MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Johns Manville Modified Bitumen Roofing Systems over Steel Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 16-0413.21 and consists of pages 1 through 76.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Materials:	SBS
Deck Type:	Steel
Maximum Design Pressure:	-195 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
JM BaseGrip SD/SA	36" x 72’	ASTM D4601	Glass reinforced, self-adhering SBS modified bitumen base sheet
DynaBase	39-3/8” x 49’2”	ASTM D6163	A glass reinforced SBS modified bitumen base sheet.
DynaBase HW	39-3/8” x 49’2”	ASTM D6163	A glass reinforced SBS modified bitumen base sheet for heat welded applications.
DynaBase PR	39-3/8” x 49’2”	ASTM D6164	A polyester reinforced SBS modified bitumen base sheet.
DynaBase XT	39-3/8" x 49’-2”	ASTM D6163	A glass reinforced SBS modified bitumen base or inner ply sheet.
DynaClad	39-3/8" x 33’10”	ASTM D6298	A glass reinforced base sheet SBS modified bitumen membrane surfaced with foil.
DynaFast 180 HW	39-3/8” x 49’2”	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaFast 180 S	39-3/8” x 49’2”	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaFast 250 HW	39-3/8” x 32’10”	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaGlas	39-3/8" x 32’-10"	ASTM D6163	A glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas 30 FR	39-3/8" x 32’-10”	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas FR	39-3/8" x 32’-10”	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas FR CR	39-3/8" x 32’-10”;	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.

Product	Dimensions	Test Specification	Product Description
DynaGlas FR CR G	39-3/8" x 32'10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaGlas FR XT	39-3/8" x 32'-10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGrip Base SD/SA	39-3/8" x 65'-7"	ASTM D4601	Glass reinforced, self-adhering SBS modified bitumen base sheet
DynaKap FR T1	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaKap FR T1 CR G	39-3/8" x 32'10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaKap FR T1 HW CR G	39-3/8" x 32'10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules with cool roof coating for use in heat weld applications.
DynaLastic 180	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR CR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR CR G	39-3/8" x 32'10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaLastic 180 S	39-3/8" x 32'10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaLastic 250 FR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 250 FR CR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
DynaLastic 250 FR CR G	39-3/8" x 32'10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a reflective white coating.
DynaLastic 250 S	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.

Product	Dimensions	Test Specification	Product Description
DynaMax FR	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR CR	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR Plus	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR HW	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR HW CR	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax S	39-3/8" x 32'-10"	ASTM D6162	A composite reinforced SBS modified bitumen base or inner ply sheet.
DynaPly T1	39-3/8" x 32'-10"	ASTM D6162	A composite reinforced SBS modified bitumen base or inner ply sheet.
DynaWeld 180 S	39-3/8" x 32'-10"	ASTM D6162	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaWeld 250 S	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaWeld Base	39'-3/8" x 32'-10"	ASTM D6163	A glass reinforced SBS modified bitumen base sheet for heat welded applications.
DynaWeld Cap	39'-3/8" x 32'-10"	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR CR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 250	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.

Product	Dimensions	Test Specification	Product Description
DynaWeld Cap 250 FR	39-3/8" x 32’-10”	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 250 FR CR	39-3/8" x 32’-10”	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
DynaWeld Cap 250 FR CR G	39-3/8" x 32’10”	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a reflective white coating for use in heat weld applications.
DynaWeld Cap FR	39’-3/8” x 32’-10”	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap FR CR	39’-3/8” x 32’-10”	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
DynaWeld Cap FR CR G	39-3/8" x 32’10”	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a white reflective coating for use in heat weld applications.
DynaWeld Cap FR XT	39-3/8" x 32’10”	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
GlasBase Plus	36" x 108'	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
GlasKap	36” x 36’	ASTM D3909	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasKap Plus	36” x 36’	ASTM D3909	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasPly IV	36" x 180'	ASTM D2178	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
GlasPly Premier	36" x 180'	ASTM D2178	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.

Product	Dimensions	Test Specification	Product Description
PermaPly 28	36" x 106'	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Ventsulation Felt	36" x 36'	ASTM D4897	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer. Surfaced on the bottom side with coarse mineral granules embedded in asphaltic coating.
FesCant Plus Cant Strips, and Taper Edge	various	ASTM C728	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
MBR Bonding Adhesive	N/A	proprietary	A two-component urethane cold application adhesive.
MBR Cold Application Adhesive	5, 55, and 350 gal.	ASTM D3019 Type III	One-part, elastomeric cold application adhesive
JM Two Part Urethane Insulation Adhesive	N/A	Proprietary	A two-part urethane insulation adhesive
JM Roofing System Urethane Adhesive	Various	Proprietary	A two-component, cold-applied adhesive
JM One-Step Foamable Adhesive	N/A	Proprietary	A two-part urethane insulation adhesive
Bestile Industrial Roof Cement	various	ASTM D4586 Type I	A trowel grade, cutback bitumen flashing grade cement mixture including inorganic fibers and mineral stabilizers.
USII RetroDrain	various	N/A	One piece, aluminum fabricated drain for retro-fit applications.
Hercules RetroDrain	various	N/A	Cast aluminum, heavy-duty drain for retro-fit applications.
DynaTred & DynaTred Plus Roof Walkway	various	N/A	Preformed, skid-resistant boards.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3.E	Polyisocyanurate Insulation.	Johns Manville
ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI	Polyisocyanurate Insulation with glass reinforced facers	Johns Manville
ENRGY 3 FR, ENRGY 3 FR 25 PSI	Polyisocyanurate Insulation with inorganic coated glass reinforced facers; bottom face is premium coated for combustible decks.	Johns Manville
Fesco Foam, DuraFoam	Polyisocyanurate Insulation with perlite facer	Johns Manville
Retro-Fit Board, DuraBoard, RetroPlus Roof Board	High-density perlite roof insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Invinsa Roof Board, Invinsa FR Roof Board	High density polyisocyanurate board	Johns Manville
JM SECUROCK Gypsum-Fiber Roof Board	Rigid, gypsum-based board stock	Johns Manville
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum, LLC

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast Fastener	Insulation fastener for wood and steel.	#12 x 8" Max. Length, #3 Phillips head	Johns Manville
2.	UltraFast ASAP	Pre-assembled Insulation fastener and plate	Various	Johns Manville
3.	UltraFast 3" Round Metal Plate or UltraFast Square Metal Plate	Galvalume AZ55 steel plate	3" round & 3" square	Johns Manville
4.	UltraFast Plastic Plate	High Density Polyolefin round plate	3" round	Johns Manville
5.	High Load Fasteners	Insulation and membrane fastener for steel, wood or concrete	#15 x 14" Max. Length #3 Phillips head	Johns Manville
6.	High Load Plate	Steel Seam plate with reinforcing ribs and eyehooks	2-3/8" round	Johns Manville
7.	High Load LH	#15 Large Head fastener for steel, wood, or concrete	#15 x 14" Max. Length	Johns Manville
8.	Polymer Membrane Batten	Membrane anchors plastic strips	1" x 250' coil	Johns Manville
9.	APB Plates	Steel Seam plate with reinforcing ribs and barbs	2" round	Johns Manville
10.	Trufast Deep Well Coiled Batten Bar	galvalume coated steel membrane batten	1" x 100' coil	Altenloh, Brink & Co. U.S., Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
FM Approvals	3001482	FM 4470	08/11/98
	3002823	FM 4470	04/01/99
	3007148	FM 4450	04/19/00
	3009499	FM 4470	04/04/01
	3011248	FM 4470	11/01/02
	3001457	FM 4470	04/04/02
	3014090	FM 4470	09/05/02
	3012974	FM 4450	06/03/02
	3020600	FM 4470	01/21/05
	3026130	FM 4470	04/26/06
	3026151	FM 4470	08/15/06
	3026728	FM 4470	11/22/06
	3026130	FM 4470	04/26/06
	3029831	FM 4470	06/21/07
	3036559	FM 4470	10/02/09
	3037222	FM 4470	10/02/09
	3037540	FM 4470	10/20/10
	3040986	FM 4470	09/23/11
	3043824	FM 4470	04/06/12
	3046174	FM 4470	04/03/13
	3052113	FM 4470	08/29/14
	3053754	FM 4470	03/04/15
	3054150	FM 4470	05/13/15
UL LLC	R10167	UL 790	05/12/21
Exterior Research & Design, LLC.	02843.02.05-10	TAS 114	02/10/05
	02843.02.05-10-R1	ASTM D903	02/07/07
Trinity|ERD	J7670.06.08	ASTM D3909	06/16/08
	J45020.07.13	TAS 114 (J)	07/12/13
	JM-11190.03.16	TAS 114 (J)	03/11/16
PRI Construction Materials Technologies, LLC	JMC-065-02-01	ASTM D6163	05/29/12
	JMC-066-02-01	ASTM D6163	06/04/12
	JMC-069-02-01	ASTM D3909	06/04/12
	JMC-070-02-01	ASTM D2178	04/17/12
	JMC-071-02-01	ASTM D2178	04/17/12
	JMC-072-02-02.1	ASTM D4601	05/25/16
	JMC-074-02-01	ASTM D4897	04/17/12
	JMC-075-02-04.3	ASTM D6164	03/29/16
	JMC-078-02-01	ASTM D6298	07/17/12
	JMC-081-02-01.02	TAS 117 B & C	06/11/12
	JMC-091-02-01.1	ASTM D4601	05/26/16
	JMC-093-02-01	ASTM D4601	08/02/12
	JMC-105-02-02 Rev 1	ASTM D6162	05/22/13
	JMC-106-02-01	ASTM D6164	04/15/13
	JMC-107-02-01.7	ASTM D903/D1876/D5147 TAS 114(C)/TAS 117 A & B	03/31/16
	JMC-108-02-01	TAS 114 (J)	04/16/13

EVIDENCE SUBMITTED: (CONTINUED)

Test Agency/Identifier	Name	Report	Date
PRI Construction Materials Technologies, LLC	JMC-113-02-01	ASTM D6164	04/19/13
	JMC-114-02-01	TAS 114 (J)	05/13/13
	JMC-147-02-01	ASTM D4601	05/28/13
	JMC-168-02-01	TAS 114 (J)	08/20/13
	JMC-171-02-01	ASTM D6163	01/10/14
	JMC-171-02-02	ASTM D6163	01/10/14
	JMC-171-02-03	ASTM D6164	01/10/14
	JMC-171-02-04.1	ASTM D6163	05/26/16
	JMC-171-02-07.1	ASTM D6164	05/26/16
	JMC-171-02-10	ASTM D6162	01/10/14
	JMC-171-02-11	ASTM D6164	03/14/14
	JMC-227-02-01.3	ASTM D6162	06/29/16
	JMC-234-02-01.2	ASTM D6162	06/29/16
	JMC-234-02-02	ASTM D6163	04/29/15
	JMC-234-02-03.1	ASTM D6163	05/26/16
	JMC-234-02-04	ASTM D6162	03/23/16
	JMC-234-02-05	ASTM D6164	04/29/15
	JMC-234-02-06.1	ASTM D6164	05/26/16
	JMC-238-02-01.1	ASTM D6163	06/29/16
	JMC-238-02-03	ASTM D6164	12/01/15
	JMC-238-02-04	ASTM D6162	03/31/16
	JMC-243-02-01	ASTM D5147/D4798	02/29/16
	JMC-268-02-01	TAS 114(J)	03/30/16
	JMC-272-02-01	TAS 114(J)	04/07/16
	JMC-242-02-02	TAS 114(D)	11/18/15
	ADCO-001-02-01	Physical Properties	06/16/13
Atlantic & Caribbean Roof Consulting, LLC.	ACRC 06-003	TAS 114	03/27/06

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

Engineer/Agency	Identifier	Assemblies	Date
FM Approval Deck Limitations	N/A	B(1), B(2), B(3), B(4), B(5), B(6), B(7), B(9), B(10), B(11), B(12), B(13), C(1), C(2), C(4), C(8), C(9), C(10), D(1), D(3), D(4), D(5), D(6), D(7), D(8), D(9), D(10), D(11)	01/01/13
Robert Nieminen, P.E.	Signed/Sealed Calculations	B(8), C(7)	03/11/16
Zachary R. Priest, P.E.	Signed/Sealed Calculations	C(5)	03/30/16
		C(6)	04/07/16
Zachary R. Priest, P.E.	Signed/Sealed Calculations	C(3), D(2), D(12)	05/06/16
		D(13), D(14), D(15), D(16), D(17), D(18), D(19)	04/23/16
		D(20), D(21)	04/25/16

APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Grade 33 steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with Buildex Traxx/5 fasteners spaced max. 6 in. o.c. at the supports. Side laps are secured with Buildex Traxx/1 fasteners spaced max. 30 in o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(1): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	**1 with 3 or 2**	**1:1.45 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Retro-Fit Board, RetroPlus Roof Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of PermaPly 28 (to Retro-Fit with asphalt only), DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, or GlasBase Plus (to Retro-Fit with asphalt only) adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Or
MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal./sq.

Ply Sheet:	(Optional unless a GlasKap membrane listed in the membrane options is used.) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal./sq. Or One ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One or more plies of DynaGlas FR CR, DynaGlas FR CR G, DynaKap FR T1, DynaKap FR T1 CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180, FR CR G, DynaLastic 180 S, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive applied at a rate of 1.5-2.0 gal./sq. Or One ply DynaWeld Cap FR, DynaWeld Cap FR XT, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded. Or (Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or, GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq. 2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-75 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga. type B, Grade 33 steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. at each bearing using Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type B(2): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3 or 2**	**1:1.78 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Retro-Fit Board, RetroPlus Roof Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of PermaPly 28 (to Retro-Fit with asphalt only), DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, or GlasBase Plus (to Retro-Fit with asphalt only) adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal./sq.

Ply Sheet:	(Optional if base sheet used unless a GlasKap membrane listed in the membrane options is used.) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal./sq. Or One ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One or more plies of DynaGlas FR CR, DynaGlas FR CR G, DynaKap FR T1, DynaKap FR T1 CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180, FR CR G, DynaLastic 180 S, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive applied at a rate of 1.5-2.0 gal./sq. Or One ply DynaWeld Cap FR, DynaWeld Cap FR XT, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded. Or (Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or, GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq. 2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-60 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18 ga., Grade 33, steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. using Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(3): Base layer of insulation mechanically fastened; top layer fully adhered with adhesive.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3 or 4**	**1:1 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet:

One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S or PermaPly 28 adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or,
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Surfacing:	(Optional with FR membranes) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-82.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., Type B, Grade 80 steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. using Teks 4 or Teks 5 fasteners. Deck side laps are attached 30" o.c. using Teks 1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(4): Base layer of insulation mechanically fastened; top layer fully adhered with adhesive.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.33 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, GlasPly IV, or GlasPly Premier adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or,
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Surfacing:	(Optional with FR membranes) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-67.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Grade 33 steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. using two ICH Traxx/5 fasteners and ¾" washers. Deck side laps are attached 24" o.c. using ICH Traxx/1 fasteners. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type B(5): Base layer of insulation mechanically fastened; top layer fully adhered with adhesive.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.78 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive, or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet:

One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, GlasPly IV, or GlasPly Premier adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or,
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Surfacing:	(Optional with FR membranes) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-52.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Grade 80 steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached max. 6" o.c. using Teks 4 or Teks 5 fasteners at the supports. Deck side laps are attached max. 30" o.c. using Teks 1 fasteners. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type B(6): Base layer of insulation mechanically fastened; top layer fully adhered with adhesive.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.78 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive, or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet:

One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, GlasPly IV, or GlasPly Premier adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or,
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Surfacing:	(Optional with FR membranes) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-60 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Grade 80 steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached max. 6" o.c. using Traxx/5 fasteners. Deck side laps are attached max. 24" o.c. using Traxx/1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(7): Base layer of insulation mechanically fastened; top layer fully adhered with adhesive.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2.0" thick	**1 with 3**	**1:1.45 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet:

One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, GlasPly IV, or GlasPly Premier adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Surfacing:	(Optional with FR membranes) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-90 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 40 steel attached to structural supports spaced maximum 6 ft o.c. with 5/8-inch puddle welds spaced 6" o.c. Side laps stiched with Tek/1 screws, spaced maximum 20 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(8): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.45 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Invinsa Roof Board		
Minimum 0.25" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with JM Roofing System Urethane Adhesive or JM Two Part Urethane Adhesive, applied in 3/4" to 1" continuous ribbons 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: DynaGrip Base SD/SA fully bonded by self-adhering.

Ply Sheet: (Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq.
Or
One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering

Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering
Maximum Design Pressure:	-52.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel attached to structural supports spaced maximum 6 ft o.c. with two (2) Traxx/5 fasteners and 3/4" OD washers spaced 6" o.c. Side laps stiched with Traxx/1 screws or button puch, spaced maximum 12 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(9): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with hot asphalt applied in EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or JM Two Part Urethane Insulation Adhesive or JM One-Step Foamable Adhesive applied in 3/4" ribbons spaced maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Maximum Design Pressure: -90 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel attached to structural supports spaced maximum 6 ft o.c. with Teks 4 ot Teks 5 spaced 6" o.c. Side laps stiched with Teks 1 screws spaced maximum 30 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(10): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.33 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with hot asphalt applied in EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or JM Two Part Urethane Insulation Adhesive or JM One-Step Foamable Adhesive applied in 3/4" ribbons spaced maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Maximum Design Pressure: -67.5 psf. (See general limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel attached to structural supports spaced maximum 6 ft o.c. with Teks 4 ot Teks 5 spaced 6" o.c. Side laps stiched with Teks 1 screws spaced maximum 30 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(11): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.78 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with hot asphalt applied in EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or JM Two Part Urethane Insulation Adhesive, or JM One-Step Foamable Adhesive applied in 3/4" ribbons spaced maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Maximum Design Pressure: -52.5 psf. (See general limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 33 steel attached to structural supports spaced maximum 6 ft o.c. with Teks 4 ot Teks 5 spaced 6" o.c. Side laps stiched with Teks 1 screws spaced maximum 30 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(12): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.78 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with hot asphalt applied in EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or JM Two Part Urethane Insulation Adhesive or JM One-Step Foamable Adhesive applied in 3/4" ribbons spaced maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Maximum Design Pressure: -60 psf. (See general limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel attached to structural supports spaced maximum 6 ft o.c. with Traxx/5 spaced 6" o.c. Side laps stiched with Traxx/1 screws spaced maximum 24 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(13): Base layer of insulation mechanically fastened; top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	**1 with 3**	**1:1.45 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with hot asphalt applied in EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or JM Two Part Urethane Insulation Adhesive or JM One-Step Foamable Adhesive applied in 3/4" ribbons spaced maximum 12" o.c. Apply continuous ribbons 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with asphalt applied in the EVT range at a rate of 20-40 lbs./sq., MBR Bonding Adhesive applied at 2.0 gal./sq., or MBR Cold Application Adhesive applied at 1.5-2 gal./sq.

Maximum Design Pressure: -90 psf. (See general limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga. Grade 33 steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with Buildex Traxx/4 or Traxx/5 fasteners spaced max. 6 in. o.c. at the supports. Side laps are secured with Buildex Traxx/1 fasteners spaced max. 30 in o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(1): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
DuraBoard		
Minimum ¾" thick	**1 with 3 or 2**	**1:1.33 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW heat welded.

Ply sheet: (Optional) One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga. Grade 80 Type B steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. using Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(2): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	**1 with 3**	**1:1.33 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Ply Sheet: (Optional) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or hot asphalt applied in EVT range at a rate of 20-40 lbs./sq.
Or
One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S adhered with MBR Cold Application Adhesive at an application rate of 1.5 gal./sq.
Or
One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.

Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 S, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaPly TI, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered with MBR Bonding Adhesive or MBR Cold Application Adhesive at an application rate of 1.5 gal./sq. or hot asphalt applied in EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap, DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., type B, Grade 80 steel deck shall be secured 6" o.c. to structural supports spaced a maximum of 6 ft. on centers with Traxx/5 screws. Deck side laps attached 30" o.c. using Traxx/1 screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(3): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, Fesco Foam, DuraFoam, Minimum 2.0" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	**1 with 3 or 2**	**1:1.78 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of PermaPly 28, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
Or,
One ply of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S adhered to the insulated substrate with MBR Cold Application Adhesive at an application rate of 1.5 gal./sq.
Or
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	(Optional unless a GlasKap membrane listed in the membrane options is used.) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. Or One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S adhered with MBR Cold Application Adhesive at an application rate of 1.5 gal./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One or more plies of DynaGlas FR CR, DynaGlas FR CR G, DynaKap FR T1, DynaKap FR T1 CR G, DynaMax FR, DynaMax FR CR, DynaMax Plus, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., MBR Bonding Adhesive at an application rate of 1.5 gal./sq., MBR Cold Application Adhesive at an application rate of 1.5 gal./sq. Or One ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded. Or (Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq. 2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-75 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 18 ga., Grade 33 Steel deck fastened to ¼" supports spaced maximum 6 ft. o.c. with two ICH Traxx/5 fasteners spaced 6" o.c. maximum and with side laps fastened with ICH Traxx/1 fasteners spaced 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(4): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See top layer below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**1 with 3**	**1:1.45 ft²**

Note: Insulation panels listed are minimum sizes and dimensions. If larger panels are used, the number of fasteners shall be increased using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, GlasPly IV, GlasPly Premier, DynaLastic 180 S or DynaLastic 250 S adhered to the insulated substrate with MBR Cold Application Adhesive applied at an application rate of 1.5 – 2.0 gal./sq.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or,
One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Or
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One or more plies of DynaWeld 180 S, DynaWeld Base, DynaBase HW, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
Membrane:	One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered with MBR Cold Application Adhesive or MBR Bonding Adhesive at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq. Or, One ply of DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Maximum Design Pressure:	-82.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 33 steel deck installed over structural supports spaced maximum of 6-ft o.c. with minimum 5/8-inch diameter puddle welds at each flute; Deck sides laps stitched maximum 24" o.c. with 1/4" – 14 x 7/8" HWH screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(5): All layers of insulation simultaneously mechanically fastened

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 3**	**1:1.45 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA fully bonded by self-adhering with minimum 4" side laps.
Or
DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaMax S, or DynaLastic 250 S fully bonded in MBR Cold Application Adhesive applied at a rate of 1.5 gal./sq. with minimum 3" side laps.

Ply sheet:	(Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.
.	
Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering.
Maximum Design Pressure:	-67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 33 steel deck installed over structural supports spaced 6-ft o.c. with minimum 5/8-inch diameter puddle welds and welded to structural supports at each flute; Deck sides laps stitched maximum 24" o.c. with 1/4" – 14 x 7/8" HWH screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(6): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum Fiber Roof Board		
Minimum 0.25" thick	**1 with 3**	**1:1.45 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with minimum 4" side laps.
Or
One or more plies of GlasPly Premier (hot asphalt only), DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180S, DynaFast 180 S, DynaPly T1, DynaMax S, DynaLastic 250 S applied in hot asphalt within EVT range at a rate of 20-25 lbs./sq. or MBR Cold Application Adhesive at rate of 1.5 gal./sq. with minimum 4" side laps.
Or
One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW torch adhered with minimum 4" slide laps.

Ply sheet:	(Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.
Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal./ sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering
Maximum Design Pressure:	-60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 40 steel attached to structural supports spaced maximum 6 ft o.c. with minimum 5/8-inch puddle welds spaced maximum 6" o.c.. Side laps stiched with Tek/1 screws, spaced maximum 20 inch o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(7): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum Fiber Roof Board		
Minimum 0.25" thick	**1 with 3**	**1:1.78 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq.
Or
One or more plies of DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering
Or \
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply sheet:	(Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.
Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering
Maximum Design Pressure:	-60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga. (See MDP for Gauge and Grade) steel decking over ¼" thick steel supports spaced maximum of 6 ft. o.c. attached 6" o.c. using Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(8): All layers of insulation simultaneously mechanically fastened.

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK		
Minimum ½" thick	**1 with 3**	**1:1.0 ft²**

Note: Top layer of insulation shall be adhered with JM Two-Part Urethane Insulation Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW heat welded to the insulated substrate.
Or
One ply of GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S, PermaPly 28, or Ventsulation Felt adhered to the insulated substrate with MBR Bonding Adhesive applied at an application rate of 1.5 gal./sq. or approved mopping asphalt at an application rate of 20-40 lb./sq.
Or
One ply of DynaGrip Base SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet:	(Optional) One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded. Or One or more plies of DynaPly T1, DynaBase, DynaBase PR, DynaBase XT, DynaMax S, DynaLastic 180 S, DynaFast 180 S, GlasPly IV, GlasPly Premier or DynaLastic 250 S fully adhered to the base sheet with MBR Bonding Adhesive applied at an application rate of 1.5 – 2.0 gal./sq. or approved mopping asphalt at an application rate of 20-40 lbs./sq.
Membrane:	One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded. Or One ply of DynaKap FR T1, DynaKap FR T1 CR G, DynaClad, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaGlas 30 FR, DynaLastic 180 FR, DynaLastic 180 FR CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaPly T1, DynaLastic 180 S or DynaLastic 250 S fully adhered to the base sheet with MBR Bonding Adhesive fully adhered at an application rate of 1.5 – 2.0 gal./sq. or with approved mopping asphalt at an application rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-82.5 psf. with minimum 18 ga., Grade 33 steel deck (See general limitation #7). -135 psf. with minimum 22 ga., Grade 80 steel deck (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel deck installed over structural supports spaced maximum of 6-ft o.c. with minimum two (2) Traxx/5 fasteners and 3/4" O.D. flat washers at each flute maximum spacing of 6" o.c. Deck sides laps stitched with Traxx/1 fasteners spaced maximum of 24" o.c..
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(9): All layers of insulation simultaneously mechanically fastened

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	**1 with 3**	**1:1.45 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA fully bonded by self-adhering with minimum 4" side laps.
Or
DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaMax S, or DynaLastic 250 S fully bonded in MBR Cold Application Adhesive applied at a rate of 1.5 gal./sq. with minimum 3" side laps.

Ply sheet:	(Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.
Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering.
Maximum Design Pressure:	-90 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type WR, Grade 33 steel deck installed over structural supports spaced maximum of 6-ft o.c. with minimum two Teks 5 fasteners and ¾" OD washers at each flute maximum spacing of 6" o.c. Deck sides laps stitched with Teks 1 fasteners spaced maximum of 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type C(10): All layers of insulation simultaneously mechanically fastened

All General and System limitations apply.

One or more layers of the following insulations:

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 0.5" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	**1 with 3**	**1:1.78 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA fully bonded by self-adhering with minimum 4" side laps.
Or
DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaMax S, or DynaLastic 250 S fully bonded in MBR Cold Application Adhesive applied at a rate of 1.5 gal./sq. with minimum 3" side laps.

Ply sheet:	(Optional) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering.
Membrane:	One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive (not for use with self-adhering base) at a rate of 1.5 gal./sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Type B, Grade 33 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with Tek 5 screws. Side laps attached with Tek 1 screws, 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(1): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base and/or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer (Optional if using 2" base layer)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch-wide laps using High Load Fasteners and High Load Plates spaced 12" o.c. The lap is heat welded.

Ply Sheet: (Optional unless a GlasKap membrane listed in the membrane options is used.)
One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
Or
One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S adhered with MBR Cold Application Adhesive at an application rate of 1.5 gal./sq.
Or
One or more plies DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: One or more plies of DynaGlas FR CR, DynaGlas FR CR G, DynaKap FR T1, DynaKap FR T1 CR G, DynaMax FR, DynaMax FR CR, DynaMax Plus, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive or MBR Cold Application Adhesive at an application rate of 1.5 gal./sq.
Or
One ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Type B WR, Grade 33 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with Tek/5 screws. Side laps attached with Tek/1 screws, 12" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(2): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board, Fiber Glass **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board **Minimum ½" thick**	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi) **Minimum 2" thick**	**N/A**	**N/A**

Top Insulation Layer (Optional):	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DensDeck, DensDeck Prime, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board **Minimum ¼" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: PermaPly 28, GlasBase Plus, DynaBase, DynaBase PR, DynaBase XT, or Ventsulation Felt fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with JM UltraFast screws and UltraFast Metal Plates at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet 12" o.c.

Ply Sheet:	Option 1: Over PermaPly 28 only, one or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet with approved mopping of asphalt within the EVT range and at a rate of 20-40 lbs./sq. Or Option 2: Over GlasBase Plus or PermaPly 28 only, one of DynaGrip Base SD/SA self-adhered to the base sheet with a cap or additional plies applied in hot asphalt by torch adhering Or Option 3: Over SBS base sheets only, one or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive or MBR Bonding Adhesive at a rate of 1.5-2.0 gal./sq. Or Option 4: One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering
Membrane:	One or more plies of DynaGlas FR CR, DynaGlas FR CR G, DynaKap FR T1, DynaKap FR T1 CR G, DynaMax FR, DynaMax FR CR, DynaMax FR Plus, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180, FR CR G, DynaLastic 180 S, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive or MBR Cold Application Adhesive at an application rate of 1.5-2.0 gal./sq. Or One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering Or (Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or GlasKap Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq. 2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
Maximum Design Pressure:	-82.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description:
1. Minimum 18 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 72 in. o.c.
2. Minimum 22 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 62 in. o.c.
3. Minimum 22 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 72 in. o.c.

Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(3): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet Option 1: DynaLastic 180 S or DynaLastic 250 S, DynaFast 250 HW fastened over the 4-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c.

Base Sheet Option 2: DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW fastened over the 5-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c.

Ply Sheet: DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -112.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description:
1. Minimum 18 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 72 in. o.c.
2. Minimum 22 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 62 in. o.c.
3. Minimum 22 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 72 in. o.c.

Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(4): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 4-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c. The lap is heat welded.

Ply Sheet: (Optional) DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -112.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description:
1. Minimum 18 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 72 in. o.c.
2. Minimum 22 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 57 in. o.c.
3. Minimum 22 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 72 in. o.c.

Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(5): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**

Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI **Minimum 1" thick**		

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood **Minimum 5/8" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c. The lap is heat welded.

Ply Sheet: (Optional) DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -135 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Type B, Grade 80 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(6): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c. The lap is heat welded.

Ply Sheet: (Optional) DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -135 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description:

1. Minimum 18 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 70 in. o.c.
2. Minimum 22 gage, Type B, Grade 33 steel deck attached to supports spaced a maximum 54 in. o.c.
3. Minimum 22 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 72 in. o.c.

Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(7): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**
Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood Minimum 5/8" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c.

Ply Sheet: DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane:	DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Maximum Design Pressure:	-150 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 18-22 ga., Type B, Grade 80 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(8): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch-wide laps using High Load Fasteners and High Load Plates spaced 6" o.c.

Ply Sheet: DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.

Maximum Design Pressure: -150 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description:

1. Minimum 18 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 72 in. o.c.
2. Minimum 20 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 71 in. o.c.
3. Minimum 22 gage, Type B, Grade 80 steel deck attached to supports spaced a maximum 63 in. o.c.

Deck secured to structure at every rib (6" o.c.) with two Tek/5 screws and ¾" diameter washers. Side laps attached with four Tek/1 screws evenly spaced between supports maximum spacing of 14.4" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(9): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**
DensDeck, DensDeck Prime, JM SECUROCK Gypsum-Fiber Roof Board **Minimum ½" thick**	**N/A**	**N/A**

Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI **Minimum 1" thick**		

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood **Minimum 5/8" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S, DynaFast 180 S, DynaFast 180 HW, DynaFast 250 HW, or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch-wide laps using High Load Fasteners and High Load Plates spaced 12" o.c. and in three, equally spaced, staggered rows in the field of the sheet at 12" o.c.

Ply Sheet: DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane:	DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Maximum Design Pressure:	-180 psf. with DynaFast as base sheet (See General Limitation #7). -195 psf. with DynaLastic as base sheet (See General Limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Grade 33 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with Traxx/5 screws. Side laps attached with Traxx/1 screws, 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(10): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retro-Fit Roof Board		
Minimum 0.5" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: One ply of DynaLastic 180 S or DynaLastic 250 S fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with High Load Fasteners and APB or High Load Plates, minimum 4" side lap at 12" o.c. Side laps are heat welded.

Ply Sheet: DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining 4" side lap

Cap Sheet: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G torch adhered with minimum 4" wide laps.

Maximum Design Pressure: -67.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Grade 33 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with Traxx/5 screws. Side laps attached with Traxx/1 screws, 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(11): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2.0" thick	**N/A**	**N/A**

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of five fasteners for any insulation board having no dimension greater than 8 ft. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of DynaLastic 180 S or DynaLastic 250 S fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with High Load Fasteners and APB or High Load Plates, minimum 4" side lap at 12" o.c. Side laps are heat welded.

Ply Sheet: DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining 4" side lap.

Cap Sheet: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G torch adhered with minimum 4" wide laps.

Maximum Design Pressure: -67.5 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. Type B, Grade 80 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with two (2) Tek/5 screws with 5/8" washers. Side laps attached with Tek/1 screws, 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(12): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi) Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply of DynaFast 180 S fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with High Load Fasteners and High Load Plates at a minimum 4" side lap at 6" o.c. Side laps are heat welded.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq.

Cap Sheet: One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: -105 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 50 steel deck with supports having a max.6 ft. span, attached with 5/8" diameter puddle welds 6" o.c. along each intermediate support. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type D(13): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi)		
Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and APB Plate or High Load Plate, spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 105 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 80 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with #12-24 x 1-1/4" DP5, HWH SD screws with 3/4" washers.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(14): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi) Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply ofDynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 250 HW a heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 150 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 33 steel deck with supports having a max.6 ft. span, attached with 5/8" diameter puddle welds 6" o.c. along each intermediate support. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type D(15): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi)		
Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 12" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 67.5 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 33 steel deck with supports having a max.6 ft. span, attached with 5/8" diameter puddle welds 6" o.c. along each intermediate support. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type D(16): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi)		
Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply of DynaFast 180 S mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 12" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq

Membrane: One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 67.5 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 40 steel deck with supports having a max.6 ft. span, attached with 5/8" diameter puddle welds 6" o.c. along each intermediate support. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type D(17): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.0" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load LH fastener and Polymer Membrane Batten, or High Load Fastener and Trufast Deep Well Coiled Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps in rows maximum 71" o.c.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 90 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 40 steel deck with supports having a max.6 ft. span, attached with 5/8" diameter puddle welds 6" o.c. along each intermediate support. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

System Type D(18): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E Minimum 1.0" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 S mechanically fastened through the insulation with High Load LH fastener and Polymer Membrane Batten, or High Load Fastener and Trufast Deep Well Coiled Batten Bar spaced 6" o.c. in the center of the 4" torch welded side laps in rows maximum 71" o.c.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq

Membrane: One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 90 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 80 steel deck with maximum 6 ft. spans. Deck secured to structure at every rib (6" o.c.) with #12-24 x 1-1/4" DP5, HWH SD screws with 3/4" washers.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(19): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**N/A**	**N/A**
Miami-Dade Approved LWC (Minimum 300 psi)		
Minimum 2" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. If LWC is proposed, the load capacity of the structural substrate shall be verified for the additional load of the LWC. The LWC shall be properly vented.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 142.5 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 33 steel deck attached to with maximum 6ft spans. Deck secured to structure at every rib (6" o.c.) with #12-24 x 1-1/4" DP5, HWH SD screws with 3/4" washers. Side laps are secured with ¼" – 14 x 7/8" HWH SD screws every 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(20): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.0" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 S or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 6" o.c. in every other lap of the minimum 4" torch welded side laps in rows maximum 70" o.c.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap FR XT, DynaMax FR HW, DynaMax FR HW CR, DynaKap FR T1 HW CR G, DynaWeld Cap 180 FR, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, or DynaWeld Cap 250 FR CR G heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 52.5 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 33 steel deck attached maximum 6ft spans. Deck secured to structure at every rib (6" o.c.) with #12-24 x 1-1/4" DP5, HWH SD screws with 3/4" washers. Side laps are secured with ¼" – 14 x 7/8" HWH SD screws every 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(21): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.0" thick	**N/A**	**N/A**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 S mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 6" o.c. in every other lap of the minimum 4" torch welded side laps in rows maximum 70" o.c.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq

Membrane: One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: - 52.5 psf. (See General Limitation #7.)

STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS117; calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE