



CREEK

TECHNICAL SERVICES, LLC

Certificate of Authorization No. 29824

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EVALUATION REPORT

FLORIDA BUILDING CODE, 6TH EDITION (2017)

Manufacturer: FIRESTONE BUILDING PRODUCTS CO., LLC
200 4th Avenue South
Nashville, TN 37201
(800) 428-4511
www.firestonebpco.com

Issued October 8, 2017

Manufacturing Plants: Indianapolis, IN

Quality Assurance: UL LLC (QUA9625)

SCOPE

Category: Roofing
Subcategory: Single Ply Roof System
Code Sections: 1504.3.1, 1504.6, 1504.7, 1507.2.4, 1507.10.2, 1507.11.2, 1507.13, 1515.1.1, 1515.1.4, 1515.2.4, 1523.1.1, 1523.6.2
Properties: Wind Resistance, Physical Properties, Impact Resistance

PRODUCT DESCRIPTION

Products	Specification	Description
Firestone UltraPly TPO XR 100	ASTM D 6878 TAS 131	45-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement and 8 oz. non-woven polyester fabric backing
Firestone UltraPly TPO XR 115	ASTM D 6878 TAS 131	60-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester weft-inserted reinforcement and 8 oz. non-woven polyester fabric backing
Firestone UltraPly TPO XR 135	ASTM D 6878 TAS 131	80-mil thick thermoplastic polyolefin, heat-weldable, single ply roof membrane with polyester weft-inserted reinforcement and 8 oz. polyester fleece backing

REFERENCES

Entity	Report No.	Standards
FM Approvals (TST1867)	3030227	FM 4470 (2012)
FM Approvals (TST1867)	3041949	FM 4470 (2012); FM 4474 (2011)
FM Approvals (TST1867)	3046870	FM 4470 (2012)
FM Approvals (TST1867)	3047398	FM 4474 (2011)
FM Approvals (TST1867)	3050535	FM 4470 (2012); FM 4474 (2011)
FM Approvals (TST1867)	3055491	FM 4470 (1992)
FM Approvals (TST1867)	3051380	FM 4470 (2012); FM 4474 (2011)
FM Approvals (TST1867)	3055590	FM 4470 (2012); FM 4474 (2011)
FM Approvals (TST1867)	3057217	FM 4470 (2012)
FM Approvals (TST1867)	3060274	FM 4470 (2012)
FM Approvals (TST1867)	797-07749-267	FM 4470 (2012)
FM Approvals (TST1867)	797-08937-267	FM 4470 (2012)
FM Approvals (TST1867)	RR205537	FM 4470 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-038-02-01	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-038-02-02	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-044-02-01.8	TAS 114(J & H) (1995); TAS 117(B) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-047-02-03	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-053-02-01	ASTM D 6163 [2000(2008)]
PRI Construction Materials Technologies (TST5878)	FBP-054-02-03	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-058-02-01	ASTM D 4601 [2004(2012)E1]
PRI Construction Materials Technologies (TST5878)	FBP-059-02-01.5	ASTM D 1876 (2008); ASTM D 903 [1998(2010)];

FBP16001.1

FL# 21045-R1

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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>Standards</u>
PRI Construction Materials Technologies (TST5878)	FBP-067-02-01	TAS 117(B) (1995); TAS 114(D & H) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-071-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-073-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-094-02-01	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-101-02-01	ASTM D 6878 (2011a); TAS 131 (1995)
PRI Construction Materials Technologies (TST5878)	FBP-102-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-104-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-106-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-109-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-111-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-112-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-113-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-114-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-118-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-123-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-124-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-126-02-01	ASTM D 6163 [2000(2008)]
PRI Construction Materials Technologies (TST5878)	FBP-127-02-01	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-130-02-01	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-132-02-01	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-133-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-133-02-02	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-140-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-141-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-142-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-142-02-02	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-145-02-01	ASTM D 6878 (2011a); TAS 131 (1995)
PRI Construction Materials Technologies (TST5878)	FBP-152-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-154-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-157-02-01	FM 4474(C) (2011)
PRI Construction Materials Technologies (TST5878)	FBP-160-02-01	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-161-02-01	FM 4470 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-162-02-01	ASTM D 1970 (2015a)
PRI Construction Materials Technologies (TST5878)	FBP-166-02-01	ASTM D 6163 [2000(2008)]
PRI Construction Materials Technologies (TST5878)	FBP-168-02-03	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-176-02-01	ASTM D 4601 [2004(2012)E1]
PRI Construction Materials Technologies (TST5878)	FBP-177-02-01B	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-180-02-01	UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-181-02-01B	FM 4474(D) (2011); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-184-02-03	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-189-02-01	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-193-02-01	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-196-02-03	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-213-02-04	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-241-02-01A	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-244-02-01	ASTM D 3746 [1985(2015)]
PRI Construction Materials Technologies (TST5878)	FBP-258-02-02A	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-260-02-01	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-260-02-02	FM 4474(B) (2011); TAS 114(D) (1995);
PRI Construction Materials Technologies (TST5878)	FBP-265-02-01	FM 4474(D) (2011); TAS 114(J) (1995) UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-271-02-01	FM 4474(D) (2011); TAS 114(J) (1995) UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-272-02-01	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-283-02-01	FM 4474(D) (2011); TAS 114(J) (1995) UL 1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-283-02-02A	FM 4474(D) (2011); TAS 114(J) (1995) UL 1897 (2012)



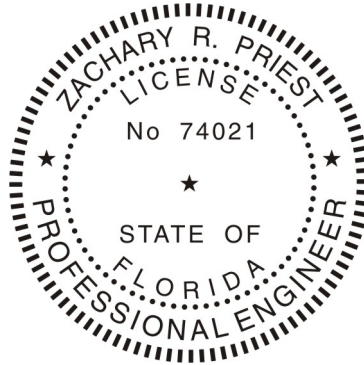
<u>Entity</u>	<u>Report No.</u>	<u>Standards</u>
PRI Construction Materials Technologies (TST5878)	FBP-291-02-02	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-293-02-01	ASTM D 4601 [2004(2012)E1]
PRI Construction Materials Technologies (TST5878)	FBP-305-02-01	FM 4474(B) (2011); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	FBP-309-02-01	ASTM D 6164 (2011)
PRI Construction Materials Technologies (TST5878)	FBP-313-02-01	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-317-02-01	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	FBP-322-02-02	FM 4474(D) (2011); TAS 114(J) (1995); UL1897 (2012)
PRI Construction Materials Technologies (TST5878)	MSA-006-02-01	ASTM D 4897 [2001(2009)]
Trinity ERD (TST6049)	F10500.10.08-1	ASTM D 6163 [2000(2008)]

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. Foam plastic insulation shall be installed in accordance with the FBC Section 2603.4 and 2603.6.
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. For assemblies including 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. For perimeter and corner roof zones 2 and 3, the attachment density may be increased by a qualified design professional, as necessary, to meet the design pressure requirements in these areas. In the HVHZ, calculations shall be conducted in compliance with RAS 117 and/or RAS 137. Outside the HVHZ, commonly used standards include RAS 117, FM LPDS 1-29, or ANSI/SPRI WD-1.
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. 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.
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 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.



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 (6 pages)
- 2) APPENDIX B – Nomenclature and Approved Assemblies (27 pages)



APPENDIX A

INSTALLATION

Note - Refer to the [APPROVED ASSEMBLIES](#) section of this report within Appendix B 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:

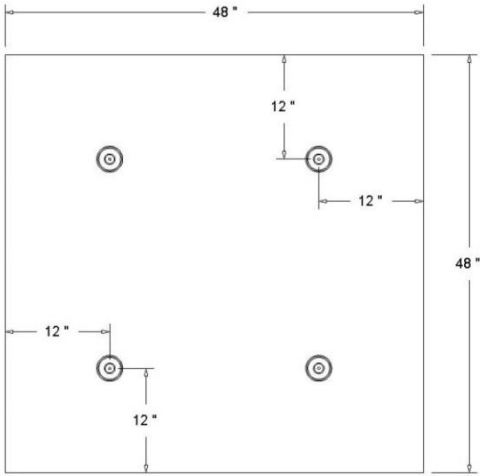
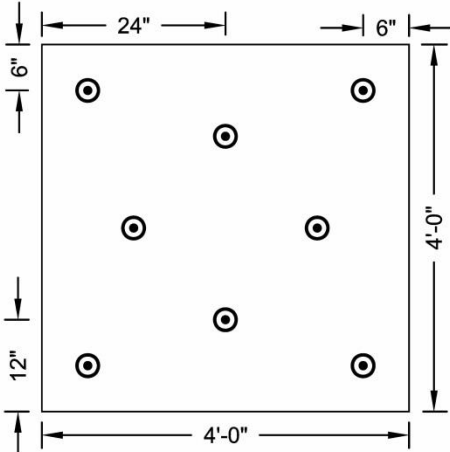
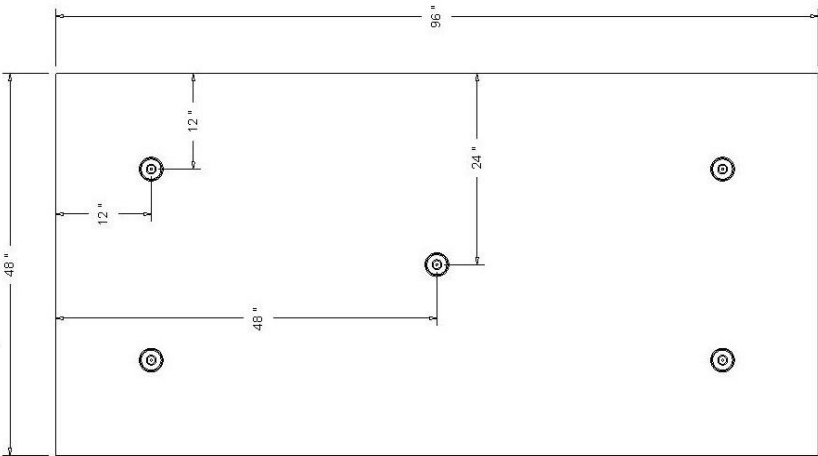
Component	Product	Installation Detail
Fastening Systems	Firestone All-Purpose Fasteners	Min. 0.75-inch penetration through the top rib of the steel deck or wood deck
	Firestone Concrete Drive	Min. 1.25" embedment into min. 3" thick structural concrete
	Firestone 1.7" LWC Base-Ply Fastener	Full embedment of shank into substrate
	Firestone Heavy Duty Fasteners	Min. 7-inch penetration through the top rib of the steel deck or wood deck. Min. penetration 1-inch into concrete deck.
	Firestone Insulation Fastening Plates	Min. 3-inch diameter Galvalume® steel plate
	Firestone Metal Batten Strip	Min. 1-inch wide, 0.0448 in. Galvalume® steel batten
Insulation Adhesives	ASTM D 312, Type IV Asphalt	Fully adhered within the EVT range at a rate of 20-40 lbs/100 ft ²
	Firestone I.S.O. Fix II	Partially adhered in 0.75 to 1-inch wide ribbons
	Firestone I.S.O. Stick	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
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 0.75-1-inch wide ribbons
	Firestone XR Stick	Partially adhered in 0.75-1-inch wide ribbons
	Owens Corning PermaMop Asphalt	Fully adhered within the EVT range at a rate of 25-40 lbs/100 ft ²
Insulation/Cover Boards	Georgia-Pacific DensDeck	Min. 0.25-inch thick
	Georgia-Pacific DensDeck Prime	
	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	
	Structodek High Density Fiberboard	Min. 0.5-inch thick
	USG SECUROCK Gypsum-Fiber Roof Board	Min. 0.25-inch thick
	USG SECUROCK Glass-Mat Roof Board	
Base/Ply Sheets	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
	BASEGARD SA	Min. 3.4-inch wide side-laps; Min. 6-inch end laps; Side-laps shall be installed perpendicular to the direction of the steel deck ribs and parallel to the direction of the wood trusses for mechanically attached systems
	Channel Venting Base	
	SBS Base	
	SBS Glass Torch Base	
	SBS Glass Torch Base 1.5	
	SBS Poly Base	
	SBS Poly Torch Base	
	SBS Premium Base	
	SBS Premium Poly Base	
	SBS Smooth	



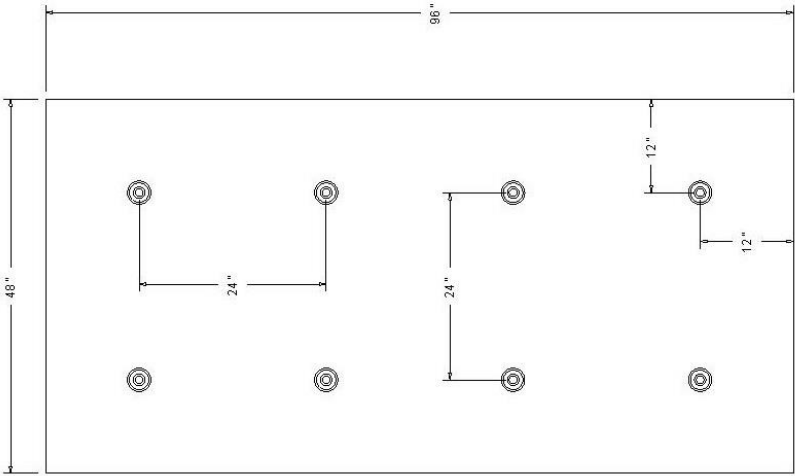
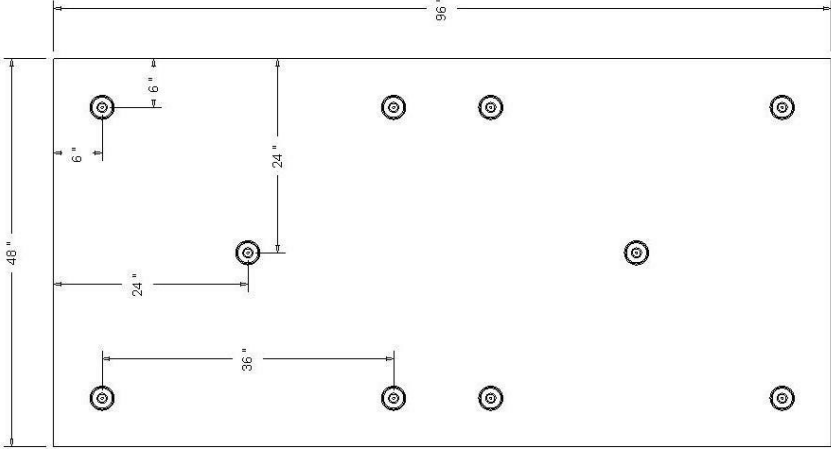
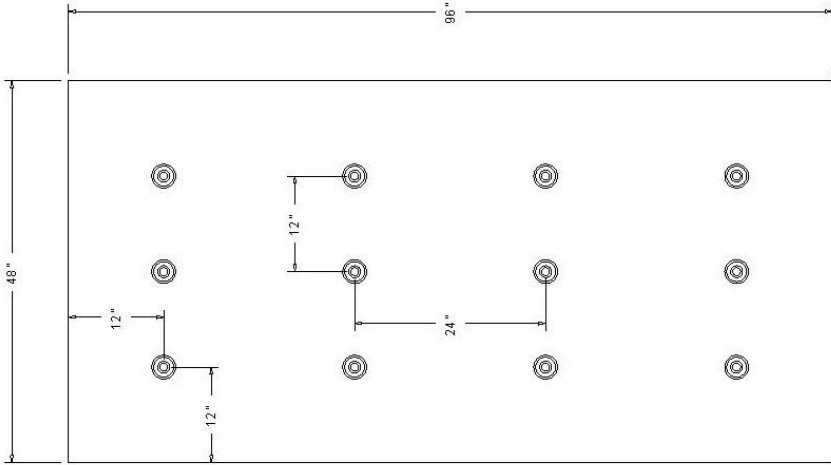
APPENDIX A

Component	Product	Installation Detail
Membrane	UltraPly TPO XR 100	Min. 2-inch wide side-laps with min. 1.5-inch wide heat weld;
	UltraPly TPO XR 115	
	UltraPly TPO XR 135	
Vapor Barriers	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; Prime surface with Firestone SA-Solvent Based (SB) Primer or Firestone SA-LVOC Primer at a rate of 0.5 gal/100ft ² or Firestone SA-Water Based (WB) Primer 0.25 – 0.75 gal/100ft ² ;
Cellular Lightweight Concrete	Min. 300 psi Celcore MF with HS Rheology Admixture	Slurry coat min. 1/8-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
	Min. 300 psi Mearlcrete	Slurry coat min. 1/8-inch thick; Min. 1-inch thick EPS board (1 lbs/ft ³); Min. 2-inch top coat
	Min. 300 psi Elastizell	
	Min. 300 psi Concrecel	
	Min. 200 psi Cellular Lightweight Concrete	

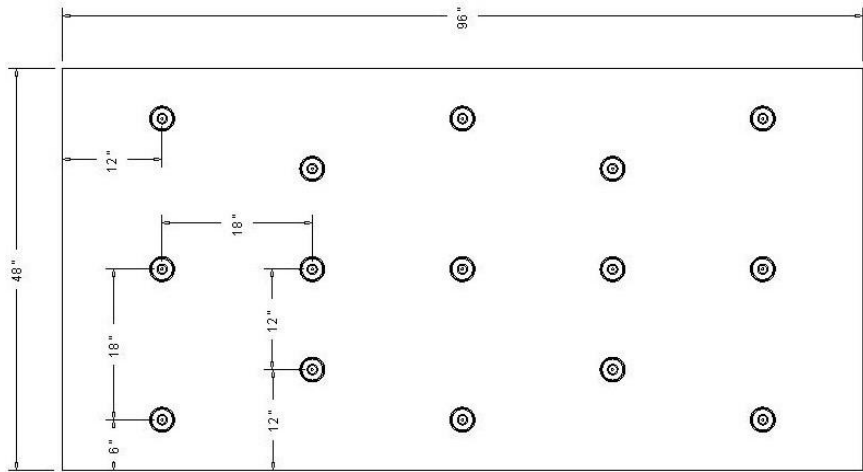
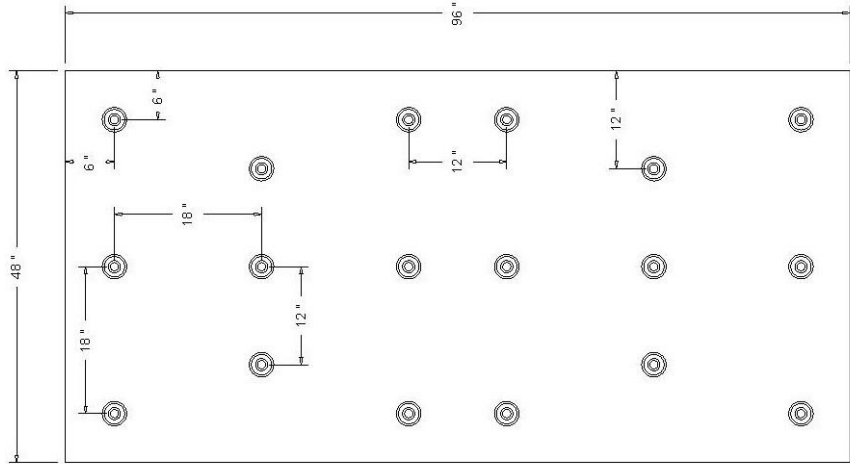
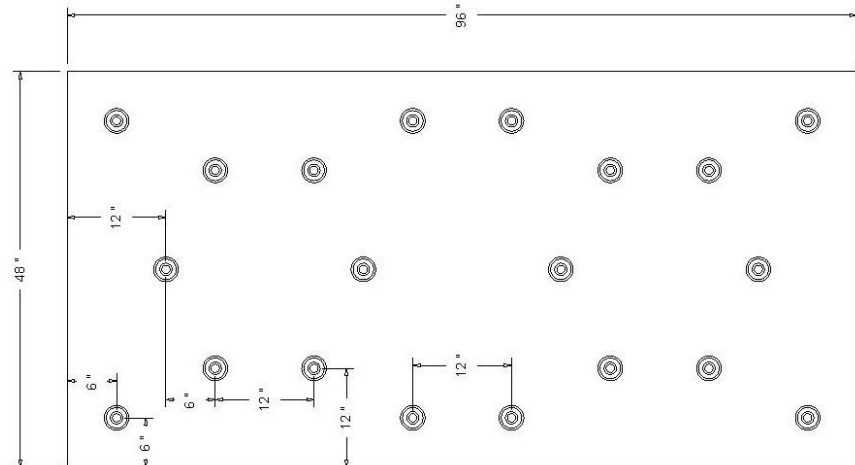


Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
4 per 4 ft x 4 ft board	 <p>(Max. 4.0ft² contributory area per fastener)</p>
8 per 4 ft x 4 ft Board	 <p>(Max. 2.0ft² contributory area per fastener)</p>
5 per 4 ft x 8 ft board	 <p>(Max. 6.4ft² contributory area per fastener)</p>

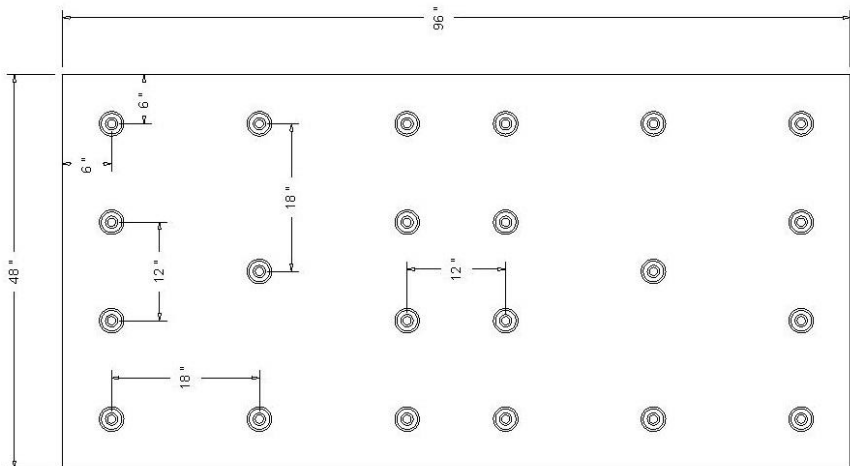
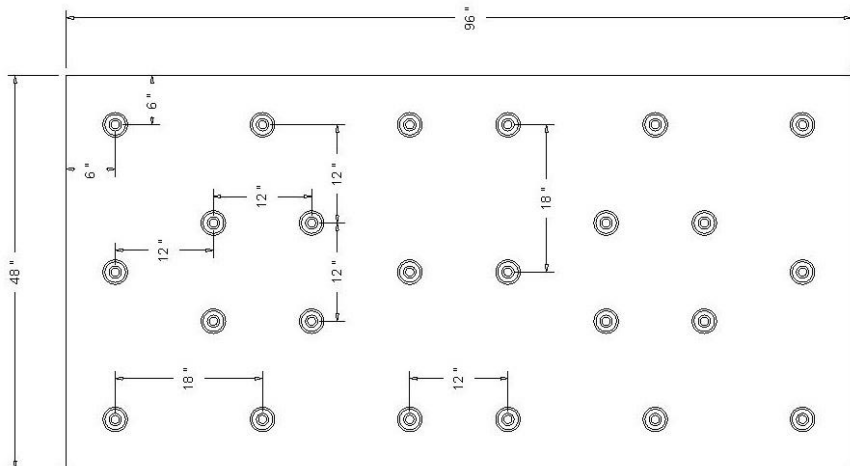
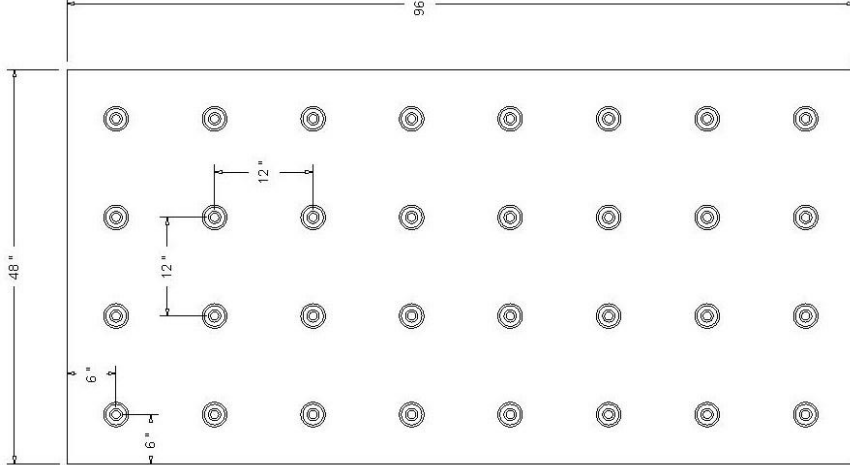


Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
8 per 4 ft. x 8 ft. board	 <p>(Max. 4.00ft² contributory area per fastener)</p>
10 per 4 ft. x 8 ft. board	 <p>(Max. 3.2ft² contributory area per fastener)</p>
12 per 4 ft x 8 ft board	 <p>(Max. 2.67ft² contributory area per fastener)</p>



Insulation/Cover Board Fastening Patterns	
Description	Fastening Pattern
15 per 4 ft x 8 ft board	 <p>(Max. 2.13ft² 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
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>
32 per 4 ft x 8 ft board	 <p>(Max. 1.00ft² contributory area per fastener)</p>

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](#) and [INSTALLATION](#) section of this report.

Name	Definition
<i>AP Fasteners & Plates</i>	Firestone All-Purpose 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. Subsequent ply shall be applied in hot asphalt or by torch or shall be UltraPly TPO XR membrane applied in hot asphalt only.
<i>CD Fasteners & Plates</i>	Firestone Concrete Drive and Insulation Fastening 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
	<i>Steel Deck</i> Min. 22 ga, Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC; 0.5% Vented for LW/C 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>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>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
	<i>Wood Deck</i> APA Span-Rated plywood sheathing. The following nomenclature is used to further describe the <i>As Tested</i> condition.
	<i>T<#></i> Min. <#>-inch thickness of the plywood
	<i>L<#></i> Max. span of <#> inches
	<i>N<#></i> Min. 0.113-inch diameter x 2-3/8-inch ring shank nails spaced <#>-inch o.c. at all intermediate supports and 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 SBS BUR Ply</i>	One or more plies of MB Base, SBS, Base, SBS Poly Base, SBS Premium Poly Base, SBS Premium Base, or SBS Smooth fully bonded in ASTM D 312, Type IV hot asphalt
<i>HA SBS Ply</i>	One or more plies of SBS, Base, SBS Poly Base, SBS Premium Poly Base, SBS Premium Base, or SBS Smooth fully bonded in ASTM D 312, Type IV hot asphalt
<i>HD Fasteners & Plates</i>	Firestone Heavy Duty Fasteners and Insulation Fastening Plates

Name	Definition
<i>Insulation</i>	One of more layers in any combination of: -Georgia-Pacific DensDeck -Georgia-Pacific DensDeck Prime -Firestone ISO 95+ GL -Firestone ISOGARD HD -Firestone ISOGARD HD Composite -Firestone RESISTA -GenFlex ISO Insulation -GenFlex HD ISO -GenFlex HD Composite ISO -GenFlex Coated Glass Facer -USG SECUROCK Glass-Mat Roof Board -USG SECUROCK Gypsum-Fiber Roof Board
<i>Insulation Adhesive</i>	I.S.O. Twin Pack Adhesive, I.S.O. Stick Insulation Adhesive, or I.S.O. Fix II Adhesive
<i>Insulation Adhesive II</i>	I.S.O. Twin Pack Adhesive, I.S.O. Stick Insulation Adhesive, I.S.O. Fix II Adhesive, or Firestone I.S.O. Spray R
<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>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 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
<i>MA Base II</i>	One ply of MB Base, SBS Base, 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
<i>MA Base III</i>	One ply of SBS Base, 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
<i>MA Base IV</i>	One ply of Channel Venting Base, SBS Base, SBS Base-P, SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Poly Torch Base
<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>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 Base Sheet</i>	One ply of SBS Base, SBS Glass Torch Base, SBS Poly Base, SBS Premium Poly Base, SBS Poly Torch Base, SBS Premium Base, or SBS Smooth
<i>SBS TA Vapor Barrier</i>	SBS Glass Torch Base torched adhered over primed concrete deck
<i>SECUROCK</i>	Min. 0.25-inch USG SECUROCK Gypsum-Fiber Roof Board
<i>TA SBS Ply</i>	One or more plies of SBS Glass Torch Base, SBS Glass Torch Base 1.5 or SBS Poly Torch Base fully bonded by torch adhering
<i>TPO XR HA</i>	One ply of UltraPly TPO XR 100, 115, 135 applied in ASTM D 312, Type IV asphalt or Owens Corning PermaMop asphalt
<i>TPO XR XRS</i>	One ply of UltraPly TPO XR 100, 115, 135 applied in XR Stick Membrane Adhesive ribbons spaced max. 12-inch o.c.
<i>TPO XR ISR</i>	One ply of UltraPly TPO XR 100, 115, 135 applied in I.S.O. Spray R spaced max. 12-inch o.c.
<i>V-Force</i>	One ply of Firestone V-Force Vapor Barrier Membrane

APPROVED ASSEMBLIES

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

1. MDPs were calculated using a 2:1 margin of safety per FBC Section 1504.9 and 1523.4.
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 Fastened Insulation over <i>Concrete Deck</i> (New, Existing, or <i>Recover</i>)
CW-A-#	Adhered Assemblies over Cementitious Wood Fiber Deck (New or Existing)
LC-A-#	Lightweight Concrete Assemblies with All Layers Adhered over <i>Concrete Deck</i> (New or Existing)
LC-AM-#	Lightweight Concrete Assemblies with Adhered Membranes over Fastened Insulation or Anchor Sheet over <i>Concrete Deck</i> (New or Existing)
LC-M-#	Mechanically Fastened Lightweight Concrete Assemblies 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)
LS-AM-#	Lightweight Concrete Assemblies with Adhered Membranes over Fastened Insulation or Anchor Sheet over <i>Steel Deck</i> (New or Existing)
LS-M-#	Mechanically Fastened Lightweight Concrete Assemblies over <i>Steel Deck</i> (New or Existing)
R-AM-#	<i>Recover</i> Assemblies with Adhered Membranes over Fastened Insulation
R-M-#	<i>Recover</i> Assemblies with Mechanically Fastened Base Sheet
S-AM-#	Assemblies with Adhered Membranes over Fastened Insulation over <i>Steel Deck</i> (New, Existing, or <i>Recover</i>)
S-M-#	Mechanically Fastened Assemblies over <i>Steel Deck</i> (New, Existing, or <i>Recover</i>)
W-AM-#	Assemblies with Adhered Membranes over Fastened Insulation over <i>Wood Deck</i> (New, Existing, or <i>Recover</i>)
W-M-#	Mechanically Fastened Assemblies over <i>Wood Deck</i> (New, Existing, or <i>Recover</i>)

Assemblies with All Layers Adhered over <i>Concrete Deck</i> (New or Existing)								
System No.	Vapor Barrier	Base Insulation	Top Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-A-1	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 12-inch o.c.	-	Min. 1-inch ISO installed with I.S.O. Twin Pack applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, TA SBS Ply	TPO XR HA or TPO XR ISR	-105 (Lim. 9)

Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	Base Insulation	Top Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-A-2	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 12-inch o.c.	-	ISO HD installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, TA SBS Ply	TPO XR HA or TPO XR ISR	-110 (Lim. 9)
C-A-3	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 12-inch o.c.	-	SECUROCK installed with I.S.O. Twin Pack applied in ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply	OPTIONAL HA SBS BUR Ply, TA SBS Ply	TPO XR HA or TPO XR ISR	-122.5 (Lim. 9)
C-A-4	-	Min. 0.5-inch ISO installed with ASTM D 312, Type IV Asphalt	-	SECUROCK installed with ASTM D 312, Type IV Asphalt	BASEGARD, HA SBS BUR Ply	OPTIONAL HA SBS BUR Ply, TA SBS Ply	TPO XR HA or TPO XR ISR	-130 (Lim. 9)
C-A-5	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive</i> ribbon applied in ribbons spaced 12-inch o.c.	-	DensDeck Prime installed with <i>Insulation Adhesive</i> ribbon applied in ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-167.5 (Lim. 9)
C-A-6	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 12-inch o.c.	-	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-175 (Lim. 9)
C-A-7	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 6-inch o.c.	-	DensDeck Prime installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 6-inch o.c.	HA SBS Ply or TA SBS Ply	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-230 (Lim. 9)
C-A-8	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 6-inch o.c.	-	DensDeck Prime installed with <i>Insulation Adhesive II</i> ribbon applied in ribbons spaced 6-inch o.c.	TA SBS Ply	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-237.5 (Lim. 9)



Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	Base Insulation	Top Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-A-9	V-Force	Min. 1.5-inch ISO installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	OPTIONAL Min. 1-inch ISO installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	OPTIONAL Min. 1.5-inch ISO installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-262.5 (Lim. 9)
C-A-10	V-Force	Taper ISO installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	ISO HD or DensDeck Prime installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	-	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-262.5 (Lim. 9)
C-A-11	OPTIONAL V-Force or 1-2 ply of Ply IV or VI in hot asphalt or APP 80 Glass Base, SBS Glass FR Torch, or SBS Poly Torch Base torch adhered	Min. 0.5-inch ISO installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	-	ISO HD or DensDeck Prime installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-262.5 (Lim. 9)
C-A-12	V-Force	Min. 1.5-inch ISO installed with I.S.O. Twin Pack Insulation Adhesive or I.S.O. Stick applied in ribbons spaced 12-inch o.c.	-	-	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-287.5 (Lim. 9)
C-A-13	V-Force	Min. 0.5-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	Min. 1-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	-	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-287.5 (Lim. 9)
C-A-14	V-Force	Min. 0.5-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	Min. 1-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-287.5 (Lim. 9)



Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	Base Insulation	Top Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-A-15	OPTIONAL V-Force or 1-2 ply of Ply IV or VI in hot asphalt or APP 80 Glass Base, SBS Glass FR Torch, or SBS Poly Torch Base torch adhered	Min. 0.5-inch ISO installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	-	-	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-287.5 (Lim. 9)
C-A-16	-	Min. 0.5-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	Min. 1-inch ISO installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-317.5 (Lim. 9)
C-A-17	-	Min. 0.5-inch ISO installed with <i>Insulation Adhesive</i> ribbon applied in ribbons spaced 6-inch o.c.	-	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-347.5 (Lim. 9)
C-A-18	OPTIONAL V-Force or 1-2 ply of Ply IV or VI in hot asphalt or APP 80 Glass Base, SBS Glass FR Torch, or SBS Poly Torch Base torch adhered	Min. 0.5-inch ISO installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	-	SECUROCK installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-347.5 (Lim. 9)

Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	Base Insulation	Top Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-A-19	V-Force or 1-2 ply of Ply IV or VI in hot asphalt or APP 80 Glass Base, SBS Glass FR Torch, or SBS Poly Torch Base torch adhered	Min. 0.5-inch ISO installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	-	SECUROCK installed with I.S.O. Twin Pack or I.S.O. Spray R applied in ribbons spaced 12-inch o.c.	BASEGARD or TA SBS Ply or SBS Poly Base or SBS Smooth in ASTM D 312, Type IV Asphalt	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-400 (Lim. 9)
C-A-20	-	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	-	-	BASEGARD or TA SBS Ply	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-400 (Lim. 9)
C-A-21	-	SECUROCK installed with I.S.O. Stick applied in ribbons spaced 6-inch o.c.	-	-	SBS Poly Base or SBS Smooth in ASTM D 312, Type IV Asphalt	OPTIONAL HA SBS Ply, or TA SBS Ply	TPO XR HA	-400 (Lim. 9)

Assemblies with Adhered Membranes over Fastened Insulation over Concrete Deck (New, Existing, or Recover)							
System No.	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-AM-1	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-37.5 (Lim. 7; Non-HVHZ)
C-AM-2	DensDeck Prime secured with CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board followed by V-Force	Min. 1.5-inch ISO	I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)



Assemblies with Adhered Membranes over Fastened Insulation over Concrete Deck (New, Existing, or Recover)							
System No.	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-AM-3	DensDeck Prime secured with CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board followed by V-Force	Layer 1: ISO (Tapered) Layer 2: ISO HD or DensDeck Prime,	Layer 1 & Layer 2 adhered in I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD or TA SBS Ply w/DensDeck Prime only	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
C-AM-4	OPTIONAL ISO or ISO GF	Min. 2-inch ISO	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 12 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
C-AM-5	OPTIONAL ISO or ISO GF	SECUROCK	CD Fasteners & Plates or HD Fasteners & Plates at 10 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
C-AM-6	OPTIONAL ISO or ISO GF	Min. 0.375-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
C-AM-7	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	DensDeck Prime	HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
C-AM-8	OPTIONAL ISO or ISO GF	Min. 2-inch ISO HD-C laid perpendicular to flutes with staggered end joints	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
C-AM-9	OPTIONAL ISO or ISO GF	Min 2.5-inch ISO	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 15 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim 7)
C-AM-10	Min. 1-inch ISO or ISO GF	ISO HD	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
C-AM-11	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 12 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over <i>Concrete Deck (New, Existing, or Recover)</i>							
System No.	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-AM-12	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
C-AM-13	Min. 1-inch ISO or ISO GF	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 15 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
C-AM-14	Min 0.5-inch ISO 95+GL or ISO GF	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
C-AM-15	One or more layers of ISO or ISO GF	SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
C-AM-16	One or more layers of ISO or ISO GF	SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
C-AM-17	OPTIONAL ISO or ISO GF	Min. 1-inch ISO GF or Min. 0.5-inch DensDeck Prime	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 20 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
C-AM-18	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply II	OPTIONAL TA SBS Ply or HA SBS BUR Ply II	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
C-AM-19	One or more layers of ISO or ISO GF	Min. 0.5-inch DensDeck Prime	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
C-AM-20	One or more layers of ISO or ISO GF	Min. 0.5-inch DensDeck Prime	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 24 per 4 ft x 8 ft board	HA SBS BUR Ply, or TA SBS Ply	OPTIONAL BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
C-AM-21	One or more layers of ISO or ISO GF	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
C-AM-22	One or more layers of ISO or ISO GF	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over Concrete Deck (New, Existing, or Recover)							
System No.	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
C-AM-23	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
C-AM-24	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	HD Fasteners & Insulation Plates at 20 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply II	OPTIONAL TA SBS Ply or HA SBS BUR Ply II	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
C-AM-25	Min. 1.5-inch ISO	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 22 per 4 ft x 8 ft board	TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS BUR Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-90 (Lim. 7)
C-AM-26	OPTIONAL ISO or ISO GF	Min 2.5-inch ISO-	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 32 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-97.5 (Lim 7)
C-AM-27	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	HD Fasteners & Insulation Plates at 24 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-97.5 (Lim. 7)
C-AM-28	Min. 1.5-inch ISO	Min. 0.5-inch SECUROCK	CD Fasteners & Plates or HD Fasteners & Insulation Plates at 32 per 4 ft x 8 ft board	TA SBS Ply	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-150 (Lim. 7)
C-AM-29	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	HD Fasteners & Insulation Plates at 32 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-157.5 (Lim. 7)

Adhered Assemblies over Cementitious Wood Fiber Deck (New or Existing)								
System No.	Base Insulation	Base Attachment	Top Insulation	Top Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
CW-A-1	Min. 400 psi Celcore MF with HS Rheology Admixture	Poured-in-place	DensDeck Prime	I.S.O. Sick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-145 (Lim. 9)

Adhered Assemblies over Cementitious Wood Fiber Deck (New or Existing)								
System No.	Base Insulation	Base Attachment	Top Insulation	Top Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
CW-A-2	Min. 0.5-inch ISO	I.S.O. Stick Ribbons spaced 12-inch o.c.	SECUROCK	I.S.O. Sick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-202.5 (Lim. 9)

Lightweight Concrete Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	LWIC	Insulation/ Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LC-A-1	OPTIONAL SBS TA Vapor Barrier	Min. 300 psi LWIC	Min. 2-inch ISO	CD Fasteners & Plates or HD Fasteners & Insulation Plates at a rate of 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 9)
LC-A-2	-	Min. 200 psi Cellular Lightweight Concrete (MCRF ≥ 80 lbf using Firestone 1.7-inch LWC Base-Ply Fastener)	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-76.5 (Lim. 9)
LC-A-3	-	Min. 200 psi Cellular Lightweight Concrete (MCRF ≥ 80 lbf using Firestone 1.7-inch LWC Base-Ply Fastener)	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-76.5 (Lim. 9)
LC-A-4	OPTIONAL SBS TA Vapor Barrier	Min. 300 psi Celcore MF with HS Rheology Admixture	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-106 (Lim. 9)
LC-A-5	OPTIONAL SBS TA Vapor Barrier	Min. 300 psi Celcore MF with HS Rheology Admixture	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-106 (Lim. 9)

Lightweight Concrete Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	LWIC	Insulation/ Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LC-A-6	OPTIONAL SBS TA Vapor Barrier	Min. 400 psi Celcore MF with HS Rheology Admixture	SECUROCK	Insulation Adhesive Ribbons spaced 12- inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-127.5 (Lim. 9)
LC-A-7	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO or ISO GF, Min. 2-inch ISO HS-C, or ISO HD; or Min. 1.5-inch ISO or ISO GF followed by ISO HD	I.S.O. Twin Pack Insulation Adhesive or I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-140 (Lim. 9)
LC-A-8	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1.5-inch ISO or ISO GF followed by DensDeck Prime	I.S.O. Twin Pack Insulation Adhesive or I.S.O. Stick Ribbons spaced 12-inch o.c.	HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-140 (Lim. 9)
LC-A-9	-	Min. 300 psi Celcore MF with HS Rheology Admixture	ISO HD	Insulation Adhesive Ribbons spaced 12- inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-172.5 (Lim. 9)
LC-A-10	-	Min. 300 psi Celcore MF with HS Rheology Admixture	DensDeck Prime	I.S.O. Stick Ribbons spaced 12- inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-177.5 (Lim. 9)
LC-A-11	-	Min. 300 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO	Insulation Adhesive Ribbons spaced 12- inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-177.5 (Lim. 9)
LC-A-12	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO GF	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)

Lightweight Concrete Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	LWIC	Insulation/ Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LC-A-13	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO or ISO GF, or Min. 2-inch ISO HD-C	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)
LC-A-14	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1.5-inch ISO or ISO GF followed by ISO HD	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)
LC-A-15	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1.5-inch ISO or ISO GF followed by DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)
LC-A-16	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1.5-inch ISO or ISO GF followed by DensDeck Prime or ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)
LC-A-17	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 2-inch ISO HD-C	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply	TPO XR HA or TPO XR ISR	-187.5 (Lim. 9)
LC-A-18	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO GF	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply	TPO XR HA or TPO XR ISR	-202.5 (Lim. 9)
LC-A-19	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-210 (Lim. 9)
LC-A-20	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 1-inch ISO	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS Ply	TPO XR HA or TPO XR ISR	-217.5 (Lim. 9)

Lightweight Concrete Assemblies with All Layers Adhered over Concrete Deck (New or Existing)								
System No.	Vapor Barrier	LWIC	Insulation/ Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LC-A-21	-	Min. 350 psi Celcore MF with HS Rheology Admixture	Min. 2-inch <i>ISO HD-C</i> or Min. 1.5-inch <i>ISO</i> or <i>ISO GF</i> followed by <i>ISO HD</i>	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-217.5 (Lim. 9)
LC-A-22	OPTIONAL SBS TA Vapor Barrier	Min. 400 psi Celcore MF with HS Rheology Admixture	SECUROCK	Insulation Adhesive Ribbons spaced 12- inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-222.5 (Lim. 9)

Lightweight Concrete Assemblies with Adhered Membranes over Fastened Insulation or Anchor Sheet over Concrete Deck (Existing)								
System No.	LWIC	Anchor Sheet	Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
LC-AM-1	Mearlcrete, Celcore, or Celcore MF with HS Rheology Admixture	MA Base secured with 1.8-inch Two- Piece Impact Nail installed 7-inch o.c. in the 4-inch wide laps, 7-inch o.c. in two (2) staggered rows in the field	Min. 1-inch <i>ISO</i> or <i>ISO GF</i> installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	OPTIONAL <i>ISO (Tapered)</i> or Tapered <i>ISO GF</i> installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non- HVHZ)
LC-AM-2	Mearlcrete, Celcore, or Celcore MF with HS Rheology Admixture	MA Base secured with 1.8-inch Two- Piece Impact Nail installed 7-inch o.c. in the 4-inch wide laps, 7-inch o.c. in two (2) staggered rows in the field	Min. 1-inch <i>ISO</i> or <i>ISO GF</i> installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c. Followed by OPTIONAL <i>ISO (Tapered)</i> or Tapered <i>ISO GF</i> installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	DensDeck Prime installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non- HVHZ)

Mechanically Fastened Lightweight Concrete Assemblies over <i>Concrete Deck</i> (New or Existing)						
System No.	LWIC	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
LC-M-1	Min. 300 psi Celcore MF with HS Rheology Admixture	SBS PolyBase	1.7-inch LWC Base-Ply Fastener installed 9-inch o.c. in the 3.4-inch wide side laps, 9-inch o.c. in two (2) equally spaced, staggered rows in the field	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-37.5 (Lim. 7; Non - HVHZ)
LC-M-2	Min. 350 psi Elastizell	SBS Poly Torch Base	1.8-inch Twin Loc-Nails and Straight Line Batten Bars secured 6-inch o.c. within the torch adhered, 4-inch wide side laps	SBS Poly Torch Base Torch adhered	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
LC-M-3	Min. 300 psi Mearlcrete	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) equally spaced, staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
LC-M-4	Min. 300 psi Elastizell	SBS Base Sheet	1.7-inch LWC Base-Ply Fastener installed 9-inch o.c. in the laps, 9-inch o.c. in two (2) staggered rows in the field	BASEGARD	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
LC-M-5	Min. 380 psi Celcore MF with HS Rheology Admixture	SBS Base Sheet	1.8-inch Two-Piece Impact Nail installed 8-inch o.c. in the laps, 8-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
LC-M-6	Min. 200 psi Cellular Lightweight Concrete (MCRF \geq 176 lbf)	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) equally spaced, staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LC-M-7	Min. 300 psi Celcore MF with HS Rheology Admixture	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) equally spaced, staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LC-M-8	Min. 380 psi Celcore MF with HS Rheology Admixture	MA Base	1.7-inch LWC Base-Ply Fastener installed 8-inch o.c. in the laps, 8-inch o.c. in two (2) staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LC-M-9	Min. 360 psi Celcore MF with HS Rheology Admixture	Channel Venting Base, SBS Base, SBS Glass Torch Base, SBS Glass Torch Base 1.5 or SBS PolyTorch Base	1.8-inch Two-Piece Impact Nail installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
LC-M-10	Min. 300 psi Celcore MF with HS Rheology Admixture	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Adhered Lightweight Concrete Assemblies over Steel Deck (New or Existing)								
System No.	Deck Detail	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LS-A-1	G33, F1, L6	Min. 300 psi Celcore MF with HS Rheology	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 9)
LS-A-2	G33, F1, L6	Min. 300 psi Celcore MF with HS Rheology	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 9)
LS-A-3	G33, F1W, L5, S12	Min. 300 psi LWIC	Min. 2-inch ISO	AP Fasteners and Plates at a rate of 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 9)
LS-A-4	G33, F1, L5	Min. 300 psi Elastizell	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 9)
LS-A-5	G33, F1, L5	Min. 300 psi Elastizell	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 9)
LS-A-6	G33, F1, L6	Min. 300 psi Celcore MF with HS Rheology Admixture Heavy Duty Fasteners and Insulation Fastening Plates through-fastened to Steel Deck at a rate of one per 2 ft ²	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-90 (Lim. 9)
LS-A-7	G33, F1, L6	Min. 300 psi Celcore MF with HS Rheology Pre-Assembled Heavy Duty Fasteners and Insulation Plates through-fastened to Steel Deck at a rate of one per 2 ft ²	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-90 (Lim. 9)

Adhered Lightweight Concrete Assemblies over Steel Deck (New or Existing)								
System No.	Deck Detail	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
LS-A-8	G33, F1, L6	Min. 300 psi Elastizell Pre-Assembled Heavy Duty Fasteners and Insulation Plates through-fastened to Steel Deck at a rate of one per 2 ft ²	DensDeck Prime	I.S.O. Stick Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-135 (Lim. 9)
LS-A-9	G33, F1, L6	Min. 300 psi Elastizell Pre-Assembled Heavy Duty Fasteners and Insulation Plates through-fastened to Steel Deck at a rate of one per 2 ft ²	ISO HD	I.S.O. Twin Pack Insulation Adhesive Ribbons spaced 12-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-135 (Lim. 9)

Lightweight Concrete Assemblies with Adhered Membranes over Fastened Insulation or Anchor Sheet over Steel Deck (Existing)									
System No.	Deck Detail	LWIC	Anchor Sheet	Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
LS-AM-1	G33	Mearlcrete, Celcore, or Celcore MF with HS Rheology Admixture	MA Base secured with 1.8-inch Two-Piece Impact Nail installed 7-inch o.c. in the 4-inch wide laps, 7-inch o.c. in two (2) staggered rows in the field	Min. 1-inch ISO or ISO GF installed with Insulation Adhesive applied in ribbons spaced 12-inch o.c.	OPTIONAL ISO (Tapered) or Tapered ISO GF installed with Insulation Adhesive applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)

Lightweight Concrete Assemblies with Adhered Membranes over Fastened Insulation or Anchor Sheet over Steel Deck (Existing)									
System No.	Deck Detail	LWIC	Anchor Sheet	Insulation	Cover Board	Base Ply	Ply Sheet	Membrane	MDP (psf)
LS-AM-2	G33	Mearlcrete, Celcore, or Celcore MF with HS Rheology Admixture	MA Base secured with 1.8-inch Two-Piece Impact Nail installed 7-inch o.c. in the 4-inch wide laps, 7-inch o.c. in two (2) staggered rows in the field	Min. 1-inch ISO or ISO GF installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c. Followed by OPTIONAL ISO (Tapered) or Tapered ISO GF installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	<i>DensDeck Prime</i> installed with <i>Insulation Adhesive</i> applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
LS-AM-3	G33, F1W, L5, S12	Min. 300 psi LWIC	-	Min. 2-inch ISO installed with AP Fasteners and Plates at a rate of 18 per 4 ft x 8 ft board	-	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 9)

Mechanically Fastened Lightweight Concrete Assemblies over Steel Deck (New or Existing)							
System No.	Deck Detail	LWIC	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
LS-M-1	G33, P, L5, S18	Min. 300 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	SBS PolyBase	1.7-inch LWC Base-Ply Fastener installed 9-inch o.c. in the 3.4-inch wide side laps, 9-inch o.c. in two (2) equally spaced, staggered rows in the field	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-37.5 (Lim. 7; Non-HVHZ)
LS-M-2	G33, P, L5, S12	Min. 350 psi Elastizell	SBS Poly Torch Base	1.8-inch Twin Loc-Nails and Straight Line Batten Bars secured 6-inch o.c. within the torch adhered, 4-inch wide side laps	SBS Poly Torch Base Torch adhered	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
LS-M-3	G33, P, L6	Min. 300 psi Mearlcrete	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 9)

Mechanically Fastened Lightweight Concrete Assemblies over Steel Deck (New or Existing)							
System No.	Deck Detail	LWIC	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
LS-M-4	G33, P, L5, S12	Min. 300 psi Elastizell	SBS Base Sheet	1.7-inch LWC Base-Ply Fastener installed 9-inch o.c. in the laps, 9-inch o.c. in two (2) staggered rows in the field	BASEGARD	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
LS-M-5	G33, P, L6, S18	Min. 380 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	SBS Base Sheet	1.8-inch Two-Piece Impact Nail installed 8-inch o.c. in the laps, 8-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
LS-M-6	G33, F1, L5, S12	Min. 200 psi Cellular Lightweight Concrete (MCRF ≥ 176 lbf)	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LS-M-7	G33, F1, L5, S12	Min. 300 psi Celcore MF with HS Rheology Admixture	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LS-M-8	G33, P, L6, S18	Min. 380 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	MA Base	1.7-inch LWC Base-Ply Fastener installed 8-inch o.c. in the laps, 8-inch o.c. in two (2) staggered rows in the field	HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
LS-M-9	G33, P, L6, S18	Min. 360 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	Channel Venting Base, SBS Base, SBS Glass Torch Base, SBS Glass Torch Base 1.5 or SBS PolyTorch Base	1.8-inch Two-Piece Impact Nail installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS Ply, or	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
LS-M-10	G33, F1, L6, S18	Min. 370 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	MA Base IV	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in-lap and 7-inch o.c. in two (2) equally spaced, staggered rows in the field	TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
LS-M-11	G33, P, L6, S18	Min. 300 psi Celcore MF with HS Rheology Admixture over a deck treated with Celcore S-1	MA Base	1.7-inch LWC Base-Ply Fastener installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Recover Assemblies with Adhered Membranes over Fastened Insulation							
System No.	Deck Detail	Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
R-AM-1	Steel Deck (G33, F1, L6, S24) or Concrete Deck	ISO HD	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
R-AM-2	Min. 300 psi LWIC over Steel Deck (G33, F1W, L5, S12) or Concrete Deck	Min. 2-inch ISO	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
R-AM-3	Steel Deck (G33, P, L6, S24) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 15 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
R-AM-4	Steel Deck (G33, F1, L6, S24) or Concrete Deck	SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 18 per 4 ft x 8 ft board	HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
R-AM-5	Steel Deck (G33, F1, L6, S24) or Concrete Deck	SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
R-AM-6	Steel Deck (G33, P, L6, S24) or Concrete Deck	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
R-AM-7	Steel Deck (G33, P, L6, S24) or Concrete Deck	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 24 per 4 ft x 8 ft board	HA SBS BUR Ply, or TA SBS Ply	OPTIONAL BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
R-AM-8	Steel Deck (G33, F1, L6, S24) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 18 per 4 ft x 8 ft board	HA SBS Ply or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
R-AM-9	Steel Deck (G33, F1, L6, S24) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
R-AM-10	Steel Deck (G80, F1, L6, S30) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 22 per 4 ft x 8 ft board	TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS BUR Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-90 (Lim. 7)

Recover Assemblies with Adhered Membranes over Fastened Insulation							
System No.	Deck Detail	Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
R-AM-11	Steel Deck (G33, F1, L6, S30) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 22 per 4 ft x 8 ft board	TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS BUR Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-90 (Lim. 7)
R-AM-12	Steel Deck (G80, F2, L6, S12) or Concrete Deck	Min. 0.5-inch SECUROCK	AP Fasteners & Plates for Steel Deck or CD Fasteners & Plates or HD Fasteners & Insulation Plates for Concrete Deck at 32 per 4 ft x 8 ft board	TA SBS Ply	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-150 (Lim. 7)

Recover Assemblies with Mechanically Fastened Base Sheet							
System No.	Deck Detail	Existing Roof	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
R-M-1	Gypsum Deck	-	SBS Poly Torch Base with 6-inch wide torch adhered side laps fully encapsulating batten bar	Trufast Twin Loc-Nail Batten Fastener with minimum 1.8-inch penetration into gypsum installed 6-inch o.c. along the Trufast Twin Loc Coiled Batten Bar, Batten bar placed in-lap, 33.4-inch o.c.	OPTIONAL TA SBS Ply	TPO XR HA; or TPO XR ISR adhered 33.4-inch o.c. over base sheet side laps	-30 (Lim. 7; Non-HVHZ)
R-M-2	Steel Deck (G33, P, L6, S18) or Concrete Deck	Min. 380 psi Celcore MF with HS Rheology Admixture	SBS Base Sheet	Two-Piece Impact Nail with minimum 1.8-inch penetration into LWIC installed 8-inch o.c. in the laps, 8-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
R-M-3	Steel Deck (G33, P, L6, S18) treated with Celcore S-1	Min. 420 psi Celcore MF with HS Rheology Admixture	MA Base IV	Two-Piece Impact Nail with minimum 1.8-inch penetration into LWIC installed 9-inch o.c. in-lap and 9-inch o.c. in two (2) staggered rows in the field	TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
R-M-4	Steel Deck (G33, P, L6, S18)	Min. 360 psi Celcore MF with HS Rheology Admixture	MA Base IV (no SBS Base-P)	Two-Piece Impact Nail with minimum 1.8-inch penetration into LWIC installed 7-inch o.c. in the laps, 7-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
R-M-5	Steel Deck (G33, P, L6, S24) or Concrete Deck	Min. 190 psi Elastizell	MA Base III	AP Fasteners and Plates installed 12-inch o.c. in the laps, 12-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Recover Assemblies with Mechanically Fastened Base Sheet							
System No.	Deck Detail	Existing Roof	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
R-M-6	Concrete Deck	Min. 190 psi Elastizell	MA Base III	CD Fasteners & Plates or HD Fasteners & Insulation Plates installed 12-inch o.c. in the laps, 12-inch o.c. in two (2) staggered rows in the field	BASEGARD, HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over Steel Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
S-AM-1	G33	ISO or ISO GF	Min. 0.5-inch Structodek High Density Fiberboard	HD Fasteners & Plates at 8 per 4 ft x 4 ft board	HA SBS BUR Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-30 (Lim. 7; Non-HVHZ)
S-AM-2	G33, L6, S24	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	AP Fasteners & Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-37.5 (Lim. 7; Non-HVHZ)
S-AM-3	G33	DensDeck Prime secured with CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board followed by V-Force	Min. 1.5-inch ISO	I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
S-AM-4	G33	DensDeck Prime secured with CD Fasteners & Plates or HD Fasteners & Insulation Plates at 8 per 4 ft x 8 ft board followed by V-Force	Layer 1: ISO (Tapered) Layer 2: ISO HD or DensDeck Prime,	Layer 1 & Layer 2 adhered in I.S.O. Stick applied in ribbons spaced 12-inch o.c.	BASEGARD or TA SBS Ply w/DensDeck Prime only	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
S-AM-5	G33, P, L6, S24	OPTIONAL ISO or ISO GF	Min. 2-inch ISO	AP Fasteners & Plates at 12 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)

Assemblies with Adhered Membranes over Fastened Insulation over Steel Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
S-AM-6	G33	OPTIONAL ISO or ISO GF	SECUROCK	AP Fasteners & Plates at 10 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
S-AM-7	G33	OPTIONAL ISO or ISO GF	Min. 0.375-inch SECUROCK	AP Fasteners & Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
S-AM-8	G33, P, L6, S24	Min. 1.5-inch ISO or ISO GF AP Fasteners & Plates at 18 per 4 ft x 8 ft board	ISO HD	Insulation Adhesive; Ribbons spaced 12-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7)
S-AM-9	G33, F1, L6, S24	Min. 1.5-inch ISO or ISO GF attached with AP Fasteners & Plates at 20 per 4 ft x 8 ft board	Min. 0.5-inch DensDeck Prime or SECUROCK	Insulation Adhesive; Ribbons spaced 6-inch o.c.	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-AM-10	G33, P, L6, S24	OPTIONAL ISO or ISO GF	Min. 2-inch ISO HD-C laid perpendicular to flutes with staggered end joints	AP Fasteners & Plates at 8 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-AM-11	G33, P, L6, S24	OPTIONAL ISO or ISO GF	Min 2.5-inch ISO	AP Fasteners & Plates at 15 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-AM-12	G33, F1, L6, S24	Min. 1-inch ISO or ISO GF	ISO HD	AP Fasteners & Plates at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-AM-13	G33, L6, F1, S12	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	DensDeck Prime	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-AM-14	G33, F1, L6, S24	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	AP Fasteners & Plates at 12 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over Steel Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
S-AM-15	G33, P, L6, S24	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
S-AM-16	G33, P, L6, S24	Min. 1-inch ISO or ISO GF	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 15 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
S-AM-17	G33, P, L6, S24	Min 0.5-inch ISO 95+GL or ISO GF	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
S-AM-18	G33, P, L6, S24	Min. 2-inch ISO 95 + GL secured with AP Fasteners & Plates at 18 per 4 ft x 8 ft board followed by min. 0.5-inch ISO adhered in I.S.O. Stick with ribbons at 6-inch o.c.	0.5-inch SECUROCK	I.S.O. Stick; Ribbons spaced 6-inch o.c.	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
S-AM-19	G33, F1, L6, S24	One or more layers of ISO or ISO GF	SECUROCK	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
S-AM-20	G33, F1, L6, S24	One or more layers of ISO or ISO GF	SECUROCK	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
S-AM-21	G33, F1, L6, S24	OPTIONAL ISO or ISO GF	Min. 1-inch ISO GF or Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 20 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
S-AM-22	G33, L6, F1, S12	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply II	OPTIONAL TA SBS Ply or HA SBS BUR Ply II	TPO XR HA or TPO XR ISR	-67.5 (Lim. 7)
S-AM-23	G33, P, L6, S24	One or more layers of ISO or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 24 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
S-AM-24	G33, P, L6, S24	One or more layers of ISO or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 24 per 4 ft x 8 ft board	HA SBS BUR Ply, or TA SBS Ply	OPTIONAL BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over Steel Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
S-AM-25	G33, F1, L6, S24	One or more layers of ISO or ISO GF	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
S-AM-26	G33, F1, L6, S24	One or more layers of ISO or ISO GF	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
S-AM-27	G33, F1, L6, S24	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO HD-C	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
S-AM-28	G33, L6, F1, S12	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 20 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
S-AM-29	G80, F1, L6, S30	Min. 1.5-inch ISO	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 22 per 4 ft x 8 ft board	TA Ply (min. 3.75-inch side laps)	OPTIONAL HA SBS BUR Ply, or TA SBS Ply (min. 3.75-inch side laps)	TPO XR HA or TPO XR ISR	-90 (Lim. 7)
S-AM-30	G33, P, L6, S24	OPTIONAL ISO or ISO GF	Min 2.5-inch ISO-	AP Fasteners & Plates at 32 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-97.5 (Lim 7)
S-AM-31	G80, L6, F1W, S12	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 24 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply	OPTIONAL TA SBS Ply or HA SBS BUR Ply	TPO XR HA or TPO XR ISR	-97.5 (Lim. 7)
S-AM-32	G80, F2, L6, S12	Min. 1.5-inch ISO	Min. 0.5-inch SECUROCK	AP Fasteners & Plates at 32 per 4 ft x 8 ft board	TA SBS Ply	OPTIONAL TA SBS Ply	TPO XR HA or TPO XR ISR	-150 (Lim. 7)
S-AM-33	G80, L5.9, F2W, S12 or 20GA, G80, L6, F2W, S12	OPTIONAL Min. 2-inch ISO, ISO (Tapered) or ISO GF	Min. 0.5-inch DensDeck Prime	AP Fasteners & Plates at 32 per 4 ft x 8 ft board	TA SBS Ply or HA SBS BUR Ply II	OPTIONAL TA SBS Ply or HA SBS BUR Ply II	TPO XR HA or TPO XR ISR	-157.5 (Lim. 7)

Mechanically Fastened Assemblies over Steel Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
S-M-1	N/A	Min. 1.5-inch Insulation	OPTIONAL Cover Board	SBS Poly Base (Min. 3-inch side laps)	Heavy Duty Fasteners and 1-inch Coiled Metal Batten strip fastened 24-inch o.c. at the laps	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
S-M-2	G33, F1, L6, S12	Min. 1.5-inch Insulation	OPTIONAL Cover Board	SBS Poly Base (Min. 3-inch side laps)	Heavy Duty Fasteners and 1-inch Coiled Metal Batten strip fastened 18-inch o.c. at the laps	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
S-M-3	G33, F1, L6, S24	Min. 1-inch Insulation	OPTIONAL Cover Board	SBS Base Sheet	AP Fasteners and Plates at 12-inch o.c. in the lap and two (2) equally spaced, staggered rows 12-inch o.c. in the field of the roll	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
S-M-4	G33, F1, L6, S24	Min. 1-inch Insulation	OPTIONAL Cover Board	SBS Base Sheet	AP Fasteners and Plates at 12-inch o.c. in the lap and two (2) equally spaced, staggered rows 12-inch o.c. in the field of the roll	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
S-M-5	G33, F1, L6, S24	Min. 1.5-inch Insulation	OPTIONAL Cover Board	SBS Base-P, SBS Premium Base, SBS Poly Base, SBS Smooth	AP Fasteners and Plates at 12-inch o.c. in the lap and two (2) equally spaced, staggered rows 12-inch o.c. in the field of the roll	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Assemblies with Adhered Membranes over Fastened Insulation over Wood Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Insulation Attachment	Base Ply	Ply Sheet	Membrane	MDP (psf)
W-AM-1	T19/32, L24	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO GF	AP Fasteners & Plates at 12 per 4 ft x 8 ft board	BASEGARD	OPTIONAL BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-45 (Lim. 7; Non-HVHZ)
W-AM-2	T19/32, L24, N6	OPTIONAL ISO or ISO GF	Min. 1.5-inch ISO GF	AP Fasteners & Plates at 18 per 4 ft x 8 ft board	BASEGARD	OPTIONAL HA SBS BUR Ply or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)

Mechanically Fastened Assemblies over Wood Deck (New, Existing, or Recover)								
System No.	Deck Detail	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Membrane	MDP (psf)
W-M-1	T19/32, L24	OPTIONAL Insulation	OPTIONAL Cover Board	MA Base	AP Fasteners & Plates at 18-inch o.c. in the lap and two (2) equally spaced, staggered rows 18-inch o.c. in the field of the roll	BASEGARD or TA SBS Ply	TPO XR HA or TPO XR ISR	-37.5 (Lim. 7; Non-HVHZ)
W-M-2	T19/32, L24, N6	-	-	MA Base	12 ga. x 1.25-inch ring shank nails and 32 ga. x 1-5/8-inch tin tabs at 9-inch o.c. in the lap and three (3) equally spaced, staggered rows 9-inch o.c. in the field of the roll	TA SBS Ply	TPO XR HA or TPO XR ISR	-52.5 (Lim. 7)
W-M-3	T19/32, L24, N6	OPTIONAL Insulation	OPTIONAL Cover Board	MA Base II Min. 3.5-inch side lap	AP Fasteners & Plates at 12-inch o.c. in the lap and two (2) equally spaced, staggered rows 12-inch o.c. in the field of the roll	BASEGARD, HA SBS BUR Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-60 (Lim. 7)
W-M-4	T19/32, L24, N6	OPTIONAL Insulation	OPTIONAL Cover Board	MA Base II	AP Fasteners & Plates at 12-inch o.c. in the lap and two (2) equally spaced, staggered rows 12-inch o.c. in the field of the roll	BASEGARD, HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-75 (Lim. 7)
W-M-5	T19/32, L24, N6	-	-	SBS Base, SBS Premium Base, or SBS Poly Base	12 ga. x 1.25-inch ring shank nails and 32 ga. x 1-5/8-inch tin tabs at 6-inch o.c. in the lap and three (3) staggered rows 6-inch o.c. in the field of the roll	HA SBS Ply, or TA SBS Ply	TPO XR HA or TPO XR ISR	-97.5 (Lim. 7)

END OF REPORT