

Product Evaluation

RC473 | 0921

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: RC-473

Effective Date: September 1, 2021

Re-evaluation Date: September 2025

Product Name: Johns Manville Modified Bitumen Roofing Systems

Manufacturer: Johns Manville Corporation

P.O. Box 5108
Denver, CO 80217
(303) 978-2478

Beacon Roofing Supply
505 Huntmar Park Dr.; Suite #300
Herndon, VA 20170
(571) 323-3939

Product Description:**Cap Sheets:**

Products	Description
DynaGlas	A glass reinforced SBS modified bitumen membrane surfaced with granules
DynaGlas 30 FR	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules
DynaGlas FR	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules
DynaGlas FR CR	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
DynaGlas FR CR G	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with reflective granules.
DynaGlas FR XT	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaKap FR T1	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaKap FR T1 CR G	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with reflective granules.
DynaKap FR T1 HW CR G	A fire-resistant composite reinforced SBS modified bitumen membrane surfaced with reflective granules with heat welding burn off film.
DynaKap T1	A composite reinforced SBS modified bitumen membrane surfaced with granules.
Dynalastic 180	A polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
Dynalastic 180 FR CR G	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with reflective granules.
DynaLastic 180 FR CR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
DynaLastic 250 FR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules
DynaLastic 250 FR CR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
Dynalastic 250 FR CR G	A fire resistant, polyester reinforced SBS modified Bitumen membrane surfaced with reflective granules.
DynaMax FR	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR CR	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR HW	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
DynaMax FR HW CR	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
DynaMax FR Plus	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.

Cap Sheets:

DynaWeld Cap	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap FR XT	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR CR	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	A polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
Dynaweld Cap 250 FR	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
Dynaweld Cap 250 FR CR	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	A fire resistant, polyester reinforced SBS modified bitumen surfaced with reflective granules with heat welding burn off film.
DynaWeld Cap FR	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap FR CR	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
Dynaweld Cap FR CR G	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with reflective granules.
GlasKap	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasKap CR	A white mineral surfaced white acrylic coated, fiberglass cap sheet.
APPeX 4.5M	APP modified asphalt, polyester reinforced, mineral surfaced membrane.
Tricor M FR	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.

Ply and Base Sheets:

Products	Description
DynaBase	A glass reinforced SBS modified bitumen base sheet.
DynaBase HW	A glass reinforced SBS modified bitumen base sheet for heat welded applications.
DynaBase PR	A polyester reinforced SBS modified bitumen base sheet.
DynaBase XT	A glass reinforced SBS modified bitumen base or inner ply sheet.
DynaFast 180 HW	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaFast 180 S	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaFast 250 HW	A polyester reinforced SBS modified base or inner ply sheet for use in heat weld applications.
DynaLastic 180 S	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaLastic 250 S	A polyester reinforced SBS modified bitumen base sheet or inner ply sheet.
DynaMax S	A composite reinforced SBS modified bitumen base sheet or inner ply sheet.
DynaPly T1	A composite reinforced SBS modified bitumen base sheet or inner ply sheet.
DynaWeld 180 S	A polyester reinforced SBS modified base or inner ply sheet for use in heat weld applications.
DynaWeld 250 S	A polyester reinforced SBS modified base or inner ply sheet for use in heat weld applications.
DynaWeld Base	A glass reinforced SBS modified base sheet for heat welded applications.
GlasBase Plus	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built up roofing.
GlasPly IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
GlasPly Premier	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
PermaPly 28	Type II Asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Ventsulation Felt	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.
JM BaseGrip SD/SA	Glass reinforced, self-adhering SBS modified bitumen base sheet
APPeX 4S	APP modified asphalt, polyester reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.
APPeX 4S Embossed	APP modified asphalt, polyester reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.

Insulation and Cover Boards:

Products	Description
DensDeck	Fiberglass faced gypsum coverboard; Manufactured by G-P Gypsum, LLC
DensDeck Prime	Coated-fiberglass faced gypsum coverboard; Manufactured by G-P Gypsum, LLC
ENERGY 3 and tapered	Polyisocyanurate foam insulation board with fiberglass reinforced organic facer
JM ENRGY 3 AGF and tapered	Polyisocyanurate foam insulation board with fiberglass facer
JM ENRGY 3 CGF and tapered	Polyisocyanurate foam insulation board with coated-fiberglass facer
JM ENRGY 3 FR and tapered	Polyisocyanurate foam insulation board with fiberglass facer
JM Invinsa Roof Board	High-density polyisocyanurate foam cover board with coated-fiberglass facer
JM Invinsa FR Roof Board	High-density polyisocyanurate foam cover board with coated-fiberglass facer
JM DuraBoard	High-density perlite insulation board
JM Retro-Fit Board	High-density perlite insulation board
JM RetroPlus Roof Board	High-density perlite insulation board
JM SECUROCK Gypsum-Fiber Roof Board	Fiber-reinforced gypsum coverboard; Manufactured by US Gypsum
JM SECUROCK Glass-Mat Roof Board	Fiberglass faced gypsum coverboard; Manufactured by US Gypsum
JM DuraFoam	High-density perlite insulation laminated to polyisocyanurate foam insulation board
JM FescoFoam	Perlite insulation laminated to polyisocyanurate foam insulation board
JM Fesco Board	Perlite insulation board

Membrane Adhesives:

Product	Description
MBR Bonding Adhesive	Two component urethane cold application adhesive
MBR Cold Application Adhesive	One-part, elastomeric cold application adhesive
JM Two-Part Urethane Insulation Adhesive	Two component urethane foam adhesive
JM Roofing System Urethane Adhesive	Two component polyurethane adhesive

Fastening Components:

Products	Description
JM All Purpose Fastener	#14 fastener for wood, steel, and concrete decks
JM APB Plates	2" diameter galvalume steel plate with eyehooks
JM High Load Plates	2-3/8" diameter galvalume steel plate with eyehooks
JM High Load Fastener	#15 fastener for steel or wood decks
JM High Load LH Fastener	Large head #15 fastener for steel or wood decks
JM Lightweight Concrete (LWC) CR Base Fastener	Minimum 1.7" shank; Pre-Assembled with 2.7" galvalume coated steel plate
JM UltraFast Fastener	#12 fastener for steel or wood decks
JM Structural Concrete Fasteners	Diamond point, non-threaded hammer-in fasteners; Min. 1-" penetration into concrete deck
JM UltraFast 3" Round Metal Plate	3" diameter round galvalume steel plate
JM UltraFast Plastic Plate	3-" diameter round; High Density Polyolefin plate
JM UltraFast Square Recessed Metal Plate	3" square galvalume steel plate
JM UltraLok	1.8" shank with 2.7" diameter integrated plate
UltraGard APB Plates	2" round steel membrane plates

Beacon Roofing Supply, Inc.

Product	Description
Tri-Built TT APP Granulated (APPex 4.5M)	APP modified asphalt, polyester reinforced, mineral surfaced membrane
Tri-Built TT APP Smooth	APP modified asphalt, polyester reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.
Tri-Built TT APP Smooth Embossed	APP modified asphalt, polyester reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.

General Installation Requirements:

- All IRC and IBC requirements must be satisfied, and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.
- The roof must have a minimum slope of 1/4: 12.

Insulation and Cover Board Fastening:

Insulation and cover boards must be fastened using JM UltraFast Fasteners in steel or wood roof decks and JM All Purpose Fasteners in concrete roof decks with either the JM UltraFast 3" Round Metal Plate or the JM UltraFast Square Recessed Metal Plate.

Insulation/Cover Board Fastening Patterns	
<p>8 per 4-ft x 8-ft board (Max. 4.0-ft² contributory area per fastener)</p>	<p>16 per 4-ft x 8-ft board (Max. 2.0-ft² contributory area per fastener)</p>
<p>18 per 4-ft x 8-ft board (Max. 1.78-ft² contributory area per fastener)</p>	<p>22 per 4-ft x 8-ft board (Max. 1.45-ft² contributory area per fastener)</p>
<p>24 per 4-ft x 8-ft board (Max. 1.33-ft² contributory area per fastener)</p>	<p>32 per 4-ft x 8-ft board (Max. 1.0-ft² contributory area per fastener)</p>

Insulation and Cover Board Attachment with Adhesives:

JM Two-Part Urethane Adhesive must be applied in 3/4" to 1" wide, continuous beads spaced 12" on center.

Ply and Base Sheet Attachment:

Hot asphalt must be applied at a rate of 25-30 gal/sf. MBR Bonding adhesive and MBR Cold Application Adhesive must be applied at a rate of 1.5-2.0 gal/sf.

Products	Mechanically Fastened	Hot Asphalt	MBR Bonding Adhesive	MBR Cold Application Adhesive	Torch Adhered
DynaBase	Y	Y	Y	Y	N
DynaBase HW	Y	N	N	N	Y
DynaBase PR	Y	Y	Y	Y	N
DynaBase XT	Y	Y	Y	Y	N
DynaFast 180 HW	Y	N	N	N	Y
DynaFast 180 S	Y	Y	Y	Y	N
DynaFast 250 HW	Y	N	N	N	Y
DynaLastic 180 S	Y	Y	Y	Y	N
DynaLastic 250S	Y	Y	Y	Y	N
DynaMax S	Y	Y	Y	Y	N
DynaWeld 180S	Y	N	N	N	Y
DynaWeld 250 S	Y	N	N	N	Y
DynaWeld Base	Y	N	N	N	Y
GlasBase Plus	Y	Y	Y	Y	N
GlasPly IV	N	Y	N	N	N
GlasPly Premier	N	Y	N	N	N
PermaPly 28	Y	Y	Y	Y	N
Ventsulation Felt	Y	Y	N	N	N

Cap Sheet Attachment:

Hot asphalt must be applied at a rate of 25-30 gal/sf. MBR Bonding adhesive and MBR Cold Application Adhesive must be applied at a rate of 1.5-2 gal/sf.

Products	Hot Asphalt	MBR Bonding Adhesive	MBR Cold Application Adhesive	Torch Adhered
DynaGlas	Y	Y	Y	N
DynaGlas 30 PR	Y	Y	Y	N
DynaGlas FR	Y	Y	Y	N
DynaGlas FR CR	Y	Y	Y	N
DynaGlas FR CR G	Y	Y	Y	N
DynaGlas FR XT	Y	Y	Y	N
DynaGlas FR CR T1	Y	Y	Y	N
DynaKap FR T1	Y	Y	Y	N
DynaKap FR T1 CR G	Y	Y	Y	N
DynaKap FR T1 HW CR G	N	N	N	Y
DynaKap T1	Y	Y	Y	N

Cap Sheet Attachment (cont.):

Hot asphalt must be applied at a rate of 25-30 gal/sf. MBR Bonding adhesive and MBR Cold Application Adhesive must be applied at a rate of 1.5-2 gal/sf.

Products	Hot Asphalt	MBR Bonding Adhesive	MBR Cold Application Adhesive	Torch Adhered
DynaLastic 180	Y	Y	Y	N
DynaLastic 180 FR	Y	Y	Y	N
DynaLastic 180 FR CR	Y	Y	Y	N
DynaLastic 180 FR CR G	Y	Y	Y	N
DynaLastic 250 FR	Y	Y	Y	N
DynaLastic 250 FR CR	Y	Y	Y	N
DynaLastic 250 FR CR G	Y	Y	Y	N
DynaMax FR	Y	Y	Y	N
DynaPly T1	Y	Y	Y	N
DynaWeld Cap 180 FR	N	N	N	Y
DynaWeld Cap 180 FR CR	N	N	N	Y
DynaWeld Cap 250	N	N	N	Y
DynaWeld Cap 250 FR	N	N	N	Y
DynaWeld Cap 250 FR CR	N	N	N	Y
DynaWeld Cap 250 FR CR G	N	N	N	Y
DynaWeld Cap FR	N	N	N	Y
DynaWeld Cap FR CR G	N	N	N	Y
DynaWeld Cap FR CR	N	N	N	Y
GlasKap	Y	Y	Y	N
GlasKap CR	Y	N	N	N
DynaMax FR CR	Y	Y	Y	N
DynaMax FR HW	N	N	N	Y
DynaMax FR HW CR	N	N	N	Y
DynaMax FR Plus	Y	Y	Y	N
DynaWeld Cap	N	N	N	Y
DynaWeld Cap FR XT	N	N	N	Y

Roof Deck:

- Concrete: Minimum $f'_c = 2,500$ psi at 28 days
- Steel: Minimum 22-gauge, Grade 33, Type B steel deck. The flutes must be 0.5% vented when used with cellular lightweight concrete.
- Wood: Minimum 15/32" thick APA rated plywood deck, or wood plank.
- Lightweight Concrete - Poured-in-place Cellular Lightweight Concrete with encapsulated insulation board

Beacon Products may be used as alternatives to select Johns Manville products, listed below

Johns Manville Corporation	Beacon Roofing Supply, Inc.
APPeX 4.5M	Tri-Built TT APP Granulated
APPeX 4S	Tri-Built TT APP Smooth
APPeX 4S Embossed	Tri-Built TT APP Smooth Embossed

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

Limitations and Installation:

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-A	Steel or Concrete	Minimum 1-1/2" ENRGY 3	8 per 4' x 8' board or 1 fastener per 4 sf.	Retro-Fit or RetroPlus	Adhered in hot asphalt applied at a rate of 25-30 gal/100 sf	Hot asphalt or MBR Bonding Adhesive ply	Optional Hot asphalt or MBR Bonding Adhesive ply	Hot asphalt or MBR Bonding Adhesive cap	-45
1-B	Steel	Optional Minimum 1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR	Loose Laid	Minimum 1-1/2" ENRGY 3	JM All Purpose Fasteners with UltraFast 3" Metal Plate secured at a rate of 16 per 4' x 8' board or 1 fastener per 2 sf.	JM BaseGrip SD/SA	Optional APP Torch Adhered	APPeX 4.5M FR Torch Applied	-45
1-C	Steel or Concrete	Minimum 1-1/2" ENRGY 3	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	Minimum 1/4" JM Invinsa or JM Invinsa FR Roof Board	Adhered in JM Roofing System Urethane Adhesive or JM Two Part Urethane Insulation Adhesive spaced 12" o.c.	DynaGrip Base SD/SA	Optional Torch adhered	Torch adhered	-52.5

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-D	Wood	Optional Minimum 1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR	Loose Laid	Min. 2" ENRGY 3	UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 16 per 4' x 8' board or 1 fastener per 2 sf.	MBR Cold Application Adhesive or MBR Bonding Adhesive	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered	Hot asphalt, MBR Cold Application Adhesive or torch adhered	-52.5
1-E	Wood	Optional Minimum 1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR	Loose Laid	Min. 2" ENRGY 3	UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 16 per 4' x 8' board or 1 fastener per 2 sf.	DynaGrip Base SD/SA or BaseGrip SD/SA	Optional Torch adhered Ply	Torch adhered cap	-52.5

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-F	Wood	Minimum 1-1/2" ENRGY 3	UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 24 per 4' x 8' board or 1 fastener per 1.33 sf.	Minimum 1/4" JM Invinsa or JM Invinsa FR Roof Board	Adhered in JM Roofing System Urethane Adhesive or JM Two Part Urethane Insulation Adhesive spaced 12" o.c.	DynaGrip Base SD/SA	Optional Torch adhered Ply	Torch adhered cap	-52.5
1-G	Wood	Minimum 1-1/2" ENRGY 3	UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 24 per 4' x 8' board or 1 fastener per 1.33 sf.	Min. 1/2" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Roofing System Urethane Adhesive spaced 12"o.c.	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	-60

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-H	Steel or Concrete	Minimum 1-1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR permitted to be used in systems as loose fill layer only.	Loose Laid	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	-60

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-I	Steel or Concrete	Optional Minimum 1-1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR permitted to be used in systems as loose fill layer only.	Loose Laid	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered cap	-60

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-J	Steel or Concrete	Optional Minimum 1-1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF. ENRGY 3 FR permitted to be used in systems as loose fill layer only.	Loose Laid	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	DynaGrip Base SD/SA or BaseGrip SD/SA	Optional Torch adhered	Torch adhered cap	-60
1-K	Steel or concrete	Minimum 1-1/2" ENRGY 3	18 per 4' x 8' board or 1 fastener per 1.78 sf.	Retro-Fit or RetroPlus	Adhered in hot asphalt applied at a rate of 25-30 gals/100 sf	Hot asphalt or MBR Bonding Adhesive ply	Optional Hot asphalt or MBR Bonding Adhesive ply	Hot asphalt or MBR Bonding Adhesive cap	-60

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-L	Wood	Minimum 1-1/2" ENRGY 3	UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 24 per 4' x 8' board or 1 fastener per 1.33 sf.	Min. 1/2" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Roofing System Urethane Adhesive spaced 12"o.c.	DynaGrip Base SD/SA or BaseGrip SD/SA	Optional Torch adhered ply	Torch adhered cap	-67.5
1-M	Steel or Concrete	Optional	Loose Laid	Minimum 1-1/2" ENRGY 3	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	DynaGrip Base SD/SA or BaseGrip SD/SA	Optional Torch adhered ply	Torch adhered cap	-67.5

Limitations and Installation (cont.):

Table 1: WIND UPLIFT RESISTANCE Adhered Membranes over Fastened Insulation									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
1-N	Steel or Concrete	Optional	Loose Laid	Minimum 1-1/2" ENRGY 3	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast Fastener with UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate secured at a rate of 22 per 4' x 8' board or 1 fastener per 1.45 sf.	MBR Cold Application Adhesive or MBR Bonding Adhesive ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-67.5
1-O	Steel or concrete	Minimum 2" ENRGY 3	22 per 4' x 8' board or 1 fastener per 1.45 sf.	Retro-Fit or RetroPlus	Adhered in hot asphalt applied at a rate of 25-30 gals/100 sf	Hot asphalt or MBR Bonding Adhesive ply	Optional Hot asphalt or MBR Bonding Adhesive ply	Hot asphalt or MBR Bonding Adhesive cap	-75
1-P	Steel or concrete	Minimum 1-1/2" ENRGY 3	Loose laid	SECUROCK Gypsum-Fiber	22 per 4' x 8' board or 1 fastener per 1.45 sf.	MBR Cold Application Adhesive	Optional MBR Cold Application Adhesive	MBR Cold Application Adhesive	-82.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-A	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt, MBR Cold Application Adhesive or torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-45
2-B	Steel	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt, MBR Cold Application Adhesive or torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-45
2-C	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-45

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-D	Steel	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-45
2-E	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 6.4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply (no DynaWeld Base)	Torch adhered cap with min. 4" side laps	-45
2-F	Steel	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 6.4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply (no DynaWeld Base)	Torch adhered cap with min. 4" side laps	-45

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE								
Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-G	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Celcore MF with HS Rheology Admixture Lightweight Insulating Concrete	None	GlasBase Plus, Ventsulation Felt, DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in three (3) equally spaced, staggered rows in the field	Torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-45
2-H	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	GlasBase Plus, Ventsulation Felt, DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in three (3) equally spaced, staggered rows in the field	Torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-45
2-I	Concrete or Steel	Min. 200 psi LWIC (MCRF \geq 169 lbf with 1.7" LWC CR Base Sheet Fastener)	None	Minimum 1/4" Invinsa Roof Board	Min. 1.8" JM UltraLok secured at a rate of 32 per 4-ft x 8-ft board	DynaGrip Base SD/SA followed by optional torch adhered ply min. 3-5/8" side laps	Hot asphalt or Torch adhered cap with min. 4" side laps	-45

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE								
Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-J	Steel	Min. 1-1/2" ENERGY 3	None	DynaFast 180 HW	Fastened 18" o.c. within the 4" wide, heat welded side laps with APB Plates and High Load Fasteners	APPex 4.5M FR or Tricore M FR Torch adhered	Torch adhered cap	-45
2-K	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-52.5
2-L	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap	-52.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-M	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaFast 180 HW, DynaFast 180 S or DynaFast 250 HW	Min. 1.8" Twin-Loc Nails and Straight-Line Batten Bar spaced 6" o.c. within the 4" wide heat welded side laps	Optional torch adhered ply with min. 4" side laps	Torch adhered cap with min. 4" side laps	-52.5
2-N	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaFast 180 S	Min. 1.8" Twin-Loc Nails and Straight-Line Batten Bar spaced 6" o.c. within the 4" wide heat welded side laps	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered ply with min. 4" side laps	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap with min. 4" side laps	-52.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-O	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaFast 180 S	Min. 1.8" Twin-Loc Nails and Straight-Line Batten Bar spaced 6" o.c. within the 4" wide heat welded side laps	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered ply with min. 4" side laps	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap with min. 4" side laps	-52.5
2-P	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply	Torch adhered cap	-60
2-Q	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 12" o.c. in 4" side laps, 12" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply	Torch adhered cap	-60

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE								
Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-R	Steel	Elastizell with Zell-Crete Fibers Lightweight	None	DynaFast 180 HW or DynaFast 250 HW	JM High Load Fasteners and JM High Load Plates spaced 12" o.c. within min. 5" heat welded side laps	Optional torch adhered ply with min. 4" side laps	Torch adhered cap with min. 4" side laps	-60
2-S	Steel	Elastizell with Zell-Crete Fibers Lightweight	None	DynaFast 180 S	JM High Load Fasteners and JM High Load Plates spaced 12" o.c. within min. 5" heat welded side laps	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered ply with min. 4" side laps	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap with min. 4" side laps	-60
2-T	Steel	Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	MBR Cold Application Adhesive	MBR Cold Application Adhesive	-60
2-U	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	MBR Cold Application Adhesive	MBR Cold Application Adhesive	-60

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-V	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	DynaFast 180 HW or DynaFast 250 HW	All Purpose Fasteners and High Load Plates spaced 12" o.c. within min. 5" heat welded side laps	Optional torch adhered ply with min. 4" side laps	Torch adhered cap with min. 4" side laps	-60
2-W	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	DynaFast 180 S	All Purpose Fasteners and High Load Plates spaced 12" o.c. within min. 5" heat welded side laps	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered ply with min. 4" side laps	Hot asphalt, MBR Cold Application Adhesive or torch adhered cap with min. 4" side laps	-60
2-X	Concrete	Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	MBR Cold Application Adhesive ply	MBR Cold Application Adhesive Cap	-60

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE								
Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-Y	Concrete	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	MBR Cold Application Adhesive ply 3" laps	MBR Cold Application Adhesive Cap 4" laps	-60
2-Z	Steel	Lightweight Insulating concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-67.5
2-AA	Steel	Lightweight Insulating concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or torch adhered cap	-67.5
2-BB	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or torch adhered cap	-67.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE								
Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-CC	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-67.5
2-DD	Steel	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 6.4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply (no DynaWeld Base)	Torch adhered cap with min. 4" side laps	-67.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-EE	Concrete	Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-67.5
2-FF	Concrete	Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or Torch adhered cap	-67.5
2-GG	Concrete	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or Torch adhered cap	-67.5
2-HH	Concrete	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 3" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	DynaGrip Base SD/SA followed by optional torch adhered ply	Torch adhered cap	-67.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-II	Concrete	Celcore MF with HS Rheology Admixture and Celcore S-1 Lightweight Insulating Concrete	None	DynaBase, DynaBase XT, DynaBase PR, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S, DynaMax S, or DynaPly T1	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in min. 6.4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Torch adhered ply (No DynaWeld Base)	Torch adhered cap with min. 4" side laps	-67.5
2-JJ	Concrete with optional DynaBase HW torch applied over deck with ASTM D 41 primer	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28, GlasBase Plus, DynaBase, or Ventsulation Felt	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or Torch adhered cap	-75
2-KK	Steel	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	None	PermaPly 28, GlasBase Plus, Ventsulation Felt	Min. 1.7" JM LWC CR Base Fastener installed 7" o.c. in 4" side laps, 7" o.c. in two (2) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or torch adhered cap	-75
2-LL	Recover	Lightweight Insulating Concrete over Steel	None	DynaFast 180 S, DynaFast 180 HW or DynaFast 250 HW	JM High Load Fasteners and JM High Load Plates spaced 6" o.c within 4" heat welded side lap.	Optional torch adhered ply with min. 4" side laps	Torch adhered cap with min. 4" side laps	-97.5

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-MM	Recover	Lightweight Insulating Concrete over Steel	None	DynaFast 180 S	JM High Load Fasteners and JM High Load Plates spaced 6" o.c. within 4" heat welded side lap.	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive, or Torch adhered ply with min. 4" side laps	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive, or Torch adhered cap with min. 4" side laps	-97.5
2-NN	Steel or concrete	Min. 1-1/2" ENRGY 3	Optional	DynaLastic 180 S	Fastened 6" o.c. within the 4" wide, heat welded side laps with High Load Plates and High Load Fasteners (steel) or All-Purpose Fasteners (concrete)	Optional Torch applied ply	Torch adhered cap	-112.5
2-OO	Concrete	Minimum 1-1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF.	Retro-Fit Board or Min. 5/8" Plywood	DynaFast 180 S, DynaFast 180 HW or DynaFast 250 HW	Attached in min. 5", heat welded side lap 6" o.c. with JM Structural Concrete Fasteners or JM All Purpose Fasteners and High Load Plates or APB Plates	Optional Torch applied ply	Torch adhered cap	-112.5
2-PP	Steel	Optional	Minimum 1" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF.	DynaFast 180 S, DynaFast 180 HW or DynaFast 250 HW	JM High Load Fasteners and JM High Load Plates or JM APB Plates and JM High Load Fasteners spaced 6" o.c. over min. 5" side lap	Optional Torch applied ply	Torch adhered cap	-112.5
2-QQ	Concrete	Concrecel Lightweight Insulating Concrete	None	PermaPly 28	Min. 1.7" JM LWC CR Base Fastener installed 6" o.c. in 4-" side laps, 6" o.c. in three (3) equally spaced, staggered rows in the field	Hot asphalt or torch adhered ply	Hot asphalt or Torch adhered cap	-120

Limitations and Installation (cont.):

Table 2: WIND UPLIFT RESISTANCE Mechanically Fastened Membranes over Insulation								
System No.	Deck	Base Insulation	Top Insulation	Base Sheet	Base Sheet Attachment	Ply Sheet	Cap Sheet	Design Pressure (psf)
2-RR	Steel	DensDeck, DensDeck Prime, Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board or Fesco Board under Minimum 1" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF.	Minimum 1-1/2" ENRGY 3, ENRGY 3 AGF, or ENRGY 3 CGF.	DynaFast 180 S, DynaFast 180 HW or DynaFast 250 HW	JM High Load Fasteners and JM High Load Plates or JM APB Plates and JM High Load Fasteners spaced 12" o.c. over min. 4" side laps and 12" o.c. in three, equally spaced, staggered rows in the field of the roll	Torch adhered ply	Torch adhered cap	-180

Limitations and Installation (cont.):

Table 3: WIND UPLIFT RESISTANCE Adhered Systems									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
3-A	Wood	-	-	Min. 1-1/2" ENRGY 3	Adhered in JM Roofing System Urethane Adhesive spaced 12-" o.c.	MBR Cold Application Adhesive, or MBR Bonding Adhesive ply	Optional Hot asphalt, MBR Cold Application Adhesive or Torch applied ply	Hot Asphalt, MBR Cold Application Adhesive or Torch applied ply	-45
3-B	Steel or Concrete	Celcore MF Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3	Adhered in JM Roofing System Urethane Adhesive spaced 12-" o.c.	MBR Cold Application Adhesive or MBR Bonding adhesive ply	Optional Hot asphalt, MBR Cold Application Adhesive or Torch applied ply	Hot Asphalt, MBR Cold Application Adhesive or Torch applied cap	-77.5
3-C	Steel or Concrete	Celcore MF Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3 or ENRGY 3 AGF Followed by: Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All layers adhered in JM Roofing System Urethane Adhesive spaced 12-" o.c.	Hot asphalt, MBR Bonding adhesive ply or Torch applied ply	Optional Hot asphalt, MBR Cold Application Adhesive or MBR Bonding adhesive ply or Torch applied ply	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or Torch applied cap	-77.5
3-D	Steel or Concrete	Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3	Adhered in JM Two Part Urethane Insulation Adhesive spaced 12-" o.c.	MBR Cold Application Adhesive or MBR Bonding adhesive ply	Optional Hot asphalt, MBR Cold Application Adhesive or Torch applied ply	Hot asphalt, MBR Cold Application Adhesive or Torch applied cap	-80

Limitations and Installation (cont.):

Table 3: WIND UPLIFT RESISTANCE Adhered Systems									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
3-E	Steel or Concrete	Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3 or ENRGY 3 AGF Followed by: Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All layers adhered in JM Two Part Urethane Insulation Adhesive spaced 12-" o.c.	Hot asphalt, MBR Bonding adhesive ply or Torch applied ply	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or Torch applied ply	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or Torch applied cap	-80
3-F	Steel or Concrete	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3	Adhered in JM Two Part Urethane Insulation Adhesive spaced 12-" o.c.	MBR Cold Application Adhesive or MBR Bonding adhesive ply	Optional Hot asphalt, MBR Cold Application Adhesive or Torch applied ply	Hot asphalt, MBR Cold Application Adhesive or Torch applied ply	-130
3-G	Steel or Concrete	Elastizell with Zell-Crete Fibers Lightweight Insulating Concrete	-	Min. 1-1/2" ENRGY 3 or ENRGY 3 AGF Followed by: Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	All layers adhered in JM Two Part Urethane Insulation Adhesive spaced 12-" o.c.	Hot asphalt, MBR Bonding adhesive ply or Torch applied ply	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or Torch applied ply	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or Torch applied cap	-130

Limitations and Installation (cont.):

Table 3: WIND UPLIFT RESISTANCE Adhered Systems									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
3-H	Concrete	Lightweight Insulating Concrete	-	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Two Part Urethane Insulation Adhesive spaced 12" o.c.	Hot asphalt, MBR Bonding adhesive ply or torch adhered ply	Optional Hot asphalt, MBR Bonding adhesive ply or torch adhered ply	Optional Hot asphalt, MBR Bonding adhesive ply or torch adhered cap	-210
3-I	Concrete with DynaBase HW vapor barrier	OPTIONAL Min. 1-1/2" ENRGY 3 or ENRGY 3 CGF	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Hot asphalt, MBR Bonding adhesive ply or torch adhered ply	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or torch adhered ply	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered ply	-225
3-J	Concrete with DynaBase HW torch applied over deck with ASTM D 41 primer vapor barrier	Min. 1-1/2" ENRGY 3 or ENRGY 3 CGF	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Hot asphalt, MBR Bonding Adhesive ply or torch adhered	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive ply or torch adhered ply	Hot asphalt, MBR Cold Application Adhesive, MBR Bonding Adhesive or torch adhered cap	-245

Limitations and Installation (cont.):

Table 3: WIND UPLIFT RESISTANCE Adhered Systems									
System No.	Deck	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Base Ply	Ply Sheet	Cap Sheet	Design Pressure (psf)
3-K	Concrete	Min. 1-1/2" ENRGY 3	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	-	-	MBR Cold Application Adhesive or MBR Bonding Adhesive	Optional Hot asphalt, MBR Cold Application Adhesive or torch adhered ply	Hot asphalt, MBR Cold Application Adhesive or torch adhered ply	-245
3-L	Concrete with DynaBase HW vapor barrier	Min. 1-1/2" ENRGY 3 CGF	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Min. 1/4" JM SECUROCK Gypsum-Fiber Roof Board	Adhered in JM Roofing System Urethane Adhesive spaced 12" o.c.	Hot asphalt, MBR Bonding adhesive ply or torch adhered	Optional Hot asphalt, MBR Cold Application Adhesive, MBR Bonding adhesive ply or torch adhered ply	Hot asphalt, MBR Bonding Adhesive or torch adhered ply	-292.5

Notes: 1) Prime deck with JM concrete primer at a rate of 1 gal/100 sf.