



Product Approval
USER: Public User

[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > **Application Detail**

OFFICE OF THE
SECRETARY

FL #	FL15894-R20																						
Application Type	Revision																						
Code Version	2020																						
Application Status	Approved																						
Comments																							
Archived	<input type="checkbox"/>																						
Product Manufacturer	HOLCIM SOLUTIONS AND PRODUCTS US, LLC																						
Address/Phone/Email	26 Century Blvd Suite 205 Nashville, TN 37214 (317) 572-4100 jenny.oneal@holcim.com																						
Authorized Signature	Jennifer ONeal jenny.oneal@holcim.com																						
Technical Representative																							
Address/Phone/Email																							
Quality Assurance Representative																							
Address/Phone/Email																							
Category	Roofing																						
Subcategory	Single Ply Roof Systems																						
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input type="checkbox"/> Evaluation Report - Hardcopy Received																						
Florida Engineer or Architect Name who developed the Evaluation Report	Zachary R. Priest																						
Florida License	PE-74021																						
Quality Assurance Entity	UL LLC																						
Quality Assurance Contract Expiration Date	12/21/2024																						
Validated By	Steven M. Urich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received																						
Certificate of Independence	FL15894_R20_COI_FBP12002.20_2020_FBC_Eval_TPO_(HVHZ)_final.pdf																						
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th>Standard</th> <th>Year</th> </tr> </thead> <tbody> <tr><td>ASTM D 1970</td><td>2015</td></tr> <tr><td>ASTM D 3746</td><td>1985</td></tr> <tr><td>ASTM D 6878</td><td>2013</td></tr> <tr><td>FM 4470</td><td>2016</td></tr> <tr><td>FM 4474</td><td>2011</td></tr> <tr><td>TAS 110</td><td>2000</td></tr> <tr><td>TAS 114 (C&H)</td><td>1995</td></tr> <tr><td>TAS 114 (D&J)</td><td>2011</td></tr> <tr><td>TAS 117 B</td><td>1995</td></tr> <tr><td>UL 1897</td><td>2012</td></tr> </tbody> </table>	Standard	Year	ASTM D 1970	2015	ASTM D 3746	1985	ASTM D 6878	2013	FM 4470	2016	FM 4474	2011	TAS 110	2000	TAS 114 (C&H)	1995	TAS 114 (D&J)	2011	TAS 117 B	1995	UL 1897	2012
Standard	Year																						
ASTM D 1970	2015																						
ASTM D 3746	1985																						
ASTM D 6878	2013																						
FM 4470	2016																						
FM 4474	2011																						
TAS 110	2000																						
TAS 114 (C&H)	1995																						
TAS 114 (D&J)	2011																						
TAS 117 B	1995																						
UL 1897	2012																						

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 10/18/2021
Date Validated 10/19/2021
Date Pending FBC Approval 10/26/2021
Date Approved 12/15/2021

Summary of Products

FL #	Model, Number or Name	Description
15894.1	UltraPly TPO, UltraPly TPO Flex Adhered, UltraPly TPO Flex SA, UltraPly TPO SA & UltraPly TPO XR	Single-ply roofing systems
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: N/A Design Pressure: +0/-502.5 Other: See evaluation report for limits of use.		Installation Instructions FL15894 R20 II FBP12002.20 2020 FBC Eval TPO (HVHZ) final.pdf Verified By: Zachary R. Priest PE-74021 Created by Independent Third Party: Yes Evaluation Reports FL15894 R20 AE FBP12002.20 2020 FBC Eval TPO (HVHZ) final.pdf Created by Independent Third Party: Yes

[Back](#)

[Next](#)

[Contact Us](#) :: [2601 Blair Stone Road, Tallahassee FL 32399](#) Phone: 850-487-1824

The State of Florida is an AA/EEO employer. [Copyright 2007-2013 State of Florida](#). :: [Privacy Statement](#) :: [Accessibility Statement](#) :: [Refund Statement](#)

Under Florida law, email addresses are public records. If you do not want your e-mail address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact the office by phone or by traditional mail. If you have any questions, please contact 850.487.1395. *Pursuant to Section 455.275(1), Florida Statutes, effective October 1, 2012, licensees licensed under Chapter 455, F.S. must provide the Department with an email address if they have one. The emails provided may be used for official communication with the licensee. However email addresses are public record. If you do not wish to supply a personal address, please provide the Department with an email address which can be made available to the public. To determine if you are a licensee under Chapter 455, F.S., please click [here](#).

Product Approval Accepts:





EVALUATION REPORT

FLORIDA BUILDING CODE, 7TH EDITION (2020)

Manufacturer: FIRESTONE BUILDING PRODUCTS CO., LLC *Issued October 18, 2021*
 200 4th Avenue South
 Nashville, TN 37201
 (800) 428-4442
www.firestonebpc.com

Manufacturing Plants: Tuscumbia, AL
 Welford, SC

Quality Assurance: UL LLC (QUA9625)

SCOPE

Category: Roofing
Subcategory: Single Ply Roof System
Code Edition: Florida Building Code, 7th Edition (2020) including High-Velocity Hurricane Zones (HVHZ)
Code Sections: 1504.3.1, 1504.6, 1504.7, 1507.2.4, 1507.1, 1515.1.1, 1515.1.4, 1515.2.4, 1523.1.1, 1523.6.2
Properties: Wind Resistance, Impact Resistance, Physical Properties

PRODUCT DESCRIPTION

Products	Specification	Description
Firestone UltraPly TPO (Tuscumbia, AL or Welford, SC)	ASTM D 6878 TAS 110	45-mil, 60-mil, or 80-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement
Firestone UltraPly TPO Flex Adhered (Tuscumbia, AL)	ASTM D 6878 TAS 110	60-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement
Firestone UltraPly TPO Flex SA (Tuscumbia, AL)	ASTM D 6878 TAS 110	60-mil thick self-adhered thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement
Firestone UltraPly TPO SA (HVHZ ONLY; Tuscumbia, AL)	ASTM D 6878 TAS 110	60-mil thick self-adhered thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement
Firestone UltraPly TPO XR 100 (Tuscumbia, AL)	ASTM D 6878 TAS 110	45-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement and 8 oz. non-woven polyester fleece backing
Firestone UltraPly TPO XR 115 (Tuscumbia, AL)	ASTM D 6878 TAS 110	60-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement and 8 oz. non-woven polyester fleece backing
Firestone UltraPly TPO XR 135 (Tuscumbia, AL)	ASTM D 6878 TAS 110	80-mil thick thermoplastic polyolefin, heat-weldable, single ply roof membrane with polyester weft-inserted reinforcement and 8 oz. non-woven polyester fleece backing

REFERENCES

<u>Entity</u>	<u>Report No.</u>	<u>Standard (Year)</u>
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 02-002	TAS 114(J) (2011 ¹)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 05-002	TAS 114(J) (2011 ¹)
FM Approvals (TST1867)	3001925	FM 4470 (2016)
FM Approvals (TST1867)	3004249	FM 4470 (2016)
FM Approvals (TST1867)	3017120	FM 4470 (2016)
FM Approvals (TST1867)	3030650	FM 4470 (2016)
FM Approvals (TST1867)	3033218	FM 4470 (2016)
FM Approvals (TST1867)	3035560	FM 4470 (2016)
FM Approvals (TST1867)	3036747	FM 4470 (2016)
FM Approvals (TST1867)	3041949	FM 4474 (2011); FM 4470 (2016)
FM Approvals (TST1867)	3042666	FM 4470 (2016)
FM Approvals (TST1867)	3044047	FM 4470 (2016)
FM Approvals (TST1867)	3047398	FM 4474 (2011)
FM Approvals (TST1867)	3047700	FM 4470 (2016)
FM Approvals (TST1867)	3046870	FM 4474 (2011); FM 4470 (2016)
FM Approvals (TST1867)	797-08937-267	FM 4470 (2016)
FM Approvals (TST1867)	3050535	FM 4470 (2016)
FM Approvals (TST1867)	3051380	FM 4474 (2011); FM 4470 (2016)
FM Approvals (TST1867)	3052525	FM 4474 (2011); FM 4470 (2016)
FM Approvals (TST1867)	3053933	FM 4470 (2016)
FM Approvals (TST1867)	3054114	FM 4470 (2016)
FM Approvals (TST1867)	3055167	FM 4470 (2016)
FM Approvals (TST1867)	3055227	FM 4470 (2016)
FM Approvals (TST1867)	3055491	FM 4470 (2016)
FM Approvals (TST1867)	3060274	FM 4470 (2016)
FM Approvals (TST1867)	3060621	FM 4470 (2016)
FM Approvals (TST1867)	3061218	FM 4470 (2016)
FM Approvals (TST1867)	3062305	FM 4470 (2016)
FM Approvals (TST1867)	797-07749-267	FM 4470 (2016)
FM Approvals (TST1867)	PR452965	FM 4470 (2016)
FM Approvals (TST1867)	PR457741	FM 4470 (2016)
FM Approvals (TST1867)	RR205572	FM 4470 (2016)
FM Approvals (TST1867)	RR207314	FM 4470 (2016)
FM Approvals (TST1867)	RR207553	FM 4470 (2016)
PRI Construction Materials Technologies (TST5878)	FBP-044-02-01.10	TAS 114(D& J) (2011); TAS 114(H) (1995); TAS 117(B) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-044-02-01.14	FM 4474 (2011); TAS 114(D& J) (2011); TAS 114(C&H) (1995);TAS 117(A&B) (1995); ASTM D 1876 (2008(2015)e1)
PRI Construction Materials Technologies (TST5878)	FBP-054-02-02	FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-054-02-04	FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-054-02-05	FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-065-02-01	TAS 114(J) (2011); FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-066-02-01	TAS 114(J) (2011); FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-069-02-01	FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-070-02-01	FM 4474 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-085-02-01	FM 4474 (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-086-02-01	FM 4474 (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-094-02-01	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-119-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-120-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-122-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-125-02-01	FM 4474(C) (2011); TAS 114(C) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-128-02-01	FM 4470 (2016)
PRI Construction Materials Technologies (TST5878)	FBP-131-02-01	FM 4474(C) (2011); TAS 114(C) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-134-02-01	FM 4474(C) (2011); TAS 114(C) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-145-02-01	ASTM D 6878 (2013); TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-148-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-149-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-150-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-153-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-154-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-158-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-160-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
FBP12002.20	FL15894-R20	

This evaluation report is provided for State of Florida product approval under Rule 61G20-3. The manufacturer shall notify CREEK Technical Services, LLC of any product changes or quality assurance changes throughout the duration for which this report is valid. This evaluation report does not express nor imply warranty, installation, recommended use, or other product attributes that are not specifically addressed herein.

<u>Entity</u>	<u>Report No.</u>	<u>Standard (Year)</u>
PRI Construction Materials Technologies (TST5878)	FBP-160-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-162-02-01	ASTM D 1970 (2015a)
PRI Construction Materials Technologies (TST5878)	FBP-165-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-165-02-01A	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-165-02-02	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-172-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-174-02-01	ASTM D 3746 [1985(2015)]
PRI Construction Materials Technologies (TST5878)	FBP-175-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-175-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-177-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-177-02-01C	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-177-02-02	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-178-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-178-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-174-02-06	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-180-02-01A	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-181-02-01A	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-182-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-184-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-185-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-185-02-02	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-186-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-190-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-191-02-01	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-191-02-02	FM 4474(B) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-191-02-02A	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-193-02-02	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-194-02-01	FM 4474(C); (2011)
PRI Construction Materials Technologies (TST5878)	FBP-194-02-02	FM 4474(C); (2011)
PRI Construction Materials Technologies (TST5878)	FBP-194-02-03	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-196-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-196-02-02	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-196-02-04	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-206-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-206-02-02	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-208-02-01	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-213-02-01	FM 4474(D) (2011); TAS 114(J) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-213-02-03	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-216-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-220-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-220-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-222-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-225-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-230-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-233-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-233-02-02	TAS 114(C) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-233-02-03	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-235-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-235-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-238-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-238-02-03	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-239-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-240-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-241-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)

<u>Entity</u>	<u>Report No.</u>	<u>Standard (Year)</u>
PRI Construction Materials Technologies (TST5878)	FBP-242-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-243-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-254-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-258-02-02B	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-258-02-02C	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-260-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-260-02-02	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-265-02-02	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-271-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-276-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-277-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-279-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-282-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-283-02-02B	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-283-02-03	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-291-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-298-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-304-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-313-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-313-02-02	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-317-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-317-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-318-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-322-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-324-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-331-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-334-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-334-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-336-02-01	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-338-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-339-02-02A	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-339-02-02B	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-340-02-01A.1	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-341-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-345-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-352-02-01.1	TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-353-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-355-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-356-02-01	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-357-02-01	TAS 114(D) (2011)

<u>Entity</u>	<u>Report No.</u>	<u>Standard (Year)</u>
PRI Construction Materials Technologies (TST5878)	FBP-358-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-359-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-362-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-363-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-367-02-01	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-368-02-01	ASTM D 6878 (2013); TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-373-02-01A	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-373-02-01B	ASTM D 6878 (2013)
PRI Construction Materials Technologies (TST5878)	FBP-373-02-01C	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	FBP-375-02-01	ASTM D 1876 (2008(2015)e1)
PRI Construction Materials Technologies (TST5878)	FBP-389-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-389-02-02	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	348T0047	FM 4474(D) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	348T0088	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	348T0089	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	348T0090	TAS 110 (2000)
PRI Construction Materials Technologies (TST5878)	348T0111	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	348T0117	FM 4474(B) (2011); TAS 114(D) (2011)
PRI Construction Materials Technologies (TST5878)	348T0131	ASTM D 3746 [1985(2015)]; TAS 110 (2000); ASTM D 6878 (2013)
PRI Construction Materials Technologies (TST5878)	348T0131A	ASTM D 6878 (2013)
PRI Construction Materials Technologies (TST5878)	348T0132	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	348T0140	FM 4474(D) (2011); UL 1897 (2012)
Trinity ERD (TST6049)	F11080.09.08	TAS 114(J) (2011) ¹
Trinity ERD (TST6049)	SFS-SC10010.02.16	FM 4474(D) (2011); TAS 114(J) (2011); UL 1897 (2012)
Trinity ERD (TST6049)	F38200.04.15-R1	ASTM D 6878 (2013)

¹ Standard test method has been found equivalent to FM 4474 (2011) referenced by the FBC.

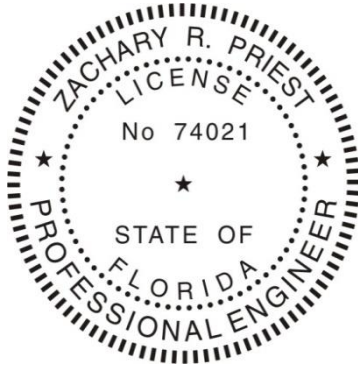


LIMITATIONS

1. Fire classification is not within the scope of this evaluation.
2. Foam plastic insulation shall be separated from the building interior in accordance with the FBC 2603.4 and 2603.6.
3. The roof deck and the roof deck attachment information are provided based on testing. FBC requirements for the rational design of the roof deck, including the attachment, are not within the scope of this evaluation.
4. In the HVHZ, fastener spacing for insulation attachment is determined using a Minimum Characteristic Force (F') of 275 lbf as demonstrated via testing to TAS 105. If the field tested fastener value is below 275 lbf, then insulation attachment shall not be acceptable.
5. In the HVHZ, fastener spacing for base sheets or membrane attachment shall meet the minimum fastener resistance value and the *MDP* for the specified assembly. It is permissible for a qualified professional to submit a revised fastener spacing utilizing the withdrawal resistance value obtained from TAS 105 testing and calculations performed in accordance with RAS 117 and/or RAS 137, when the fastener resistance is found less than required.
6. In the HVHZ, if mechanical attachment through the lightweight insulating concrete to the structural deck is proposed, a field fastener withdrawal test shall be conducted in compliance with TAS 105 to determine equivalent or increased attachment densities. Revised fastener densities shall be submitted utilizing the withdrawal resistance value obtained from TAS 105 testing and calculations performed in accordance with RAS 117 and/or RAS 137.
7. **HVHZ:** For assemblies containing mechanical attachment, the allowable uplift pressure for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16. The attachment density may be increased by a qualified design professional, as necessary, to meet the design pressure requirements in the periphery zones. Calculations shall be conducted in compliance with RAS 117 and/or RAS 137.
Non-HVHZ: For assemblies containing mechanical attachment or adhered in ribbon-applied adhesive, the allowable uplift pressure for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16. The attachment density may be increased by a qualified design professional, as necessary, to meet the design pressure requirements in the periphery zones. Calculations shall be conducted in compliance with RAS 117, RAS 137, or Section 2.2.10.1 FM LPDS 1-29 (February 2020).
8. Reroofing applications shall be examined in accordance with FBC Section 1511 outside of the HVHZ and FBC Section 1521 within the HVHZ. For mechanically fastened systems, a field withdrawal resistance test (TAS 105 in the HVHZ; ANSI/SPRI FX-1 or TAS 105 in the non-HVHZ) shall be conducted by a qualified professional to ensure the fastener meets the minimum design load requirements of the system. For adhered systems, a field uplift resistance test (TAS 124 in the HVHZ; ASTM E 907, FM LPDS 1-52, ANSI/SPRI IA-1, or TAS 124 in the non-HVHZ) shall be conducted to confirm conformance of the existing to the minimum design loads.
9. **HVHZ:** For assemblies containing fully adhered or ribbon adhered attachment, or where extrapolation of the assembly is not permitted, the *MDP* for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16 without augmentation.
Non-HVHZ: For assemblies adhered in ribbon-applied adhesive, the allowable uplift pressure for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16. The attachment density may be increased by a qualified design professional, as necessary, to meet the design pressure requirements in the periphery zones. Calculations shall be conducted in compliance with Section 2.2.10.1 FM LPDS 1-29 (February 2020).
10. Installation of the evaluated products shall comply with this report, the FBC, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
11. The minimum roof slope shall be 1/4:12 for new construction.
12. 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 by Zachary R. Priest, P.E. herein have demonstrated compliance with the Florida Building Code, 7th Edition (2020) including High-Velocity Hurricane Zones (HVHZ) as evidenced in the referenced documents submitted by the named manufacturer.



This item has been digitally signed and sealed by Zachary R. Priest, PE, on 10/18/2021.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.


Digitally signed by Zachary R. Priest

2021.10.18
20:56:08
-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 (9 pages)
- 2) APPENDIX B – Nomenclature and Approved Assemblies (84 pages)

INSTALLATION

Note - Refer to the [APPROVED ASSEMBLIES](#) section of this report for specific installation details of a selected assembly.

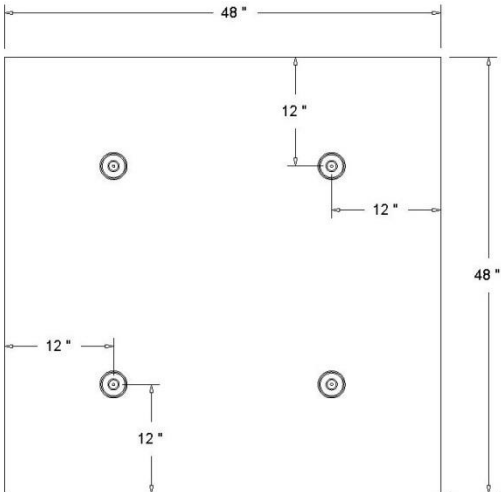
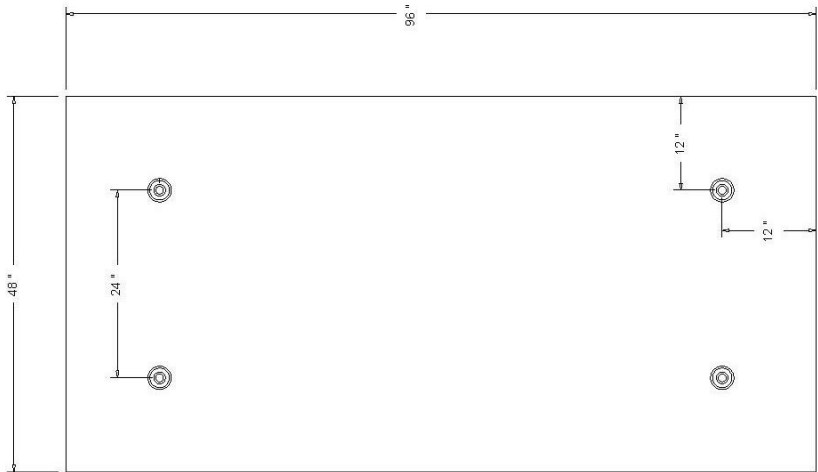
Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners, Battens, Plates, & QuickSeam R.M.A. Strip	Firestone All-Purpose Fasteners	Min. 0.75-inch penetration through the top rib of the steel deck or wood deck
	Firestone All-Purpose S Fasteners	
	Trufast #12 DP Fasteners	
	Firestone Concrete Drive	Min. 1.25" embedment into min. 3" thick structural concrete
	Firestone HD Seam Plate	2 3/8-inch diameter; 0.036-inch Galvalume steel plate with eyehooks
	Firestone HD Plus Seam Plate	2.75-inch diameter; 0.037-inch Galvalume steel plate with eyehooks
	Firestone Heavy Duty Fastener	Min. 0.75-inch penetration through the top rib of the steel deck or wood deck; Min. penetration 1-inch into concrete deck (Heavy Duty Plus shall not be used in concrete deck)
	Firestone Heavy Duty Plus Fastener	
	SFS Intec Dekfast #14	
	SFS Intec Dekfast #15 HS	
	Firestone Insulation Fastening Plate	3-inch diameter; Galvalume steel plate
	Trufast 3" Metal Seam Plates	
	Firestone 1.7" LWC Base Ply Fastener	Full embedment of shank into substrate
	Firestone Metal Batten Bar	1-inch wide steel batten bar
	Coiled Metal Batten Bar	
	Firestone Polymer Batten Strip	0.75-inch wide plastic batten strip
	Firestone Purlin Fastener	Min. 0.75-inch penetration through purlin
	SFS Intec SFS Purlin Fastener	
	Firestone UltraPly QuickSeam R.M.A Strip	Prime at a rate of 200-250 ft ² /gal with Firestone Single-Ply QuickPrime Primer or QuickPrime Plus Primer prior to adhering strip
	Firestone UltraPly TPO InvisiWeld Plate	Min. 3-inch diameter; Induction welded in the field of membrane with RhinoBond® welding tool; welds not permitted at lap seams
Firestone UltraPly TPO InvisiWeld -S Plate	Min. 3-inch diameter; Induction welded in the field of membrane with <i>isoweld</i> ® 3000 welding tool; welds not permitted at lap seams	
Trufast VERSA-FAST Plate	3-inch diameter; 0.017-inch thick Galvalume steel plate with one (1) center hole and eight (8) equally spaced perimeter holes for multiple fastening	
Trufast VERSA-FAST Fastener	Min. 2-inch embedment into LWIC or Gypsum decks; Min. 3/4-inch penetration through wood decks	
Vapor Barrier	Firestone V-Force Vapor Barrier Membrane	Self-adhered; Min. 3-inch side laps; Min. 6-inch end laps; All substrates except metal decks must be primed with vapor barrier primer.
	Firestone APP 80 Glass Base	Min. 3-inch lap; Torch adhered
	Firestone SBS Glass Base Torch	
	Firestone SBS Glass FR Torch	
Firestone SBS Poly Torch Base		
Vapor Barrier Primer	Firestone SA-LVOC Primer	Applied at a rate of 0.5 gal/sq.
	Firestone SA-Solvent Based (SB) Primer	
	Firestone SA-Water Based (WB) Primer	Applied at a rate of 150-200 ft ² /gal
Insulation Adhesives	Firestone I.S.O. Stick	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone I.S.O. Fix II	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone I.S.O. Twin Pack Insulation Adhesive	Partially adhered in 0.5 to 0.75-inch wide ribbons
	Firestone I.S.O. Spray R	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone Twin Jet	Partially adhered in 1 to 1.25-inch wide ribbons
Insulation/Cover Boards	Georgia-Pacific DensDeck or DensDeck Prime	Min. 0.25-inch thick



Component	Product	Installation Detail
Insulation/Cover Boards (Cont'd)	Firestone ISO 95+ GL	Min. 0.5-inch thick; Min. 20 psi; Adhered boards shall be a maximum 4 ft. x 4 ft.
	GenFlex ISO Insulation	
	Firestone ISO 95+ GL (Tapered)	0.5-inch to start with 0.25-inch per ft taper; Adhered boards shall be a maximum 4 ft x 4 ft
	GenFlex ISO Insulation (Tapered)	
	Firestone ISOGARD HD	Min. 0.5-inch thick; Adhered boards shall be a maximum 4 ft. x 4 ft.
	GenFlex HD ISO	
	Firestone ISOGARD HD Composite	Min. 1.5-inch thick; Adhered boards shall be a maximum 4 ft. x 4 ft.
	GenFlex HD Composite ISO	
	Firestone RESISTA	Min. 0.5-inch thick; Min. 20 psi; Adhered boards shall be a maximum 4 ft. x 4 ft.
	GenFlex Coated Glass Facer	
	USG SECUROCK Glass-Mat Roof Board	Min. 0.25-inch thick
USG SECUROCK Gypsum-Fiber Roof Board	Min. 0.25-inch thick	
Membrane Adhesives	ASTM D 312, Type IV Asphalt	Fully adhered within the EVT range at a rate of 25-40 lbs/100 ft ²
	Firestone I.S.O. Spray R	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone Jet Bond Spray Adhesive	Applied to both the bottom surface of the roof cover and the top surface of the substrate; Applied with 2 in. overlap at a rate of 1.75-2.2 lbs/100ft ² to each surface with bareback membranes; Applied with 6 in. overlap at a rate of 2.5-2.7 lbs/100ft ² to each surface with fleeceback membranes
	Firestone Single-Ply LVOC Bonding Adhesive	Fully adhered at rate of 45-60 ft ² /gal; Applied simultaneously to underside of membrane and substrate
	Firestone Single-Ply LVOC 1168 Bonding Adhesive	
	Firestone UltraPly Bonding Adhesive	
	Firestone Twin Jet	Adhered in spatter at a rate of 5.8 lbs/sq.
	Firestone Water Based Bonding Adhesive P	Fully adhered at a rate of 100-120 ft ² /gal.
	Firestone XR Stick	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone XR Bonding Adhesive	Fully adhered at rate of 70-90 ft ² /gal; Applied to substrate only
Owens Corning PermaMop Asphalt	Fully adhered within the EVT range at a rate of 25-40 lbs/100 ft ²	
Base Sheets	Firestone MB Base	Min. 2-inch wide side-laps; Side-laps shall be installed perpendicular to the direction of the steel deck ribs for mechanically attached systems
	Firestone Channel Venting Base	Min. 3-inch wide side-laps; Min. 6-inch end laps; Side-laps shall be installed perpendicular to the direction of the steel deck ribs for mechanically attached systems
	BASEGARD SA	
	Firestone Ply IV (4)	
	Firestone Ply VI (6)	
	Firestone SBS Base	
	Firestone SBS Base-P	
	Firestone SBS Glass Torch Base	
	Firestone SBS Glass Torch Base 1.5	
	Firestone SBS PolyBase	
	Firestone SBS Poly Torch Base	
	Firestone SBS Premium Base	
	Firestone SBS Premium Poly Base	
Firestone SBS Smooth		
Single-Ply Membrane	UltraPly TPO	Min. 2-inch wide side-laps with min. 1.5-inch wide heat weld; In-lap fastened systems shall have min. 6-inch wide side-laps with min. 1.5-inch wide heat weld; Side-laps shall be installed perpendicular to the direction of the steel deck ribs for mechanically attached systems
	UltraPly TPO Flex Adhered	
	UltraPly TPO Flex SA	
	UltraPly TPO SA	
	UltraPly TPO XR 100	
UltraPly TPO XR 115		

Component	Product	Installation Detail
Single-Ply Membrane (Cont'd)	UltraPly TPO XR 135	Min. 2-inch wide side-laps with min. 1.5-inch wide heat weld; In-lap fastened systems shall have min. 6-inch wide side-laps with min. 1.5-inch wide heat weld; Side-laps shall be installed perpendicular to the direction of the steel deck ribs for mechanically attached systems
Cellular Lightweight Concrete	Min. 300 psi Celcore MF with HS Rheology Admixture	Slurry coat min. 0.25-inch thick; 1-inch thick EPS board (1 lbs/ft ³); Min. 2-inch thick top coat; Celcore PVA curing compound applied at rate of 300 ft ² /gal
	Celcore S-1	Deck is treated by applying a continuous film with a broom prior to placement of the Celcore lightweight concrete
Cellular Lightweight Concrete (Cont'd)	Celcore Sanded Bonding Surface (SBS)	Applied at a rate of 100 ft ² /gal
	Min. 300 psi Mearlcrete	Slurry coat min. 0.25-inch thick; 1" thick EPS board (1 lbs/ft ³); Min. 2-inch thick top coat
	Min. 300 psi Elastizell	
	Min. 300 psi Concrecel	
Min. 200 psi Cellular Lightweight Concrete	Slurry coat min. 0.25-inch thick; 1" thick EPS board (1 lbs/ft ³); Min. 2-inch thick top coat	

Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
4 per 4 ft. x 4 ft. board	 <p>(Max. 4.0ft² contributory area per fastener)</p>
4 per 4 ft. x 8 ft. board	 <p>(Max. 8ft² contributory area per fastener)</p>

Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
5 per 4 ft. x 8 ft. board	<p>(Max. 6.4ft² contributory area per fastener)</p>
6 per 4 ft. x 8 ft. board	<p>(Max. 5.33ft² contributory area per fastener)</p>
8 per 4 ft. x 8 ft. board	<p>(Max. 4.00ft² contributory area per fastener)</p>

Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
10 per 4 ft. x 8 ft. board	<p>(Max. 3.2ft² contributory area per fastener)</p>
10 per 4 ft. x 8 ft. board (Alt. Pattern)	<p>(Max. 3.2ft² contributory area per fastener)</p>
12 per 4 ft. x 8 ft. board	<p>(Max. 2.67ft² contributory area per fastener)</p>



Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
12 per 4 ft. x 8 ft. Board (Alt. Pattern)	<p>(Max. 2.67ft² contributory area per fastener)</p>
12 per 4 ft. x 8 ft. Board (Alt. Pattern 2)	<p>(Max. 2.67ft² contributory area per fastener)</p>
15 per 4 ft. x 8 ft. Board	<p>(Max. 2.13ft² contributory area per fastener)</p>



Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
16 per 4 ft. x 8 ft. board	<p>(Max. 2.00ft² contributory area per fastener)</p>
18 per 4 ft. x 8 ft. board	<p>(Max. 1.78ft² contributory area per fastener)</p>
20 per 4 ft. x 8 ft. board	<p>(Max. 1.60ft² contributory area per fastener)</p>

Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
20 per 4 ft. x 8 ft. board (Alt. Pattern)	<p>(Max. 1.60ft² contributory area per fastener)</p>
22 per 4 ft. x 8 ft. board	<p>(Max. 1.45ft² contributory area per fastener)</p>
24 per 4 ft. x 8 ft. board	<p>(Max. 1.33ft² contributory area per fastener)</p>



VERSA-FAST Metal plate Fastening Pattern	
Description	Fastening Pattern
1 fastener per plate	
2 fasteners per plate	

NOMENCLATURE

The following naming conventions are utilized to specify products in the [APPROVED ASSEMBLIES](#) section of this report. Refer to the nomenclature below when deciphering the allowable products for use in the selected assembly. Installation requirements shall be as noted in the [APPROVED ASSEMBLIES](#) section of this report.

Name	Definition	
<i>Air Barrier</i>	Installation shall comply with Section C402.5 of the Florida Building Code, Energy Conservation, 6 th Edition (2017)	
<i>AP Fasteners & Plates</i>	Firestone All-Purpose Fasteners or All-Purpose S Fasteners and Insulation Fastening Plates	
<i>As Tested</i>	Information provided to the report user based on the as tested condition of the roof system	
<i>BASEGARD</i>	One ply of BASEGARD SA. Shall only be used with membranes applied in hot asphalt.	
<i>CD Fasteners & Insulation Plates</i>	Firestone Concrete Drive and Insulation Fastening Plates	
<i>CD Fasteners & Plates</i>	Firestone Concrete Drive and Firestone HD Seam Plates	
<i>Cover Board</i>	One layer of any of the following products: -Georgia-Pacific DensDeck -Georgia-Pacific DensDeck Prime -Firestone ISOGARD HD -GenFlex HD ISO -USG SECUROCK Glass-Mat Roof Board -USG SECUROCK Gypsum-Fiber Roof Board	
<i>Deck Detail</i>	<i>As Tested</i> deck construction details are described as follows:	
	<i>Concrete Deck</i>	Min. $f_c = 2,500$ psi at 28 days
	<i>CWF Deck</i>	Min. 2.5-inch thick Tectum I cementitious wood fiber panels
		Min. 22 ga, Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC; 0.5% Vented and ASTM A653 G90 for LWIC applications only. The following nomenclature is used to further describe the <i>As Tested</i> condition.
	<i>F<#></i>	<#> #12-24 HWH self-drilling screws or equivalent fastener at each flute used to secure the deck to the structural supports; Min. 0.25-inch penetration
	<i>G<#></i>	Min. Grade <#> of <i>Steel Deck</i>
	<i>HS<#></i>	Hilti S-SLC 01 M HWH screws or equivalent fastener secured <#>-inch o.c. along the panel side laps
	<i>HXE<#></i>	<#> Hilti X-ENP 19 L 15 powder-driven fasteners or equivalent at each flute used to secure the deck to the structural supports; Min. 0.25-inch penetration
	<i>HXH<#></i>	<#> Hilti X-HSN 24 powder-driven fasteners or equivalent at each flute used to secure the deck to the structural supports; Min. 0.25-inch penetration
	<i>L<#></i>	Max. span of <#> ft.
	<i>P</i>	Min. 5/8-inch diameter puddle welds at each flute used to secure the deck to the structural supports
	<i>PW</i>	Min. 5/8-inch diameter puddle welds with weld washers at each flute used to secure the deck to the structural supports
<i>S<#></i>	1/4 "-14 HWH x7/8" self-drilling screws or equivalent fastener secured <#>-inch o.c. along the panel side laps	
<i>W</i>	0.75-inch O.D. flat washer used with indicated fastener	

Name	Definition
<i>Deck Detail (Cont'd)</i>	APA Span-Rated sheathing. The following nomenclature is used to further describe the <i>As Tested</i> condition.
	<i>T<#>P</i> Min. <#>-inch thickness of the plywood
	<i>T<#>O</i> Min. <#>-inch thickness of the OSB
	<i>L<#></i> Max. span of <#> inches
	<i>N<#1>/<#2></i> Min. 0.113-inch diameter x 2-3/8-inch ring shank nails spaced <#1>-inch o.c. at all intermediate supports and spaced <#2> at the perimeter of each board
<i>WS<#1>/<#2></i> Min. #8 x 2-inch wood screw spaced <#1>-inch o.c. at all intermediate supports and spaced <#2> at the perimeter of each board	
<i>DensDeck</i>	Min. 0.25-inch Georgia-Pacific DensDeck
<i>DensDeck Prime</i>	Min. 0.25-inch Georgia-Pacific DensDeck Prime
<i>HA</i>	ASTM D 312, Type IV asphalt
<i>HD Fasteners & Insulation Plates</i>	Firestone Heavy Duty Fasteners and Insulation Fastening Plates
<i>HD Fasteners & Plates</i>	Firestone Heavy Duty Fasteners and Firestone HD Seam Plates
<i>HD Plus Fasteners & Plates</i>	Firestone Heavy Duty Plus Fasteners and Firestone HD Plus Seam Plates
<i>Insulation</i>	One of more layers in any combination of the following products: -Georgia-Pacific DensDeck -Georgia-Pacific DensDeck Prime -GenFlex ISO Insulation -GenFlex HD ISO -GenFlex HD Composite ISO -GenFlex Coated Glass Facer -Firestone ISO 95+ GL -Firestone ISOGARD HD -Firestone ISOGARD HD Composite -Firestone RESISTA -USG SECUROCK Glass-Mat Roof Board -USG SECUROCK Gypsum-Fiber Roof Board
<i>Insulation Adhesive</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Stick -Firestone I.S.O. Twin Pack Insulation Adhesive
<i>Insulation Adhesive II</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Stick -Firestone I.S.O. Twin Pack Insulation Adhesive -Firestone I.S.O. Spray R
<i>Insulation Adhesive III</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Stick -Firestone I.S.O. Spray R

Name	Definition
<i>Insulation Adhesive IV</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Twin Pack Insulation Adhesive -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>Insulation Adhesive VI</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Stick -Firestone I.S.O. Twin Pack Insulation Adhesive -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>Insulation Adhesive VII</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Stick -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>Insulation Adhesive VIII</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Stick -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>Insulation Adhesive IX</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Fix II -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>Insulation Adhesive X</i>	Adhered in accordance with one of the following options per INSTALLATION section: -Firestone I.S.O. Stick -Firestone I.S.O. Twin Pack Insulation Adhesive -Firestone I.S.O. Spray R -Firestone Twin Jet
<i>InvisiWeld</i>	Firestone UltraPly InvisiWeld Plates or Invisiweld-S Plates with Heavy Duty Fasteners or Concrete Drive fasteners (concrete decks only)
<i>Invisiweld-S</i>	Firestone UltraPly Invisiweld-S Plates with SFS Inteck Dekfast #15 HS, Firestone Heavy Duty Fasteners or Firestone Concrete Drive fasteners (concrete decks only)
<i>Invisiweld-S II</i>	Firestone UltraPly Invisiweld-S Plates with SFS Inteck Dekfast #15 HS Fasteners or Dekfast #14 Fasteners (concrete decks only)
<i>ISO</i>	One or more layers of GenFlex ISO Insulation or Firestone ISO 95+ GL
<i>ISO HD</i>	One or more layers of GenFlex HD ISO or Firestone ISOGARD HD
<i>ISO HD-C</i>	One or more layers of GenFlex HD Composite ISO or Firestone ISOGARD HD Composite
<i>ISO GF</i>	One or more layers of GenFlex Coated Glass Facer or Firestone RESISTA
<i>JBSA</i>	Firestone Jet Bond Spray Adhesive
<i>LWIC</i>	Poured-in-place Cellular Lightweight Concrete with encapsulated insulation board
<i>MA Base</i>	One ply of Channel Venting Base, MB Base, SBS Base, SBS Base-P, SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, SBS Poly Torch Base, or SBS Smooth mechanically attached as prescribed per the approved assembly

Name	Definition
<i>Membrane Adhesive I</i>	Fully adhered in accordance with one of the following options per INSTALLATION section: -Firestone UltraPly Bonding Adhesive -Firestone Single-Ply LVOC Bonding Adhesive -Firestone Single-Ply LVOC 1168 Bonding Adhesive
<i>Membrane Adhesive II</i>	Fully adhered in accordance with one of the following options per INSTALLATION section: -Firestone UltraPly Bonding Adhesive -Firestone Single-Ply LVOC Bonding Adhesive -Firestone Single-Ply LVOC 1168 Bonding Adhesive -Firestone Water Based Bonding Adhesive P
<i>Membrane Adhesive III</i>	Fully adhered in accordance with one of the following options per INSTALLATION section: -Firestone Single-Ply LVOC Bonding Adhesive -Firestone Single-Ply LVOC 1168 Bonding Adhesive -Firestone Water Based Bonding Adhesive P
<i>Membrane Adhesive IV</i>	Fully adhered in accordance with one of the following options per INSTALLATION section: -Firestone UltraPly Bonding Adhesive -Firestone Jet Bond Spray Adhesive -Firestone Single-Ply LVOC Bonding Adhesive -Firestone Single-Ply LVOC 1168 Bonding Adhesive
<i>Membrane Adhesive V</i>	Fully adhered in accordance with one of the following options per INSTALLATION section: -Firestone UltraPly Bonding Adhesive -Firestone Jet Bond Spray Adhesive -Firestone Single-Ply LVOC Bonding Adhesive -Firestone Single-Ply LVOC 1168 Bonding Adhesive -Firestone Water Based Bonding Adhesive P
<i>MCRF</i>	Minimum Characteristic Resistance Force as determined by TAS 105 for the named fastener in the selected assembly
<i>MDP</i>	Maximum Design Pressure
<i>PermaMop</i>	Owens Corning PermaMop Asphalt
<i>Preliminarily Secured</i>	Fastened at minimum rate of 5 per 4 ft. x 8 ft. board or 4 per 4 ft. x 4 ft. board.
<i>Recover</i>	Where assemblies are used to recover an existing roof, the existing roof shall consist of only one layer of roofing, i.e. recovering a previously recovered roof is not permitted. Recover roofing shall be conducted in compliance with FBC Section 1511 outside of the HVHZ and FBC Section 1521 within the HVHZ. For mechanically fastened roof assemblies, the existing roof insulation thickness may be contributory in meeting the minimum insulation thickness requirements for a given assembly.
<i>SBS TA</i>	SBS Glass Torch Base fully bonded by torch adhering.
<i>SECUROCK</i>	Min. 0.25-inch USG SECUROCK Gypsum-Fiber Roof Board
<i>TJ-S</i>	Twin Jet applied in spatter
<i>TJ-R</i>	Twin Jet applied in ribbons
<i>UltraPly TPO</i>	One ply of any one of the following products: 45-mil thick, 60-mil thick, or 80-mil thick UltraPly TPO
<i>UltraPly TPO FA</i>	One ply of UltraPly TPO Flex Adhered
<i>UltraPly TPO FSA</i>	One ply of any one of the following products: 60-mil thick UltraPly TPO Flex SA
<i>UltraPly TPO SA (HVHZ ONLY)</i>	For use in the HVHZ only. One ply of any one of the following products: 60-mil thick UltraPly TPO SA

Name	Definition
<i>UltraPly TPO XR</i>	One ply of any one of the following products: UltraPly TPO XR 100, UltraPly TPO XR 115 or UltraPly XR 135
<i>XR-BA</i>	XR Bonding Adhesive
<i>XR-S</i>	XR Stick Membrane Adhesive
<i>VB</i>	One or more plies of the following applied as a vapor barrier: <ul style="list-style-type: none"> - Firestone Ply IV (4) - Firestone Ply VI (6) - Firestone MB Base - Firestone SBS Base - Firestone SBS PolyBase - Firestone SBS Premium Base
<i>VERSA-FAST</i>	Trufast VERSA-FAST Plates and VERSA-FAST Fasteners
<i>V-Force</i>	One ply of Firestone V-Force Vapor Barrier Membrane self-adhered fully over deck. Non-metal substrates must be primed with Firestone SA-Solvent Based (SB) Primer or Firestone SA-LVOC Primer
<i>WB V-Force</i>	One ply of Firestone V-Force Vapor Barrier Membrane self-adhered fully over deck primed with V-Force WB Primer

APPROVED ASSEMBLIES

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

1. Allowable pressures were calculated using a 2:1 margin of safety per FBC Section 1504.9.
2. Refer to [LIMITATIONS](#) and [NOMENCLATURE](#) 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. As *Tested* information for roof deck construction is provided for information only. The addition of the *As Tested* deck information does not obviate the requirement for rational design of the roof deck and roof deck attachment in accordance with FBC requirements.
6. Prior to application of the approved assembly an optional vapor barrier, such as 4-6 mil polyethylene, *V-Force*, or *DensDeck Prime* with *V-Force*, may be installed over concrete or steel decks when the approved assembly contains insulation or the membrane fastened through to the deck.

Assembly System Numbers and Definitions	
C-A-#	Assemblies with All Layers Adhered over <i>Concrete Deck</i> (New or Existing)
C-AM-#	Assemblies with Adhered Membranes over Insulated <i>Concrete Deck</i> (New, Existing or <i>Recover</i>)
C-M-#	Mechanically Fastened Assemblies over <i>Concrete Deck</i> (New or Existing)
C-W-#	Induction Welded Assemblies over <i>Concrete Deck</i> (New or Existing)
CW-A-#	Assemblies with All Layers Adhered over Cementitious Wood Fiber Deck (New or Existing)
CW-AM-#	Assemblies with Adhered Membranes over Cementitious Wood Fiber Deck (New, Existing, or <i>Recover</i>)
G-A-#	Assemblies with All Layers Adhered over Gypsum Deck (New or Existing)
G-AM-#	Gypsum Deck Assemblies with Adhered Membranes (New or Existing)
LC-A-#	Lightweight Concrete Assemblies with All Layers Adhered over <i>Concrete Deck</i> (New or Existing)
LS-A-#	Lightweight Concrete Assemblies with All Layers Adhered over <i>Steel Deck</i> (New or Existing)
L-AM-#	Lightweight Concrete Assemblies with Adhered Membranes over <i>Steel Deck</i> or <i>Concrete Deck</i> (New or Existing)
L-M-#	Mechanically Fastened Lightweight Concrete Assemblies over <i>Steel Deck</i> or <i>Concrete Deck</i> (New or Existing)
R-A-#	<i>Recover</i> Assemblies with All Layers Adhered
R-AM-#	<i>Recover</i> Assemblies with Adhered Membranes
R-M-#	Mechanically Fastened <i>Recover</i> Assemblies
R-W-#	Induction Welded <i>Recover</i> Assemblies
S-A-#	Assemblies with All Layers Adhered over <i>Steel Deck</i> (New or Existing)
S-AM-#	Assemblies with Adhered Membranes over Insulated <i>Steel Deck</i> (New, Existing or <i>Recover</i>)
S-M-#	Mechanically Fastened Assemblies over <i>Steel Deck</i> (New or Existing)
S-W-#	Induction Welded Assemblies over <i>Steel Deck</i> (New or Existing)
W-A-#	Assemblies with All Layers Adhered over <i>Wood Deck</i> (New or Existing)
W-AM-#	Assemblies with Adhered Membranes over Insulated <i>Wood Deck</i> (New, Existing or <i>Recover</i>)
W-M-#	Mechanically Fastened Assemblies over <i>Wood Deck</i> (New or Existing)
W-W-#	Induction Welded Assemblies over <i>Wood Deck</i> (New or Existing)

Assemblies with Adhered Membranes over Insulated Wood Deck (New, Existing or Recover)								
System No.	Deck Detail	Base Insulation or Base Sheet	Base Insulation or Base Sheet Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	MDP (psf)
W-AM-27	T7/160, L24, N6/6	Min. 1.5-inch ISO or ISO GF	AP Fasteners & Plates secured at a rate of 24 per 4-ft x 8-ft board	SECUROCK or DensDeck Prime	Insulation Adhesive VI	UltraPly TPO XR	XR-BA, PermaMop; HA; or TJ-S	-52.5 (Lim. 7; Non-HVHZ)
W-AM-28	T7/160, L24, N6/6	OPTIONAL Insulation	Preliminarily Secured or secured with top layer	Min. 0.5-inch SECUROCK	All-Purpose S Fasteners and Insulation Fastening Plates secured at a rate of 22 per 4-ft x 8-ft board	UltraPly TPO XR	XR-S, TJ-R, ribbon adhered 6-inch o.c. or I.S.O. Spray R ribbon adhered 12-inch o.c.; XR-BA, PermaMop or HA; JBSA or TJ-S	-52.5 (Lim. 7; Non-HVHZ)
W-AM-29	T7/160, L24, N6/6	OPTIONAL Insulation	Preliminarily Secured or secured with top layer	Min. 1.5-inch ISO HD-C	All-Purpose S Fasteners and Insulation Fastening Plates secured at a rate of 22 per 4-ft x 8-ft board	UltraPly TPO XR	XR-S, TJ-R, ribbon adhered 6-inch o.c. or I.S.O. Spray R ribbon adhered 12-inch o.c.; JBSA or TJ-S	-52.5 (Lim. 7; Non-HVHZ)
W-AM-30	T7/160, L24, N6/6	OPTIONAL Insulation	Preliminarily Secured or secured with top layer	Min. 0.5-inch SECUROCK or Min. 1.5-inch ISO HD-C	All-Purpose S Fasteners and Insulation Fastening Plates secured at a rate of 22 per 4-ft x 8-ft board	UltraPly TPO	Membrane Adhesive V	-52.5 (Lim. 7; Non-HVHZ)
						UltraPly TPO FA	Membrane Adhesive IV	
						UltraPly TPO FSA	Self-adhered	
W-AM-31	T19/32P, L24	OPTIONAL Insulation	Preliminarily Secured or secured with top layer	ISO HD	AP Fasteners & Plates secured at a rate of 15 per 4-ft x 8-ft board	Min. 60 mil UltraPly TPO	Membrane Adhesive V	-55.0 (Lim. 9)
						UltraPly TPO FA	Membrane Adhesive IV	
						UltraPly TPO FSA	Self-adhered	
						UltraPly TPO SA (HVHZ ONLY)	Self-Adhered	
W-AM-32	T15/32P, L24, N6/6	OPTIONAL Insulation	Preliminarily Secured or secured with top layer	Min. 1.5-inch ISO GF	AP Fasteners & Plates secured at a rate of 18 per 4-ft x 8-ft board	UltraPly TPO	Membrane Adhesive V	-60 (Lim. 7)
						UltraPly TPO FA	Membrane Adhesive IV	
						UltraPly TPO FSA	Self-adhered	
						UltraPly TPO SA (HVHZ ONLY)	Self-Adhered	
						UltraPly TPO XR	XR-S, TJ-R, or I.S.O. Spray R ribbon adhered 12-inch o.c.; JBSA or TJ-S	