyester reinforced, with a granular surface
4.21	Polystick TU Plus	ASTM D1970 TAS 103 FRSA/TRI April 2012	FL, PA	Nominal 80-mil thick rubberized asphalt waterproofing membrane, glass fiber reinforced, with a polyester fabric surface

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO|etc. 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 the HVHZ.

5.3 Fire Classification is not part of this Evaluation Report; refer to current Approved Roofing Materials Directory for fire ratings of this product.

5.4 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.

5.5 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS

Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood Shakes & Shingles	Slate
Elastobase	Yes	Yes (Base Sheet in 2-ply system)	Yes (Base Sheet in 2-ply system)	Yes	Yes	Yes
Elastobase P	Yes	Yes (Base Sheet in 2-ply system)	Yes (Base Sheet in 2-ply system)	Yes	Yes	Yes
Polyglass Base	No	Yes (Base Sheet in 2-ply system)	Yes (Base Sheet in 2-ply system)	No	No	No
Polyglass G2 Base	No	Yes (Base Sheet in 2-ply system)	Yes (Base Sheet in 2-ply system)	No	No	No
Elastoflex G TU	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Elastoflex S6 G	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Elastoflex S6 G FR	Yes	Yes	No	No	Yes	Yes
HydraGuard Dual Pro	Yes	No	No	Yes	Yes	Yes
HydraGuard Tile Pro	Yes	Yes	Yes (See 5.5.1)	Yes	Yes	Yes
Mule-Hide SA-APP Cap Sheet	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Mule-Hide SA-APP Cap Sheet (FR)	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Polyflex G	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Polyflex G FR	Yes	Yes	No	No	Yes	Yes
Polyflex SA P	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Polyflex SA P FR	Yes	Yes	Yes (See 5.5.1)	No	Yes	Yes
Polystick IR-Xe	Yes	No	No	No	Yes	Yes

TABLE 1: ROOF COVER OPTIONS						
Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood Shakes & Shingles	Slate
Polystick MTS Plus	Yes	Yes	No	Yes	Yes	Yes
Polystick MU-X	Yes	No	No	Yes	Yes	Yes
Polystick TU Max	No	Yes	Yes (See 5.5.1)	Yes	No	No
Polystick TU P	No	Yes	Yes (See 5.5.1)	No	No	No
Polystick TU Plus	Yes	Yes	Yes (See 5.5.1)	Yes	Yes	Yes

5.5.1 "Foam-On Tile" is limited to use of the following Approved tile adhesives / underlayment combinations.

TABLE 1A: ALLOWABLE TILE ADHESIVE / UNDERLAYMENT COMBINATIONS[1]		
Adhesive	Florida Product Approval	Underlayments
DAP Foam Touch 'n Seal StormBond Roof Tile Adhesive	FL14506	Polystick TU Max or Polystick TU Plus
Dow TileBond™	FL22525	HydraGuard Tile Pro, Polyflex SA P, Polystick TU Max, Polystick TU P or Polystick TU Plus
ICP Adhesives Polyset® AH-160	FL6332	Elastoflex G TU, Elastoflex S6 G, HydraGuard Tile Pro, Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex G, Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus
ICP Adhesives Polyset® RTA-1	FL6276	Elastoflex S6 G, HydraGuard Tile Pro, Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex G, Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus

5.6 Allowable Substrates:

TABLE 2: 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 (all variations), Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), 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 felt, Elastobase, Elastobase P or Mule-Hide Nail Base
Elastoflex G TU, 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 felt, Elastobase, Elastobase P, Mule-Hide Nail Base 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, Elastobase P, Mule-Hide Nail Base, Polyglass G2 Base or Polyglass Base

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

5.6.1 Wind Resistance for Underlayment Systems in Foam-On Tile Applications:

The following wind uplift limitations apply to underlayment systems that are not prescriptively addressed in FRSA/TRI April 2012 (04-12) and are used in foam-on or mortar-set tile applications. 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). Refer to FRSA/TRI April 2012 (04-12), Appendix A, Table 1A or FBC 1609 for determination of design wind loads.

#1 Maximum Design Pressure = **-52.5 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Joints: Min. 4-inch wide strips of Elastoflex SA-V over all OSB joints
Base Ply: Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#2 Maximum Design Pressure = **-90 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: None
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#3 Maximum Design Pressure = **-97.5 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: PG100 or ASTM D41
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU 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.

#4 Maximum Design Pressure = **-105 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: WB-3000
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU 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.

#5 Maximum Design Pressure = **-135 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: (Optional) PG100 or ASTM D41
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Joints: Min. 4-inch wide strips of Elastoflex SA-V over all plywood joints.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#6 Maximum Design Pressure = **-315 psf**:

Deck: Structural concrete to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: PG100 or ASTM D41
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: HydraGuard Tile Pro, Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#7 Maximum Design Pressure = **-622.5 psf**:

Deck: Structural concrete to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer: PG100 or ASTM D41
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#8 Maximum Design Pressure = **-30.0 psf***:

Deck: Min. 15/32-inch OSB to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: 11 ga. x 1.25-inch long x 1-inch head diameter round metal cap nails
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at two (2) equally spaced staggered center rows.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#9 Maximum Design Pressure = **-37.5 psf***:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: 11 ga. x 1.25-inch long x 1-inch head diameter round metal cap nails
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at two (2) equally spaced staggered center rows.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#10 Maximum Design Pressure = **-37.5 psf***:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: One (1) or two (2) layers ASTM D226, Type II felt
Fasteners: 11 ga. x 1.25-inch long x 1-inch head diameter round metal cap nails
Spacing: 6-inch o.c. at the 3-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#11 Maximum Design Pressure = **-45 psf***:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: One (1) layer ASTM D226, Type II felt
Fasteners: 11 ga. x 1.25-inch x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing: 4-inch o.c. at the 2-inch wide side laps and 4-inch o.c. at two (2) equally spaced staggered center rows.
Base Ply: (Optional; for use with self-adhering underlayment only) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered or Elastoflex G TU, applied in full mopping of hot asphalt.

#12 Maximum Design Pressure = **-45 psf***:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Two (2) layers ASTM D226, Type II felt
Fasteners: 11 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing: 9-inch o.c. at the 2-inch wide side laps and 9-inch o.c. at two (2) equally spaced staggered center rows.
Base Ply: (Optional; for use with self-adhering underlayment only) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered or Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#13 Maximum Design Pressure = **-45 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 9-inch o.c. at the 2-inch wide side laps and 18-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#14 Maximum Design Pressure = **-45.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: 12 ga. annular ring shank nails with 1-5/8" diameter tin caps
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#15 Maximum Design Pressure = **-45.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sand top surface)
Fasteners: 12 ga. annular ring shank nails with 1-5/8" diameter tin caps
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#16 Maximum Design Pressure = **-45.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Polyglass Base
Fasteners: 12 ga. annular ring shank nails with 1-5/8" diameter tin caps
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Polyflex G, torch-applied.

#17 Maximum Design Pressure = **-52.5 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#18 Maximum Design Pressure = **-52.5 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: Simplex Original Cap Nails
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#19 Maximum Design Pressure = **-52.5 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: Simplex Original Cap Nails
Spacing: 6-inch o.c. at the 3-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#20 Maximum Design Pressure = **-60 psf**:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: 11 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing: 8-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#21 Maximum Design Pressure = **-60 psf**:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: OMG #12 Standard Roofgrip with OMG Flat Bottom Metal Plates
Spacing: 12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#22 Maximum Design Pressure = **-60.0 psf**:

Deck:	APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	8-inch o.c. at the 3-inch wide side laps and 8-inch o.c. at three (3) equally spaced staggered center rows.
Primer:	PG100 or ASTM D41 primer applied to stress plates.
Base Ply:	(Optional) Polystick MTS Plus, self-adhered.
Underlayment:	Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#23 Maximum Design Pressure = **-60.0 psf**:

Deck:	APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase (sand top surface)
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	8-inch o.c. at the 3-inch wide side laps and 8-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment:	Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#24 Maximum Design Pressure = **-60.0 psf**:

Deck:	APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase or Polyglass Base
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	8-inch o.c. at the 3-inch wide side laps and 8-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment:	Polyflex G, torch-applied.

#25 Maximum Design Pressure = **-67.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Polyglass G2 Base or Polyglass Base *(requires use of torch-applied underlayment)*
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing:	8-inch o.c. at the 4-inch wide side laps and 8-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment:	Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or torch-applied or Polyflex G, torch-applied.

#26 Maximum Design Pressure = **-67.5 psf**:

Deck:	APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners:	TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet.
Spacing:	12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Primer:	(Optional) PG100 or ASTM D41 primer applied to stress plates.
Base Ply:	(Optional) Polystick MTS Plus, self-adhered.
Underlayment:	Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#27 Maximum Design Pressure = **-67.5 psf**:

Deck:	APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase (sand top surface)
Fasteners:	TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet.
Spacing:	12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment:	Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#28 Maximum Design Pressure = **-67.5 psf**:

Deck: APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Polyglass Base
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet.
Spacing: 12-inch o.c. at the 4-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Polyflex G, torch-applied.

#29 Maximum Design Pressure = **-75 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Polyglass G2 Base or Polyglass Base *(requires use of torch-applied underlayment)*
Fasteners: Dekfast #14 with Dekfast Hex plates, OMG #14 HD with OMG 3" Galvalume Steel Plates, OMG Roofgrip #14 with OMG Flat Bottom Plates (AccuTrac), Trufast HD with Trufast 3-inch Insulation Plates or Simplex MAXX Cap Fasteners
Spacing: 10-inch o.c. at the 4-inch wide side laps and 10-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or torch-applied or Polyflex G, torch-applied.

#30 Maximum Design Pressure = **-90 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#31 Maximum Design Pressure = **-90 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: OMG #12 Standard Roofgrip or OMG #14 Heavy Duty with OMG 3" Round Metal Plates or OMG Flat Bottom Metal Plates
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#32 Maximum Design Pressure = **-90 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface)
Fasteners: Trufast #12 DP or Trufast #14 HD with Trufast 3" Metal Insulation Plates
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#33 Maximum Design Pressure = **-90 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Polyglass G2 Base or Polyglass Base *(requires use of torch-applied underlayment)*
Fasteners: Dekfast #14 with Dekfast Hex plates, OMG #14 HD with OMG 3" Galvalume Steel Plates, OMG Roofgrip #14 with OMG Flat Bottom Plates (AccuTrac), Trufast HD with Trufast 3-inch Insulation Plates or Simplex MAXX Cap Fasteners
Spacing: 9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or torch-applied or Polyflex G, torch-applied.

#34 Maximum Design Pressure = **-90.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width direction of the sheet
Spacing: 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Primer: PG100 or ASTM D41 primer applied to stress plates.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#35 Maximum Design Pressure = **-90.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sand top surface)
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width-direction of the sheet
Spacing: 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#36 Maximum Design Pressure = **-90.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Polyglass Base
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width-direction of the sheet
Spacing: 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced staggered center rows.
Underlayment: Polyflex G, torch-applied.

#37 Maximum Design Pressure = **-97.5 psf**:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: 11 ga. x 1.25-inch x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing: 4-inch o.c. at the 4-inch wide side laps and 4-inch o.c. at four (4) equally spaced staggered center rows.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#38 Maximum Design Pressure = **-97.5 psf**:

Deck: APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Primer: PG100 or ASTM D41 primer applied to stress plates.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#39 Maximum Design Pressure = **-97.5 psf**:

Deck: APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sand top surface)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#40 Maximum Design Pressure = **-97.5 psf**:

Deck: APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Polyglass Base
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment: Polyflex G, torch-applied.

#41 Maximum Design Pressure = **-105 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: Simplex MAXX Cap Fasteners
Spacing: 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#42 Maximum Design Pressure = **-105.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width-direction of the sheet
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Primer: PG100 or ASTM D41 primer applied to stress plates.
Base Ply: (Optional) Polystick MTS Plus, self-adhered.
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#43 Maximum Design Pressure = **-105.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sand top surface)
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width-direction of the sheet
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#44 Maximum Design Pressure = **-105.0 psf**:

Deck: APA rated, 7/16 CAT, 0.418 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Polyglass Base
Fasteners: TRUFAST Versa-Fast Fasteners & Plates with two (2) screws per plate installed 180° into the holes of the plate, parallel to the width-direction of the sheet
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at three (3) equally spaced staggered center rows.
Underlayment: Polyflex G, torch-applied.

#45 Maximum Design Pressure = **-112.5 psf**:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners: 11 ga. x 1.25-inch x 3/8-inch head diameter annular ring shank roofing nails at 1-5/8-inch diameter tin caps
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at four (4) equally spaced staggered center rows.
Primer: PG100 or ASTM D41 primer at all tin-caps
Base Ply: Polystick MTS Plus, self-adhered
Underlayment: Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#46 Maximum Design Pressure = **-120 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface for hot-asphalt or torch-applied cap or poly-film surface for torch-applied cap)
Fasteners: OMG #12 Standard Roofgrip or OMG #14 Heavy Duty with OMG 3" Round Metal Plates or OMG Flat Bottom Metal Plates
Spacing: 6-Inch o.c. at the 4-inch wide side laps and 6-inch o.c. at five (5) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt or Polyflex G, torch-applied.

#47 Maximum Design Pressure = **-120 psf**:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet: Elastobase (sanded top surface)
Fasteners: Trufast #12 DP or Trufast #14 HD with Trufast 3" Metal Insulation Plates
Spacing: 6-inch o.c. at the 4-inch wide side laps and 6-inch o.c. at five (5) equally spaced staggered center rows.
Underlayment: Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#48 Maximum Design Pressure = **-127.5 psf**:

Deck:	APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase or Mule-Hide Nail Base (poly-film top surface)
Fasteners:	TRUFAST Versa-Fast Fasteners & Plates with one (1) screw per plate, in the center hole.
Spacing:	9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.
Primer:	PG100 or ASTM D41 primer applied to stress plates.
Base Ply:	(Optional) Polystick MTS Plus, self-adhered.
Underlayment:	Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick TU Max, Polystick TU P or Polystick TU Plus, self-adhered.

#49 Maximum Design Pressure = **-127.5 psf**:

Deck:	APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase (sand top surface)
Fasteners:	TRUFAST Versa-Fast Fasteners & Plates with one (1) screw per plate, in the center hole.
Spacing:	9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment:	Elastoflex G TU or Elastoflex S6 G, applied in full mopping of hot asphalt.

#50 Maximum Design Pressure = **-127.5 psf**:

Deck:	APA rated, 19/32 CAT, 0.578 in., Exposure 1, OSB sheathing to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	Elastobase or Polyglass Base
Fasteners:	TRUFAST Versa-Fast Fasteners & Plates with one (1) screw per plate, in the center hole.
Spacing:	9-inch o.c. at the 4-inch wide side laps and 9-inch o.c. at four (4) equally spaced staggered center rows.
Underlayment:	Polyflex G, torch-applied.

5.6.1.1 All other direct-deck, adhered Polyglass underlayment systems beneath foam-on tile systems carry a Maximum Design Pressure of -45 psf.

5.6.1.2 For mechanically attached Base Sheet, the maximum design pressure for the selected assembly shall meet or exceed that required under FRSA/TRI April 2012 (04-12), Appendix A, Table 1A.

Alternatively, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC 1609. In this case, Zones 2 and 3 shall employ an attachment density designed 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 (January 2016) for Zone 2/3 enhancements.

5.7 Exposure Limitations:

TABLE 3: EXPOSURE LIMITATIONS

Underlayment	Maximum Exposure (days)
Elastoflex G TU, HydraGuard Dual Pro, HydraGuard Tile Pro, Polystick MTS Plus, Polystick TU Max, Polystick TU P or Polystick TU Plus	180
Polystick IR-Xe or Polystick MU-X	90
Elastobase, Elastobase P, Polyglass G2 Base or Polyglass Base	30
Elastoflex S6 G, Elastoflex S6 G FR, Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex G, Polyflex G FR, Polyflex SA P or Polyflex SA P FR	180 (for adhesive-set tile)
	UNLIMITED (for mechanically fastened roof prepared roof covers)

5.8 **Polystick MU-X** 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 D1970-15, should be established as to slip resistance.

5.9 Tile Slippage Limitations (FRSA/TRI April 2012 (04-12)):

When loading roof tiles on the underlayment in direct-deck tile 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.

TABLE 2: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS

Underlayment	Tile Profile	Staging Method	Maximum Slope
Elastoflex G TU	Flat	10-tile stack	7:12
	Lugged	8-tile stack (6 over 2)	6:12
Elastoflex S6 G or S6 G FR	Flat or Lugged	6-tile stack (4 over 2)	4:12
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	6-tile stack (4 over 2)	5:12
	Lugged	6-tile stack (4 over 2)	4:12
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	6-tile stack (4 over 2)	6:12
	Lugged	6-tile stack (4 over 2)	4:12
Polystick TU Plus	Flat or Lugged	6-tile stack (4 over 2)	7:12
	Flat or Lugged	10-tile stack	6:12

6. INSTALLATION:

6.1 Polyglass Roof Underlayments shall be installed in accordance with Polyglass published installation requirements 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 Elastobase, Elastobase P or Mule-Hide Nail Base:

6.3.1 Non-Tile Applications:

Shall be installed in compliance with the codified requirements for ASTM D226, Type II underlayment in FBC Table 1507.1.1 for the type of prepared roof covering to be installed and Polyglass published requirements.

Elastobase, Elastobase P or Mule-Hide Nail Base may be covered with a layer of Polystick, Polyflex SAP, Polyflex SA P FR, Mule-Hide SA-APP Cap Sheet or SA-APP Cap Sheet (FR), self-adhered, Elastoflex G TU, Elastoflex S6 G or Elastoflex S6 G FR in hot asphalt or Polyflex G or Polyflex G FR, torch applied. Roof cover limitations are those are those associated with the top-layer underlayment, as set forth in Table 1.

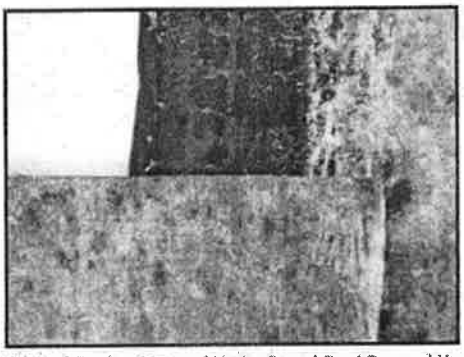
6.3.2 Tile Applications:

Elastobase, Elastobase P or Mule-Hide Nail Base are limited to use as a mechanically attached base sheet in the "Two Ply System" from FRSA/TRI April 2012 (04-12). Reference is made to Table 1 and Section 5.6.1 herein, coupled with FRSA/TRI April 2012 (04-12) installation Manual.

6.4 HydraGuard Dual Pro, HydraGuard Tile Pro, Mule-Hide SA-APP Cap Sheet, Mule-Hide SA-APP Cap Sheet (FR), Polyflex SA P, Polyflex SA P FR, Polystick IR-Xe, Polystick MTS Plus, Polystick MU-X, Polystick TU Max, Polystick TU P or Polystick TU Plus:

6.4.1 General:

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 Ovelap Seam of HydraGuard Dual Pro and HydraGuard Tile Pro

6.4.2 Non-Tile Applications:

Shall be installed in compliance with the codified requirements for ASTM D1970 (except Polystick TU P) underlayment in FBC Table 1507.1.1 for the type of prepared roof covering to be installed and Polyglass published requirements.

6.4.3 Tile Applications *(excludes HydraGuard Dual Pro, Polystick IR-Xe and Polystick MU-X)*:

Shall be installed in compliance with the requirements for Self-Adhered Membrane set forth in FRSA/TRI April 2012 (04-12) and Polyglass published requirements.

For mechanically fastened tile roofing over 2-ply system, consisting of Base Sheet and self-adhering top sheet(s), Base Sheet fastening shall be not less than FRSA/TRI April 2012 (04-12), Table 1.

For adhesive-set tile applications, refer to Section 5.6.1 herein.

6.4.4 Multi-Ply Underlayment Systems:

Polystick MTS Plus followed by HydraGuard Tile Pro, Polyflex SA P, Polystick MTS Plus, Polystick MU-X, Polystick TU Max, Polystick TU P or Polystick TU Plus 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 2-ply underlayment system is desired.

Polystick MTS Plus followed by HydraGuard Tile Pro, Polyflex SA P, Polystick TU Max, Polystick TU P or Polystick TU Plus is allowable for use under adhesive-set tile systems. Limits of use are those associated with the top-layer material. This is not a requirement, but is allowable if a 2-ply underlayment system is desired.

6.5 Elastoflex G TU, Elastoflex S6 G or Elastoflex S6 G FR:

6.5.1 Elastoflex G TU, Elastoflex S6 G or Elastoflex S6 G FR shall be installed in compliance with current Polyglass published installation requirements. For use in tile applications:

- ✓ Elastoflex G TU is for use as an alternate to "Mineral Surface Roll Roofing" (ASTM D6380, Class M) in the "Single Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems or the Hot Asphalt applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened or adhered tile roof systems.
- ✓ Elastoflex S6 G is for use as an alternate to "Mineral Surface Roll Roofing" (ASTM D6380, Class M) in the "Single Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems or the Hot Asphalt applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened or adhered tile roof systems.
- ✓ Elastoflex S6 G FR is for use as an alternate to "Mineral Surface Roll Roofing" (ASTM D6380, Class M) in the "Single Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems or the Hot Asphalt applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems.

6.5.2 For hot-asphalt-applications, Elastoflex G TU, Elastoflex S6 G or Elastoflex S6 G FR shall be fully asphalt-applied to the substrates noted in Table 2. Side laps shall be minimum 3-inch and end-laps minimum 6-inch wide, off-set minimum 3 feet from course to course. Side and end laps shall be fully adhered in a complete mopping of hot asphalt with asphalt extending approximately 3/8-inch beyond the lap edge.

6.6 Polyflex G or Polyflex G FR:

6.6.1 Polyflex G or Polyflex G FR shall be installed in compliance with current Polyglass published installation requirements. For use in tile applications:

- ✓ Polyflex G is for use as an alternate to the Heat Applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened or adhered tile roof systems (Refer to Table 2 for base sheet options).
- ✓ Polyflex G FR is for use as an alternate to the Heat Applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened tile roof systems (Refer to Table 2 for base sheet options).

6.6.2 Polyflex G or Polyflex G FR shall be fully torch-applied to the substrates noted in Table 2. Side laps shall be minimum 3-inch and end-laps minimum 6-inch wide, off-set minimum 3 feet from course to course. Side and end laps shall be fully heat-welded and inspected to ensure minimum 3/8-inch flow of modified compound beyond the lap edge.

6.7 Tile Staging:

6.7.1 Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment. Refer to Table 2 herein, and Polyglass published requirements for tile staging.

6.7.2 Battens and/or Counter-battens, as required by the tile manufacturer and FRSA/TRI April 2012 (04-12) must be used on all roof slopes greater than 7:12. Precautions should be taken as needed, such as the use of battens or nail-boards, to prevent tile sliding and/or damage to the underlayment during the loading process.

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 noted QA agency for information on product locations covered for **F.A.C. 61G20-3** QA requirements. Refer to Section 4 herein for product & production locations having met codified physical properties specifications.

9. QUALITY ASSURANCE ENTITY:

UL, LLC – QUA9625; (314) 578-3406; k.chancellor@us.ul.com

- END OF EVALUATION REPORT -

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

OWNER BUILDER DISCLOSURE STATEMENT

Per Florida Statue 455.228:

Homeowners hiring unlicensed Contractors may be subject a fine of up to $5,000.00!

Before me this day personally appeared Leslie Kinsella, who being duly sworn, deposes, and says as follows. "I hereby acknowledge that I have read and fully understand the individual provisions of this instrument."

1. I understand that state law requires construction to be done by a licensed contractor and have applied for an owner-builder permit under an exemption from the law. The exemption specifies that I, as the owner of the property listed, may act as my own contractor with certain restrictions even though I do not have a license LK Initial

2. I understand that building permits are not required to be signed by a property owner unless he or she is responsible for the construction and is not hiring a licensed contractor to assume responsibility. LK Initial

3. I understand that, as an owner-builder, I am the responsible party of record on a permit. I understand that I may protect myself from potential financial risk by hiring a licensed contractor and having the permit filed in his or her name instead of my own name. I also understand that a contractor is required by law to be licensed in Florida and to list his or her license numbers on permits and contracts. LK Initial

4. I understand that I may build or improve a one-family or two-family residence or a farm outbuilding. I may also build or improve a commercial building if the costs do not exceed $75,000.00. The building or residence must be for my own use or occupancy. It may not be built or substantially improved for sale or lease. If a building or residence that I have built or substantially improved myself is sold or leased within 1 year after the construction is complete, the law will presume that I built or substantially improved it for sale or lease, which violates the exemption LK Initial

5. I understand that, as the owner-builder, I must provide direct, onsite supervision of the construction. Initial

6. I understand that I may not hire an unlicensed person to act as my contractor or to supervise persons working on my building or residence. It is my responsibility to ensure that the persons whom I employ have the licenses required by law and by county or municipal ordinance. LK Initial

7. I understand that it is a frequent practice of unlicensed persons to have the property owner obtain an owner-builder permit, that erroneously implies that the property owner is providing his or her own labor and materials. I, as an owner-builder, may be held liable and subjected to serious financial risk for any injuries sustained by an unlicensed person or his or her employees while working on my property. My homeowner's insurance may not provide coverage for those injuries. I am willfully acting as an owner-builder and am aware of the limits of my insurance coverage for injuries to workers on my property. LK Initial

8. I understand that I may not delegate the responsibility for supervising work to a licensed contractor who is not licensed to perform the work being done. Any person working on my building who is not licensed must work under my direct supervision and must be employed by me, which means that I must comply with laws requiring the withholding of federal income tax and social security contributions under the Federal Insurance Contributions Act (FICA) and must provide workers' compensation for the employee. I understand that my failure to follow these laws may subject me to serious financial risk. LK Initial

9. I agree that, as the party legally and financially responsible for this proposed construction activity, I will abide by all applicable laws and requirements that govern owner-builders as well as employers. I also understand that the construction must comply with all applicable laws, ordinances, building codes, and zoning regulations. LK Initial

10. I understand that I may obtain more information regarding my obligations as an employer from the Internal Revenue Service, the United States Small Business Administration, the Florida Department of Financial Services, and the Florida Department of Revenue. I also understand that I may contact the Florida Construction Industry Licensing Board at (850)487-1395 or www.Call.Center@dbpr.state.fl.us for more information about licensed contractors. LK Initial

Owner Builder Disclosure Statement

11. I am aware of, and consent to, an owner-builder building permit applied for in my name and understand that I am the party legally and financially responsible for the proposed construction activity at the following address:
Project Address: 6810 Seminole Drive LK Initial

12. I agree to notify the City of Belle Isle Building/Zoning Department immediately of any additions, deletions, or changes to any of the information that I have provided on this disclosure. LK Initial

13. FBC 105.3.6 requires asbestos abatement to be done by licensed contractors. You have applied for a permit under an exemption to that law. The exemption allows you, as the owner of your property, to act as your own asbestos abatement contractor even though you do not have a license. You must supervise the construction yourself. You may move, remove or dispose of asbestos-containing materials on a residential building where you occupy the building and the building is not for sale or lease, or the building is a farm outbuilding on your property. If you sell or lease such building within 1 year after the asbestos abatement is complete, the law will presume that you intended to sell or lease the property at the time the work was done, which is a violation of this exemption. You may not hire an unlicensed person as your contractor. Your work must be done according to all local, state and federal laws and regulations which apply to asbestos abatement projects. It is your responsibility to make sure that people employed by you have licenses required by state law and by county or municipal licensing ordinances. LK Initial

Licensed contractors are regulated by laws designed to protect the public. If you contract with a person who does not have a license, the Construction Industry Licensing Board and Department of Business and Professional Regulation may be unable to assist you with financial loss that you sustain as a result of a complaint. Your only remedy against an unlicensed contractor may be in civil court. It is also important for you to understand that, if any unlicensed contractor or employee of an individual or firm is injured while working on your property, you may be held liable for damages. If you obtain an owner-builder permit and wish to hire a licensed contractor, you will be responsible for verifying whether the contractor is property licensed and the status of the contractor's workers' compensation coverage.

Before a building permit can be issued, this disclosure statement must be completed and signed by the property owner and returned to the local permitting agency responsible for issuing the permit. A copy of the property owner's driver license, the notarized signature of the property owner, or other type of verification acceptable to the local permitting agency is required when the permit is issued.

Signature: _____ Print: Leslie Rinsella
(Signature of the property owner) (Name of the property owner)

Signature: _____ Print: _____
(Signature of the property owner) (Name of the property owner)

Owner's Address: 6810 Seminole Drive Belle Isle Florida 32812

The foregoing instrument was acknowledged before me this 12, 3, 19

by Leslie D. Rinsella who is personally known to me / who produced the following

K524 524 66 1720 as identification and who did not take an oath.

State of Florida / County of Orange

Seal:

Notary Signature _____

FRANK MATOS
MY COMMISSION # GG 227340
EXPIRES: July 20, 2022
Bonded Thru Notary Public Underwriters