CREEK
TECHNICAL SERVICES, LLC

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

EVALUATION REPORT

FLORIDA BUILDING CODE 5TH EDITION (2014)

Issued April 12, 2017

Manufacturer: JOHNS MANVILLE CORPORATION
P.O. Box 5108
Denver, CO 80217
(303) 978-2478
www.jm.com

Manufacturing Plants: Scottsboro, AL
Pawtucket, RI
Lancaster, SC

Quality Assurance: UL LLC (QUA9625)

SCOPE

Category: Roofing
Subcategory: Single Ply Roof System
Code Sections: 1504.3.1, 1504.6, 1504.7, 1507.13.2, 1515.1.1 , 1515.1.4, 1515.2.4, 1523.1.1, 1523.6.2, 1523.6.5.2.9
Properties: Wind Resistance, Physical Properties, Impact Resistance

PRODUCT DESCRIPTION

Products	Specification	Description
JM PVC-50 mil	ASTM D 4434	Nominal 50-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement
JM PVC-60 mil	ASTM D 4434	Nominal 60-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement
JM PVC-80 mil	ASTM D 4434	Nominal 80-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement
JM PVC Fleece Backed-50 mil	ASTM D 4434	Nominal 50-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement and polyester fleece backing
JM PVC Fleece Backed-60 mil	ASTM D 4434	Nominal 60-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement and polyester fleece backing
JM PVC Fleece Backed-80 mil	ASTM D 4434	Nominal 80-mil thick polyvinyl chloride with DuPont™ Elvaloy KEE single-ply roof membrane with polyester scrim reinforcement and polyester fleece backing
JM PVC SD Plus-50 mil	ASTM D 4434	Nominal 50-mil thick polyvinyl chloride single-ply roof membrane with polyester scrim reinforcement
JM PVC SD Plus-60 mil	ASTM D 4434	Nominal 60-mil thick polyvinyl chloride single-ply roof membrane with polyester scrim reinforcement
JM PVC SD Plus-80 mil	ASTM D 4434	Nominal 80-mil thick polyvinyl chloride single-ply roof membrane with polyester scrim reinforcement
JM TPO-45	ASTM D 6878 TAS 131	Nominal 45-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester scrim reinforcement
JM TPO-60	ASTM D 6878 TAS 131	Nominal 60-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester scrim reinforcement
JM TPO-80	ASTM D 6878 TAS 131	Nominal 80-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester scrim reinforcement

Products	Specification	Description
JM TPO FB 115	ASTM D 6878 TAS 131	Nominal 60-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester scrim reinforcement and polyester fleece backing
JM TPO FB 135	ASTM D 6878 TAS 131	Nominal 80-mil thick thermoplastic polyolefin, heat-weldable, single-ply roof membrane with polyester scrim reinforcement and polyester fleece backing

REFERENCES

Entity	Report No.	Standard
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-026	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-027	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-028	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-029	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-030	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-031	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-032	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-033	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-034	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-035	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-036	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-037	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-038	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-039	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-040	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-041	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-042	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-043	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-044	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-045	TAS 114(D) (1995)
Atlantic & Caribbean Roof Consulting (TST4671)	ACRC 14-046	TAS 114(D) (1995)
FM Approvals (TST1867)	3009502	FM 4470 (1992)
FM Approvals (TST1867)	3012321	FM 4470 (1992)
FM Approvals (TST1867)	3014692	FM 4470 (1992)
FM Approvals (TST1867)	3014751	FM 4470 (1992)
FM Approvals (TST1867)	3015444	FM 4470 (1992)
FM Approvals (TST1867)	3016629	FM 4470 (1992)
FM Approvals (TST1867)	3018579	FM 4450 (1989)
FM Approvals (TST1867)	3018807	FM 4470 (1992)
FM Approvals (TST1867)	3025168	FM 4470 (1992)
FM Approvals (TST1867)	3025170	FM 4470 (1992)
FM Approvals (TST1867)	3025245	FM 4470 (1992)
FM Approvals (TST1867)	3025881	FM 4470 (1992)
FM Approvals (TST1867)	3028040	FM 4470 (1992)
FM Approvals (TST1867)	3030259	FM 4470 (1992)
FM Approvals (TST1867)	3030351	FM 4470 (1992)
FM Approvals (TST1867)	3030383	FM 4470 (1992)
FM Approvals (TST1867)	3031670	FM 4470 (1992)
FM Approvals (TST1867)	3033308	FM 4470 (1992)
FM Approvals (TST1867)	3035191	FM 4470 (1992)
FM Approvals (TST1867)	3035538	FM 4470 (1992)
FM Approvals (TST1867)	3037110	FM 4470 (1992)
FM Approvals (TST1867)	3037110	FM 4470 (1992)
FM Approvals (TST1867)	3037540	FM 4450 (1989)
FM Approvals (TST1867)	3039813	FM 4470 (1992)
FM Approvals (TST1867)	3040105	FM 4470 (1992)
FM Approvals (TST1867)	3043824	FM 4470 (1992)
FM Approvals (TST1867)	3044716	FM 4470 (1992)
FM Approvals (TST1867)	3046174	FM 4470 (1992)
FM Approvals (TST1867)	3051609	FM 4470 (1992)
FM Approvals (TST1867)	3053026	FM 4470 (1992)
FM Approvals (TST1867)	3055845	FM 4470 (1992)
FM Approvals (TST1867)	3056049	FM 4470 (1992)
FM Approvals (TST1867)	3056303	FM 4470 (1992)

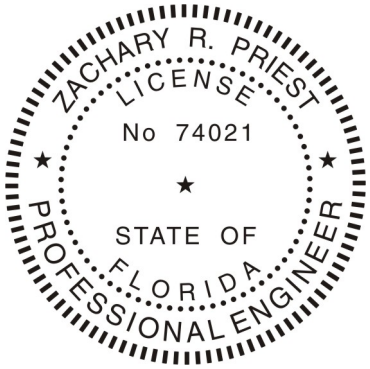
Entity	Report No.	Standard
FM Approvals (TST1867)	3056677	FM 4470 (1992)
FM Approvals (TST1867)	3058201	FM 4470 (1992)
FM Approvals (TST1867)	3058326	FM 4470 (1992)
FM Approvals (TST1867)	3058374	FM 4470 (1992)
FM Approvals (TST1867)	3059030	FM 4470 (1992)
FM Approvals (TST1867)	3060138	FM 4470 (1992)
Miami-Dade (EVL1528)	12-0216.01	TAS 114(J) (1995)
Miami-Dade (EVL1528)	13-0307.02	TAS 114(J) (1995)
Miami-Dade (EVL1528)	13-0617.20	TAS 114(J) (1995)
Miami-Dade (EVL1528)	14-0627.08	TAS 114(J) (1995)
Momentum Technologies (TST2508)	CX23G3A	ASTM D 4434 (2009)
Momentum Technologies (TST2508)	NX21J0A	ASTM D 4434 (2009)
Momentum Technologies (TST2508)	NX21J0B	ASTM D 4434 (2009)
Momentum Technologies (TST2508)	NX21J0C	ASTM D 4434 (2009)
Momentum Technologies (TST2508)	RX10A8A	TAS 131 (1995)
Momentum Technologies (TST2508)	RX10A8B	TAS 131 (1995)
Momentum Technologies (TST2508)	RX14C8A	TAS 131 (1995)
PRI Construction Materials Technologies (TST5878)	JMC-086-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-088-02-01	ASTM D 1876 (2008); TAS 117(B) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-107-02-01 Rev 4	ASTM D 903 (1998); ASTM D 1876 (2008); ASTM D 5147 (2011a); TAS 117(B & A) (1995); TAS 114(C) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-108-02-01	FM 4474 (2004); TAS 114 (J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-109-02-01	FM 4474 (2004); TAS 114 (J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-114-02-01	FM 4474 (2004); TAS 114 (J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-131-02-01	FM 4474 (2004); TAS 114 (D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-132-02-01	FM 4474 (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-132-02-02	FM 4474 (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-141-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-143-02-01	FM 4474 (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-162-02-01	FM 4474 (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-163-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-168-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-193-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-193-02-01A	FM 4474 (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-196-02-01	TAS 117(A) & (B) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-201-02-01A	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-201-02-01B	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-205-02-01	ASTM D 3746 [(1985(2002)e1]
PRI Construction Materials Technologies (TST5878)	JMC-209-02-01	FM 4474 (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-225-02-01	FM 4474 (2004)
PRI Construction Materials Technologies (TST5878)	JMC-242-02-01	FM 4474(D) (2004); TAS 114(J) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-245-02-02	FM 4474(B) (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-246-02-01	FM 4474(B) (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-267-02-02	FM 4474(B) (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-277-02-01	FM 4474(B) (2004); TAS 114(D) (1995)
PRI Construction Materials Technologies (TST5878)	JMC-278-02-03	FM 4474(D) (2004); TAS 114(J) (1995)
Trinity|ERD (TST6049)	J33600.08.13	TAS 131 (1995)
Trinity|ERD (TST6049)	J33600.09.11-2	ASTM D 6878 (2008e1)
Trinity|ERD (TST6049)	J45020.05.13-1	TAS 114(C) (1995)
Trinity|ERD (TST6049)	J45020.09.13-1-R1	TAS 114(C) (1995)
Trinity|ERD (TST6049)	JM-SC11190.03.16	TAS 114(J) (1995)
Trinity|ERD (TST6049)	JM-SC11320.03.16	TAS 114(D) (1995)
Trinity|ERD (TST6049)	JM-SC12145.02.17	FM 4474(C) (2004)
Trinity|ERD (TST6049)	SC4910	FM 4474 (2004); TAS 114(J) (1995)

LIMITATIONS

1. Fire classification is not within the scope of this evaluation.
2. Foam plastic insulation shall be separated from the building interior in accordance with the FBC 2603.4 and 2603.6.
3. The roof deck and the roof deck attachment shall be designed by others to meet the minimum design loads established for components and cladding.
4. In the HVHZ, fastener spacing for insulation attachment is determined using a Minimum Characteristic Force (F') of 275 lbf as demonstrated via testing to TAS 105. If the field tested fastener value is below 275 lbf, then insulation attachment shall not be acceptable.
5. In the HVHZ, fastener spacing for base sheets or membrane attachment shall meet the minimum fastener resistance value and the *MDP* for the specified assembly. It is permissible for a qualified professional to submit a revised fastener spacing utilizing the withdrawal resistance value obtained from TAS 105 testing and calculations performed in accordance with RAS 117 and/or RAS 137, when the fastener resistance is found less than required.
6. In the HVHZ, if mechanical attachment through the lightweight insulating concrete to the structural deck is proposed, a field fastener withdrawal test shall be conducted in compliance with TAS 105 to determine equivalent or increased attachment densities. Revised fastener densities shall be submitted utilizing the withdrawal resistance value obtained from TAS 105 testing and calculations performed in accordance with RAS 117 and/or RAS 137.
7. For assemblies containing mechanical attachment, the allowable uplift pressure for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16. For perimeter and corner roof zones 2 and 3, the attachment density may be increased by a qualified design professional, as necessary, to meet the design pressure requirements in these areas. In the HVHZ, calculations shall be conducted in compliance with RAS 117 and/or RAS 137. Outside the HVHZ, commonly used standards include RAS 117, FM LPDS 1-29, or ANSI/SPRI WD-1.
8. Reroofing applications shall be examined in accordance with FBC Section 1510 outside of the HVHZ and FBC Section 1521 within the HVHZ. For mechanically fastened systems, a field withdrawal resistance test (TAS 105 in the HVHZ; ANSI/SPRI FX-1 or TAS 105 in the non-HVHZ) shall be conducted by a qualified professional to ensure the fastener meets the minimum design load requirements of the system. For adhered systems, a field uplift resistance test (TAS 124 in the HVHZ; ASTM E 907, FM LPDS 1-52, ANSI/SPRI IA-1, or TAS 124 in the non-HVHZ) shall be conducted to confirm conformance of the existing to the minimum design loads.
9. For assemblies containing fully adhered or ribbon adhered attachment, or where extrapolation of the assembly is not permitted, the *MDP* for the selected assembly shall meet or exceed the minimum design loads as determined in accordance with the FBC Chapter 16 without augmentation.
10. Installation of the evaluated products shall comply with this report, the FBC, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
11. The minimum roof slope shall be 1/4:12 for new construction.
12. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code 5th Edition (2014) as evidenced in the referenced documents submitted by the named manufacturer.



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

CERTIFICATION OF INDEPENDENCE

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

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

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

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

APPENDICES

1) APPENDIX A – Installation (4 pages)
2) APPENDIX B – Nomenclature (3 pages)
3) APPENDIX C – Approved Assemblies for JM TPO Single-Ply Membranes (26 pages)
4) APPENDIX D – Approved Assemblies for JM PVC Single-Ply Membranes (25 pages)

INSTALLATION

*Note - Refer to the **APPROVED ASSEMBLIES** section of this report for specific installation details of a selected assembly.*

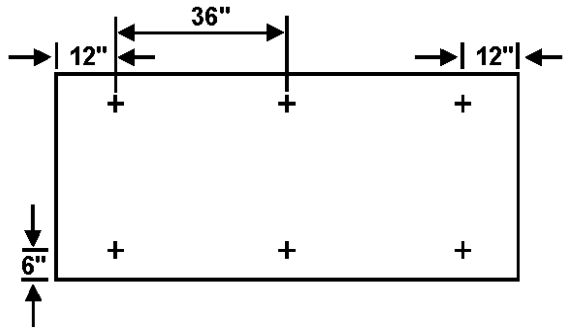
Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners, Battens & Plates	JM All Purpose Fastener	#14 fasteners; Min. 3/4-inch penetration through the top rib of the steel deck or wood deck; Min. 1-inch penetration into concrete deck
	JM APB Plates	2-inch diameter; Galvalume steel plate with reinforcing ribs and barbs
	JM Extra High Load Fastener	#21 fastener; Min. 3/4-inch penetration through the top rib of the steel deck;
	JM Extra High Load Plates	3-inch diameter; Galvalume steel plate with eyehooks
	JM High Load Plates	2 3/8-inch diameter; Galvalume steel plate with eyehooks
	JM High Load Plus Plates	2 3/4-inch diameter; Galvalume steel plate with barbs
	JM High Load Fastener	#15 fastener; Min. 3/4-inch penetration through the top rib of the steel deck or wood deck;
	JM High Load LH Fastener	#15 fastener with oversized head; Min. 3/4-inch penetration through the top rib of the steel deck or wood deck;
	JM UltraFast Fastener	#12 fastener; Min. 3/4-inch penetration through the top rib of the steel deck or wood deck
	JM UltraFast Plate (Round)	3-inch diameter round; Galvalume steel plate
	JM UltraFast Plate (Square)	3-inch square; Galvalume steel plate
	JM Polymer Membrane Batten	Membrane anchors and plastic strips
	JM Purlin Fastener	Min. 3/4-inch penetration through purlin
	JM PVC RhinoPlate	Min. 3-inch diameter; Induction welded in the field of membrane; welds not permitted at lap seams; For use only with bareback membrane
	JM TPO RhinoPlate	Min. 3-inch diameter; Induction welded in the field of membrane; welds not permitted at lap seams; For use only with min. 60 mil thick bareback membrane
	Trufast Deep Well Batten Bar	Galvalume steel membrane batten with recessed holes
	Trufast Straight Line Batten Bar	Galvalume steel membrane batten for use with Twin-Loc Nail without integrated plate
	Trufast Twin Loc-Nail	Min. 1.4-inch shank; Base sheet fastener with and without integrated 2.7-inch diameter plate.
Insulation Adhesives	JM MBR Bonding Adhesive	Fully adhered at a rate of 1.5-2.0 gal/100 ft^2
	JM One-Step Foamable Adhesive	Ribbon adhered in 3/4 to 1-inch wide beads
	OMG OlyBond 500	
	JM Urethane Insulation Adhesive	Ribbon adhered in 1/2-inch wide beads
	JM Two Part Urethane Insulation Adhesive	Ribbon adhered in 1/2 to 3/4-inch wide beads
	JM Roofing System Urethane Adhesive	
	ASTM D 312, Type IV asphalt	Fully adhered within the EVT range at a rate of 25-40 lbs/100 ft^2
Insulation/Cover Boards	Georgia-Pacific DensDeck	Min. 1/4-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
	JM ENRGY 3	Min. 1/2-inch thick; Min. 20 psi; Adhered boards shall be a maximum 4 ft x 4 ft
	JM ENRGY 3 AGF	
	JM ENRGY 3 CGF	
	JM ENRGY 3 FR	
	JM Fesco Board	Min. 3/4-inch thick; Min. 20 psi; Adhered boards shall be a maximum 4 ft x 4 ft
	JM Fesco Foam	Min. 1.5-inch thick; Min. 20 psi; Adhered boards shall be a maximum 4 ft x 4 ft
	JM Invinsa Roof Board	1/4-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
	JM Invinsa Foam Roof Board	
	JM Invinsa FR Roof Board	

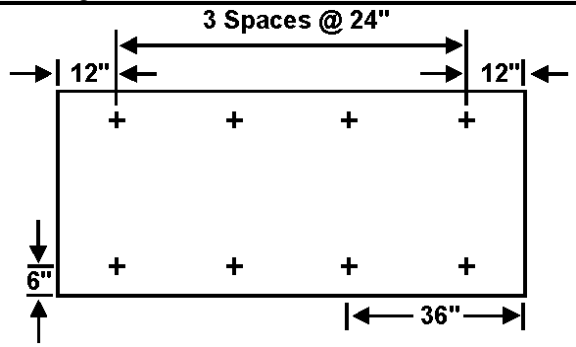
Component	Product	Installation Detail
	JM InvinsaPlus Roof Board	
	JM Retro-Fit Board	1/2-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
	JM RetroPlus Roof Board	
	JM SECUROCK Glass-Mat Roof Board	Min. 1/4-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
	JM SECUROCK Gypsum-Fiber Roof Board	
	National Gypsum DEXcell Cement Roof Board	Min. 7/16-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
	National Gypsum DEXcell FA Glass Mat Roof Board	Min. 1/4-inch thick; Adhered boards shall be a maximum 4 ft x 4 ft
Base Ply and Vapor Barrier Adhesives	ADCO Millennium Hurricane Force Membrane Adhesive	Ribbon adhered in 3/4 to 1-inch wide beads
PVC Membrane Adhesives	ASTM D 312, Type IV asphalt	Fully adhered within the EVT range at a rate of 25-40 lbs/100 ft; For use only with JM PVC Fleece Backed membranes
	JM PVC Membrane Adhesive (Low VOC)	Fully adhered at rate of 50-90 ft^2/gal; Applied simultaneously to underside of membrane and substrate
	JM PVC Membrane Adhesive (Water Based)	Fully adhered at a rate of 90-130 ft^2/gal; Two-side application required for bareback TPO; Applied only to substrate when used with fleeceback TPO
	JM Roofing System Urethane Adhesive	Ribbon adhered in 1/2 to 3/4-inch wide beads
	JM MBR Bonding Adhesive	Fully adhered at a rate of 1.5-2.0 gal/100 ft^2
TPO Membrane Adhesives	JM Roofing System Urethane Adhesive	Ribbon adhered in 3/4 to 1-inch wide beads
	JM Membrane Bonding Adhesive (TPO & EPDM)	Fully adhered at rate of 50-90 ft^2/gal; Applied simultaneously to underside of membrane and substrate
	JM TPO Membrane Adhesive (Low VOC)	Fully adhered at rate of 50-90 ft^2/gal; Applied simultaneously to underside of membrane and substrate
	JM LVOC Membrane Adhesive (TPO & EPDM)	Fully adhered at rate of 0.55-0.83 gal/100ft^2 in two-sided application (1.1-1.67 gal/100ft^2 total)
	JM TPO Water Based Membrane Adhesive	Fully adhered at a rate of 0.6-0.8 gal/100ft^2; Two-side application required for bareback TPO; Applied only to substrate when used with fleeceback TPO
SA Primer	JM SA Primer Low VOC	Applied at rate of 0.5 gal/sq.
Vapor Barriers	JM DynaBase HW	Min. 3-inch wide side-laps; Min. 6-inch end laps; Torch adhered to primed concrete deck
	JM DynaBase	Min. 3-inch wide side-laps; Min. 6-inch end laps; Applied with hot or cold *approved* adhesives
	JM Vapor Barrier SA	Self-adhered to primed wood, gypsum or concrete decks; Min. 3-inch sides laps; Min. 6-inch end laps
Base Plies	JM DynaBase	Min. 3-inch wide side-laps; Min. 6-inch end laps; Applied with hot or cold *approved* adhesives
	JM DynaBase HW	Min. 3-inch wide side-laps; Min. 6-inch end laps; Torch adhered
	JM DynaFast 180 S	Min. 3-inch wide side-laps; Min. 6-inch end laps; Side-laps shall be installed perpendicular to the direction of the steel deck ribs and parallel to the direction of the wood trusses for mechanically attached systems
TPO Single-Ply Membranes	JM TPO-45	Min. 2-inch wide side-laps with min. 1.5-inch wide heat weld for adhered systems; In-lap fastened systems shall have min. 6-inch wide side-laps with min. 1.5-inch wide heat weld; Side-laps shall be installed perpendicular to the direction of the steel deck ribs and parallel to the direction of the wood trusses for mechanically attached systems
	JM TPO-60	
	JM TPO-80	
	JM TPO FB 115	
	JM TPO FB 135	
PVC Single-Ply Membranes	JM PVC–50 mil	Min. 2-inch wide side-laps with min. 1.5-inch wide heat weld for adhered systems; In-lap fastened systems shall have min. 6-inch wide side-laps with min. 1.5-inch wide heat weld; Side-laps shall be installed perpendicular to the direction of the steel deck ribs and parallel to the direction of the wood trusses for mechanically attached systems
	JM PVC-60 mil	
	JM PVC-80 mil	
	JM PVC Fleece Backed-50 mil	
	JM PVC Fleece Backed-60 mil	
	JM PVC Fleece Backed-80 mil	
	JM PVC SD Plus-50 mil	

Component	Product	Installation Detail
	JM PVC SD Plus-60 mil	
	JM PVC SD Plus-80 mil	
Cellular Lightweight Concrete	Celcore MF with HS Rheology Admixture	Slurry coat min. 1/8-inch thick; 1-inch thick EPS board (1 lbs/ft^3); Min. 2-inch thick top coat; Celcore PVA curing compound applied at rate of 300 ft^2/gal.
Cellular Lightweight Concrete – Cont'd	Mearlcrete	Slurry coat min. 1/8-inch thick; 1" thick EPS board (1 lbs/ft^3); Min. 2-inch thick top coat;
	Elastizell	
	Concrecel	
	Cellular Lightweight Concrete	

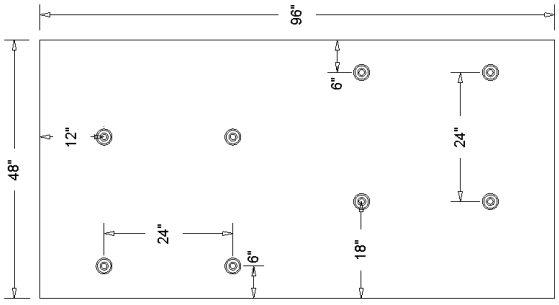
Insulation/Cover Board Fastening Patterns



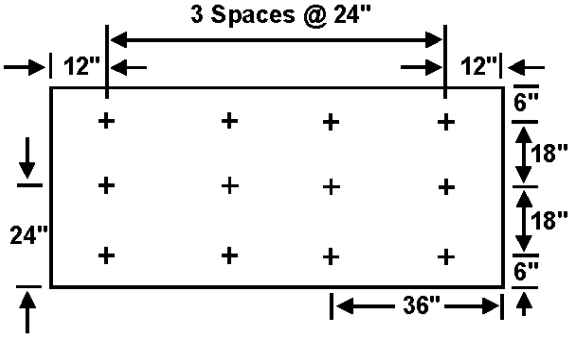
6 per 4-ft x 8-ft board
(Max. 5.33-ft^2 contributory area per fastener)



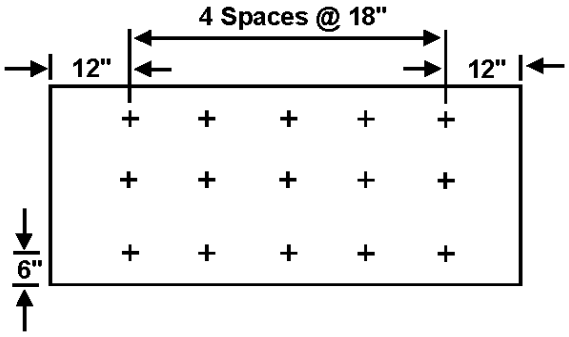
8 per 4-ft x 8-ft board
(Max. 4.0-ft^2 contributory area per fastener)



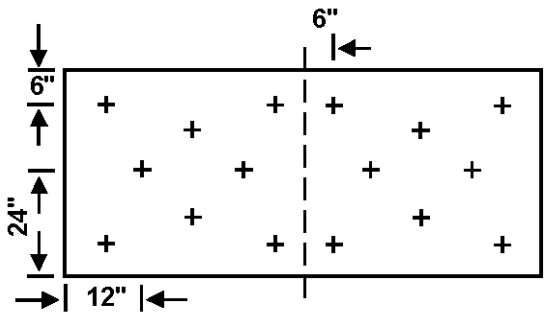
8 per 4-ft x 8-ft board (staggered)
(Max. 4.0-ft^2 contributory area per fastener)



12 per 4-ft x 8-ft board
(Max. 2.67-ft^2 contributory area per fastener)

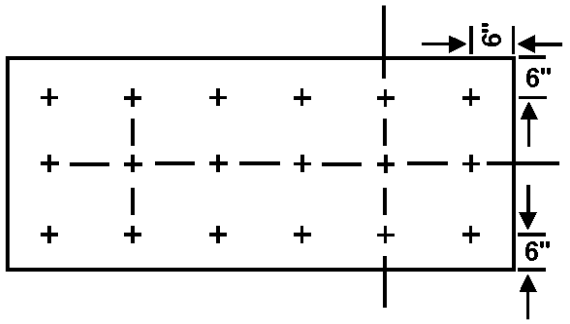


15 per 4-ft x 8-ft board
(Max. 2.13-ft^2 contributory area per fastener)

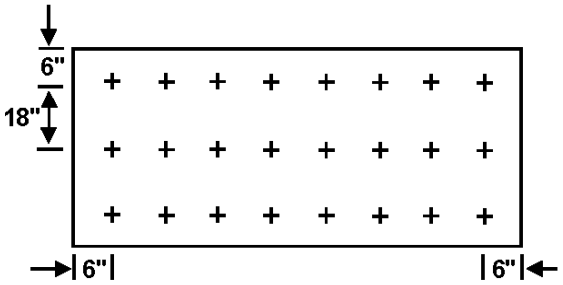


16 per 4-ft x 8-ft board
(Max. 2.0-ft^2 contributory area per fastener)

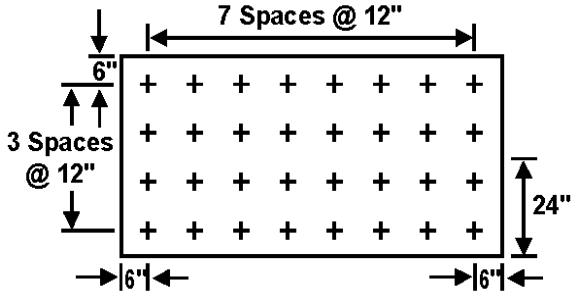
Insulation/Cover Board Fastening Patterns



18 per 4-ft x 8-ft board
(Max. 1.78-ft^2 contributory area per fastener)



24 per 4-ft x 8-ft board
(Max. 1.33-ft^2 contributory area per fastener)



32 per 4-ft x 8-ft board
(Max. 1.0-ft^2 contributory area per fastener)

NOMENCLATURE

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

Name	Definition		
2-Part UIA	JM Two Part Urethane Insulation Adhesive		
AP Fasteners & Plates	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate		
AP Fasteners & Plates (Square)	All Purpose Fastener or Structural Concrete Deck Fastener (concrete only) and UltraFast Square Recessed Metal Plate		
APB Fasteners & Plates	JM APB Plates and JM High Load Fasteners (*Wood Deck* or *Steel Deck*) or JM All Purpose Fasteners (*Concrete Deck*)		
As Tested	Information provided to the report user based on the as tested condition of the roof system		
Deck Detail	All decks shall be designed by others in accordance with FBC requirements. *As Tested* deck construction details are described as follows:		
	Concrete Deck	Min. f'_c = 2,500 psi at 28 days	
	CWF Deck	Min. 2.5-inch thick Tectum I cementitious wood fiber panels	
	Steel Deck	Min. 22 ga, Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC; 0.5% Vented for *LWIC* applications only. The following nomenclature is used to further describe the *As Tested* condition.	
		F<#>	<#> #12-24 HWH self-drilling screws or equivalent fastener at each flute used to secure the deck to the structural supports; Min. 1/4-inch penetration
		G<#>	Min. Grade <#> of *Steel Deck*
		L<#>	Max. span of <#> ft
		P	Min. 5/8-inch diameter puddle welds at each flute used to secure the deck to the structural supports
		S<#>	1/4 "-14 HWH x7/8" self-drilling screws or equivalent fastener secured <#>-inch o.c. along the panel side laps
		W	3/4-inch O.D. flat washer used with indicated fastener
	Wood Deck	**HVHZ:** APA Span-Rated sheathing. The following nomenclature is used to further describe the *As Tested* condition:	
		T<#>P	Min. <#>-inch thickness of the plywood
		T<#>O	Min. <#>-inch thickness of the OSB
		L<#>	Max. span of <#> inches
		N<#>	Min. 0.113-inch diameter x 2-3/8-inch ring shank nails spaced <#>-inch o.c. at all intermediate supports and at the perimeter of each board
		16S<#>	Min. 16 ga. staples, 1.5-inch x 1-inch crown spaced <#>-inch o.c. at all intermediate supports and at the perimeter of each board
DensDeck	Min. 1/4-inch Georgia-Pacific DensDeck		
DEXcell CB	Min. 1/4-inch National Gypsum DEXcell Cement Roof Board		
DEXcell FA	Min. 1/4-inch National Gypsum DEXcell FA Glass Mat Roof Board		
E3	JM ENRGY 3, JM ENRGY 3 AGF, JM ENRGY 3 CGF or JM ENRGY 3 FR		
Extra HL Fasteners & Plates	JM Extra High Load Fasteners (*Wood Deck* or *Steel Deck*) or JM All Purpose Fasteners (*Concrete Deck*) and JM Extra High Load Plates		

APPENDIX B - NOMENCLATURE

Name	Definition
HL Fasteners & Plates	JM High Load Fasteners (*Wood Deck* or *Steel Deck*) or JM All Purpose Fasteners (*Concrete Deck*) and JM High Load Plates
INSULATION	One of more layers in any combination of the following products: -ENRGY 3 -ENRGY 3 AGF -ENRGY 3 CGF -ENRGY 3 FR -Fesco Board -Fesco Foam -Invinsa Roof Board -Invinsa FR Roof Board -Retro-Fit Board -RetroPlus Roof Board -SECUROCK Glass-Mat Roof Board -SECUROCK Gypsum-Fiber Roof Board
INVINSA	JM Invinsa or JM Invinsa FR Roof Board
InvinsaPlus	JM InvinsaPlus Roof Board
LWIC	Poured-in-place Cellular Lightweight Concrete with encapsulated insulation board
MCRF	Minimum Characteristic Resistance Force as determined by TAS 105 for the named fastener in the selected assembly
MDP	Maximum Design Pressure
Preliminarily Secured	Fastened at minimum rate of 5 per 4 ft x 8 ft board or 4 per 4 ft x 4 ft board.
JM PVC	One ply of any one of the following products: JM PVC-50 mil, JM PVC-60 mil, or JM PVC-80 mil
JM PVC FB	One ply of any one of the following products: JM PVC Fleece Backed-50 mil, JM PVC Fleece Backed-60 mil or JM PVC Fleece Backed-80 mil
JM PVC FB/DynaFast	One ply of JM PVC Fleece Backed-50 mil or JM PVC Fleece Backed-60 mil fully adhered in ASTM D 312 Type asphalt over DynaFast 180 S. DynaFast 180 S fastened to deck as described in *Approved Assembly*
JM PVC SD Plus	One ply of any one of the following products: JM PVC SD Plus-50 mil, JM PVC SD Plus-60 mil, or JM PVC SD Plus-80 mil
JM TPO	One ply of any one of the following products: JM TPO-45, JM TPO-60, or JM TPO-80
JM TPO FB	One ply of any one of the following products: JM TPO FB 115 or JM TPO FB 135
OSFA	JM One-Step Foamable Adhesive
PVC Bonding Adhesive	Any one of the following products: -JM PVC Membrane Adhesive (Low VOC) -JM PVC Membrane Adhesive (Water-Based)
Recover	Where assemblies are used to recover an existing roof, the existing roof shall consist of only one layer of roofing, i.e. recovering a previously recovered roof is not permitted. Recover roofing shall be conducted in compliance with FBC Section 1510 outside of the HVHZ and FBC Section 1521 within the HVHZ. For mechanically fastened roof assemblies and induction welded assemblies, i.e. systems x-M-# and x-W-#, the insulation layer is optional, or any INSULATION board or slip sheet may be used as separation layer prior to installing the approved roof assembly.
RetroPlus	JM RetroPlus Roof Board
RSUA	JM Roofing System Urethane Adhesive

APPENDIX B - NOMENCLATURE

Name	Definition
SECUROCK	Min. 1/4-inch JM SECUROCK Gypsum-Fiber Roof Board
TPO Bonding Adhesives	Any one of the following products: -JM Membrane Bonding Adhesive (TPO & EPDM) -JM LVOC Membrane Adhesive (TPO & EPDM) -JM TPO Water Based Membrane Adhesive
UIA	JM Urethane Insulation Adhesive
UltraFast Fasteners & Plates	JM UltraFast Fasteners (*Steel Deck* and *Wood Deck*) or JM All Purpose Fasteners (*Concrete Deck*) and JM UltraFast Plates (Round or Square)
UltraFast Fasteners & Plates (Square)	JM UltraFast Fasteners (*Steel Deck* and *Wood Deck*) or JM All Purpose Fasteners (*Concrete Deck*) and JM UltraFast Plates (Square)
UltraFast Plates	JM UltraFast Plates (Round or Square)

APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

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

1. Allowable pressures were calculated using a 2:1 margin of safety per FBC Section 1504.9.
2. Refer to **LIMITATIONS** and **NOMENCLATURE** sections of this evaluation when using the table(s) below.
3. Refer to **INSTALLATION** section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. *As Tested* information for roof deck construction is provided for information only. The addition of the *As Tested* deck information does not obviate the requirement for rational design of the roof deck and roof deck attachment in accordance with FBC requirements.

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

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-1	DynaBase applied in ADCO Millennium Hurricane Force Membrane Adhesive at 6-inch o.c.	Min. 1.5-inch ENRGY 3 applied in *RSUA* at 12-inch o.c.	DynaBase applied in ADCO Millennium Hurricane Force Membrane Adhesive at 6-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 9)**
C-A-2	OPTIONAL JM Vapor Barrier SA applied over deck primed with JM SA Primer Low VOC	Min. 1.5-inch *E3* applied in *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	OPTIONAL *SECUROCK,* or Invinsa applied in *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-3	-	Min. 1.5-inch ENRGY 3 applied in *OSFA* or *2-Part UIA* at 12-inch o.c.	OPTIONAL JM Invinsa applied in *2-Part UIA* at 12-inch o.c.-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2 on membrane and substrate or JM TPO Water Based Adhesive; Applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2 (not with Invinsa)	**-105 (Lim. 9)**
C-A-4	-	*RetroPlus* applied in ASTM D 312, Type IV asphalt	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 1.1-2.0 gal/100ft^2	**-105 (Lim. 9)**
C-A-5	-	Min. 1.5-inch *E3* applied in *OSFA*, *RSUA* or *2-Part UIA*;Applied 12-inch o.c.	-	*JM TPO FB*	*RSUA* or *2-Part UIA* applied 4-inch o.c.; Min. 2-inch side lap secured with min. 1.5-inch heat weld.	**-112.5 (Lim 9)**
C-A-6	-	Min. 1.5-inch *E3* applied in *2-Part UIA, OSFA* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2	**-172.5 (Lim. 9)**
C-A-7	-	Min. 1.5-inch ENRGY 3, ENRGY 3 CGF, or ENRGY 3 FR applied in *2-Part UIA* at 12-inch o.c.	-	*JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-187.5 (Lim. 9)**
C-A-8		Min. 1.5-inch ENRGY 3, ENRGY 3 CGF, or ENRGY 3 FR applied in *2-Part UIA* at 12-inch o.c.	-	*JM TPO*	JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-195 (Lim. 9)**
C-A-9	-	*INVINSA* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-255 (Lim. 9)**
C-A-10	-	*INVINSA* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-277.5 (Lim. 9)**
C-A-11	DynaBase HW	*SECUROCK* applied in *RSUA* at 12-inch o.c.	-	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-292.5 (Lim. 9)**
C-A-12	DynaBase HW torch adhered over deck primed with ASTM D 41 primer	Min. 1.5-inch ENRGY 3 CGF applied in *RSUA* at 12-inch o.c.	*SECUROCK* applied in *RSUA* at 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-292.5 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-13	-	Min. 1.5-inch *E3* applied in *2-Part UIA* at 12-inch o.c.	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); applied 0.55 gal/100ft^2	**-322.5 (Lim. 9)**
C-A-14	-	*DEXcell CB* applied in *2-Part UIA* or OlyBond 500 at 12-inch o.c.	-	*JM TPO FB*	JM TPO Water Based Membrane Adhesive	**-322.5 (Lim. 9)**
C-A-15	-	*SECUROCK* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-345 (Lim. 9)**
C-A-16	-	*SECUROCK* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2	**-360 (Lim. 9)**
C-A-17	-	*DEXcell CB* or *DEXcell FA* applied in *2-Part UIA* or OlyBond 500 at 12-inch o.c.	-	*JM TPO*	JM TPO Membrane Adhesive (Low VOC), JM LVOC Membrane Adhesive (TPO & EPDM), JM TPO Water Based Membrane Adhesive or JM Membrane Bonding Adhesive (TPO & EPDM)	**-390 (Lim. 9)**
C-A-18	-	*DEXcell FA* applied in *2-Part UIA* or OlyBond 500 at 12-inch o.c.	-	*JM TPO FB*	JM TPO Water Based Membrane Adhesive	**-390 (Lim. 9)**
C-A-19	-	*SECUROCK* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-465 (Lim. 9)**
C-A-20	-	*INVINSA* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2	**-465 (Lim. 9)**
C-A-21	-	*SECUROCK* applied in *2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2	**-495 (Lim. 9)**

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-1	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.375-inch *SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 2.67ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-45 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-2	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 4.0ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM) applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-45 (Lim. 9)**
C-AM-3	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 2.0ft^2	-	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2 on membrane and substrate or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2	**-45 (Lim. 9)**
C-AM-4	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 2.0ft^2	*RetroPlus*	*RSUA* or *2-Part UIA;* applied 12-inch o.c	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 1.67 gal/100ft^2	**-45 (Lim. 9)**
C-AM-5	Min. 2-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 4.0ft^2	*SECUROCK*	*OSFA*, *RSUA* or 2-*Part UIA;* Applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-45 (Lim. 7)**
C-AM-6	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-52.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-7	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
C-AM-8	Min 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured at a rate of 1 fastener per 1.45ft^2	Invinsa	*RSUA* or *2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
C-AM-9	OPTIONAL *Inuslation*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*AP Fasteners and Plates* secured 1 fastener per 2.67ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive*;* Applied 0.63-0.83 gal/100ft^2	**-52.5 (Lim. 7)**
C-AM-10	Min 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-60 (Lim. 7)**
C-AM-11	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-60 (Lim. 7)**
C-AM-12	OPTIONAL *Inuslation*	Simultaneously secured with top layer	Min. 1.5-inch *E3*	*AP Fasteners and Plates* secured 1 fastener per 1.78ft^2	*JM TPO*	JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2	**-60 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-13	Min. 1.5-inch *E3*	*AP Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK*, or Invinsa	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**
C-AM-14	Min 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured at a rate of *24 per 4-ft x 8-ft Board*	Min. 1/2-inch *SECUROCK*	*RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-67.5 (Lim. 7)**
C-AM-15	OPTIONAL *Inuslation*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*AP Fasteners and Plates* secured 1 fastener per 2.0ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-67.5 (Lim. 7)**
C-AM-16	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-82.5 (Lim. 7)**
C-AM-17	OPTIONAL *Inuslation*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*AP Fasteners and Plates* secured 1 fastener per 1.33ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-105 (Lim. 7)**
C-AM-18	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-150 (Lim. 7)**

Mechanically Fastened Assemblies over *Concrete Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-M-1	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with JM All Purpose Fasteners and JM High Load Plus Plates; Fastener rows max. 114-inch o.c.	**-30 (Lim. 7; Non-HVHZ)**
C-M-2	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	JM TPO (Min. 60 mil)	Attached in-lap 12-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 90-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
C-M-3	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with JM All Purpose Fasteners and JM High Load Plus Plates; Fastener rows max. 90-inch o.c.	**-45 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Concrete Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-M-4	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
C-M-5	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
C-M-6	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 114-inch o.c.	**-52.5 (Lim. 7)**
C-M-7	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 90-inch o.c.	**-60 (Lim. 7)**
C-M-8	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
C-M-9	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 90-inch o.c.	**-75 (Lim. 7)**
C-M-10	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM All Purpose Fasteners and High Load Plates; Fastener rows max. 54-inch o.c.	**-97.5 (Lim. 7)**

Induction Welded Assemblies over *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-W-1	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with JM All Purpose Fasteners and JM TPO RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7)**
C-W-2	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with JM All Purpose Fasteners and JM TPO RhinoPlates at a rate of 12 per 4-ft x 8-ft board (1 fastener per 2.67-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-75 (Lim. 7)**
C-W-3	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with JM All Purpose Fasteners and JM TPO RhinoPlates in a 24-inch by 16-inch grid pattern	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-90 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Induction Welded Assemblies over *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-W-4	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with JM All Purpose Fasteners and JM TPO RhinoPlates at a rate of 15 per 4-ft x 8-ft board (1 fastener per 2.13-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-90 (Lim. 7)**

Adhered Assemblies over Cementitious Wood Fiber Deck (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
CW-A-1	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	JM Invinsa	*OSFA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c. or JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-122.5 (Lim. 9)**
CW-A-2	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	*SECUROCK*	*RSUA, OSFA,* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-140 (Lim. 9)**
CW-A-3	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	-	-	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive applied 0.63-0.83 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-157.5 (Lim. 9)**
CW-A-4	Min. 475 psi Celcore MF with HS Rheology Admixture installed	Poured-in-place	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-167.5 (Lim. 9)**
CW-A-5	Min. 475 psi Celcore MF with HS Rheology Admixture installed	Poured-in-place	-	-	*JM TPO FB*	*RSUA* applied 4-inch o.c.	**-197.5 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with All Layers Adhered over Gypsum Deck (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
G-A-1	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	-	-	*JM TPO* or *JM TPO FB*	*JM TPO: JM TPO:* JM TPO Water Based Membrane Adhesive applied 0.63-0.83 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive*;* Applied 0.63-0.83 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-75 (Lim. 9)**
G-A-2	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	Invinsa	*2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83 gal/100ft^2 on membrane and substrate or *JM TPO FB: RSUA* applied 12-inch o.c. or JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-75 (Lim. 9)**
G-A-3	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	*SECUROCK*	*RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-75 (Lim. 9)**
G-A-4	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	-	-	*JM TPO* or *JM TPO FB*	*JM TPO: JM TPO:* JM TPO Water Based Membrane Adhesive applied 0.63-0.83 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive*;* Applied 0.63-0.83 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-77.5 (Lim. 9)**
G-A-5	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	Invinsa	*OSFA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83 gal/100ft^2 on membrane and substrate or *JM TPO FB: RSUA* applied 12-inch o.c. or JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-77.5 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with All Layers Adhered over Gypsum Deck (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
G-A-6	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	*SECUROCK*	*RSUA* or *OSFA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-77.5 (Lim. 9)**
G-A-7	-	-	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-85 (Lim. 9)**
G-A-8	Invinsa	*OSFA* applied 12-inch o.c.	-	-	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2 on membrane and substrate or *JM TPO FB: RSUA* applied 12-inch o.c. or JM TPO Water Based Membrane Adhesive; Applied 0.56-0.71 gal/100ft^2	**-92.5 (Lim. 9)**
G-A-9	-	-	-	-	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-155 (Lim. 9)**

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-1	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Min. 1.5-inch ENRGY 3	*RSUA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM Membrane Bonding Adhesive (TPO & EPDM) Applied 0.83 gal/100ft^2 or JM TPO Water Based Adhesive applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or JM TPO FB: JM TPO Water Based Membrane Adhesive applied 0.59-0.77 gal/100ft2	**-77.5 (Lim. 9**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-2	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 CGF Top Layer: *SECUROCK*	Base and Top layer secured with *RSUA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-77.5 (Lim. 9)**
LC-A-3	Min. 300 psi *LWIC*	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM Membrane Bonding Adhesive (TPO & EPDM) Applied 0.83 gal/100ft^2 or JM TPO Water Based Adhesive applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or JM TPO FB: JM TPO Water Based Membrane Adhesive applied 0.59-0.77 gal/100ft2	**-80 (Lim. 9)**
LC-A-4	Min. 300 psi *LWIC*	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-80 (Lim. 9)**
LC-A-5	Min. 383.5 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL JM Vapor Barrier SA or DynaBase HW over ASTM D 41 primed concrete	-	-	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-112.5 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-6	Min. 310 psi Elastizell with Zell-Crete Fibers	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c	*JM TPO or JM TPO FB*	JM TPO: JM Membrane Bonding Adhesive (TPO & EPDM) Applied 0.83 gal/100ft^2 or JM TPO Water Based Adhesive applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or JM TPO FB: JM TPO Water Based Membrane Adhesive applied 0.59-0.77 gal/100ft2	**-130 (Lim. 9)**
LC-A-7	Min. 310 psi Elastizell with Zell-Crete Fibers	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-130 (Lim. 9)**
LC-A-8	Min. 375 psi Concrecel	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-147.5 (Lim. 9)**
LC-A-9	Min. 475 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL DynaBase HW	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-167.5 (Lim. 9)**
LC-A-10	Min. 375 psi Concrecel	-	-	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-172.5 (Lim. 9)**
LC-A-11	Min. 375 psi Concrecel	-	-	*JM TPO*	JM TPO Membrane Adhesive (Low VOC) applied 1.5-2 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM)	**-257.5 (Lim. 9)**
LC-A-12	Min. 475 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL DynaBase HW	-	-	*JM TPO FB*	*RSUA* applied 4-inch o.c.	**-257.5 (Lim. 9)**
LC-A-13	Min. 213.5 Elastizell with Zell-Crete Fibers (no EPS Board)	-	-	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-290 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Steel Deck* (New or Existing)							
System No.	*Deck Detail*	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LS-A-1	G33	Min. 475 psi Celcore MF with HS Rheology	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-45 (Lim. 9)**
LS-A-2	G33	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Min. 1.5-inch ENRGY 3	*RSUA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM Membrane Bonding Adhesive (TPO & EPDM) Applied 0.83 gal/100ft^2 or JM TPO Water Based Adhesive applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or JM TPO FB: JM TPO Water Based Membrane Adhesive applied 0.59-0.77 gal/100ft2	**-77.5 (Lim. 9**
LS-A-3	G33	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 CGF Top Layer: *SECUROCK*	Base and Top layer secured with *RSUA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-77.5 (Lim. 9)**
LS-A-4	G33	Min. 300 psi *LWIC*	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM Membrane Bonding Adhesive (TPO & EPDM) Applied 0.83 gal/100ft^2 or JM TPO Water Based Adhesive applied 0.63-0.71 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.55 gal/100ft^2 or JM TPO FB: JM TPO Water Based Membrane Adhesive applied 0.59-0.77 gal/100ft2	**-80 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Steel Deck* (New or Existing)							
System No.	*Deck Detail*	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LS-A-5	G33	Min. 300 psi *LWIC*	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-80 (Lim. 9)**
LS-A-6	G80, P, L5, S15	Min. 250 psi Elastizell with Zell-Crete Fibers	-	-	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-97.5 (Lim. 9)**
LS-A-7	G80, P, L5, S15	Min. 250 psi Elastizell with Zell-Crete Fibers	-	-	*JM TPO*	JM TPO Membrane Adhesive (Low VOC) applied at rate of 90 ft^2/gal, half applied to LWIC and half to underside of membrane or JM LVOC Membrane Adhesive (TPO & EPDM)	**-97.5 (Lim. 9)**
LS-A-9	G33	Min. 310 psi Elastizell with Zell-Crete Fibers	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO or JM TPO FB*	JM TPO: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft2 or JM TPO FB: JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft2	**-130 (Lim. 9)**

Adhered *Recover* Assemblies						
System No.	Existing Roof	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
R-A-1	BUR or Mod-Bit Roofing with mineral surfacing	-	-	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-45 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Mechanically Fastened *Recover* Assemblies								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-M-1	*Steel Deck (G33)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with High Load Fasteners and JM High Load Plus Plates for *Steel Deck* or JM All Purpose Fasteners and JM High Load Plus Plates for *Concrete Deck*; Fastener rows max. 114-inch o.c.	**-30 (Lim. 7; Non-HVHZ)**
R-M-2	*Steel Deck (G33)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminiarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	JM TPO (Min. 60 mil)	Attached in-lap 12-inch o.c. with *HL Fastener & Plates*; Fastener rows max. 90-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
R-M-3	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with JM Purlin Fasteners and High Load Plates to structural supports; Fastener rows max. 60-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
R-M-4	*Wood Deck (T19/32)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 4-inch o.c. with JM APB Plates and High Load Fasteners; Fastener rows max. 114-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
R-M-5	Existing metal roof having Min. 14 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with JM Purlin Fasteners and High Load Plates to structural supports; Fastener rows max. 60-inch o.c.	**-45 (Lim. 7)**
R-M-6	*Steel Deck (G80, F2W, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with High Load Fasteners and JM High Load Plus Plates for *Steel Deck* or JM All Purpose Fasteners and JM High Load Plus Plates for *Concrete Deck*; Fastener rows max. 90-inch o.c.	**-45 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Mechanically Fastened *Recover* Assemblies								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-M-7	*Steel Deck (G80, F1, L6, S18)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with *Extra HL Fasteners & Plates;* Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
R-M-8	*Steel Deck (G80, F1, L6, S18)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates;* Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
R-M-9	*Steel Deck (G80, F1, L6, S18)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *Extra HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-52.5 (Lim. 7)**
R-M-10	*Wood Deck (T19/32, L24, N6)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 54-inch o.c.	**-60 (Lim. 7)**
R-M-11	*Steel Deck (G80, F1, L6, S18)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates;* Fastener rows max. 90-inch o.c.	**-60 (Lim. 7)**
R-M-12	*Steel Deck (G33, L6, P)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
R-M-13	*Steel Deck (G33, L6, P)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 90-inch o.c.	**-75 (Lim. 7)**
R-M-14	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with JM Purlin Fasteners and High Load Plates to structural supports; Fastener rows max. 60-inch o.c.	**-82.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Mechanically Fastened *Recover* Assemblies								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-M-15	*Steel Deck (G33, L6, P)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 54-inch o.c.	**-97.5 (Lim. 7)**

Induction Welded *Recover* Assemblies								
System No.	Existing Roof	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-W-1	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	JM Purlin Fasteners and JM TPO RhinoPlates secured to structural supports 18-inch o.c.; Fastener rows max. 60-inch o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7)**
R-W-2	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	JM Purlin Fasteners and JM TPO RhinoPlates secured to structural supports 6-inch o.c.; Fastener rows max. 120-inch o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7)**
R-W-3	*Steel Deck (G33, L6, P)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7)**
R-W-4	*Wood Deck (T15/32, L24, N6)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 24-inch o.c. through sheathing into wood structural supports in rows max. 24” o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-52.5 (Lim. 7)**
R-W-5	*Wood Deck (T15/32, L24, N6)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 9-inch o.c. through sheathing into wood structural supports in rows max. 48” o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-60 (Lim. 7)**
R-W-6	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	JM Purlin Fasteners and JM TPO RhinoPlates secured to structural supports 12-inch o.c.; Fastener rows max. 60-inch o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-67.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Induction Welded *Recover* Assemblies								
System No.	Existing Roof	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-W-7	*Steel Deck (G33, L6, P)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 12 per 4-ft x 8-ft board (1 fastener per 2.67-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-75 (Lim. 7)**
R-W-8	*Steel Deck (G33, F2W, L6)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 15 per 4-ft x 8-ft board (1 fastener per 2.13-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-90 (Lim. 7)**
R-W-9	*Wood Deck (T15/32, L24, N6)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or Min. 0,25-inch *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 6-inch o.c. through sheathing into wood structural supports in rows max. 48" o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-112.5 (Lim. 7)**
R-W-10	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *INSULATIONINSULATION* over fill or *SECUROCK*	JM Purlin Fasteners and JM TPO RhinoPlates secured to structural supports 6-inch o.c.; Fastener rows max. 60-inch o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-120 (Lim. 7)**

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-1	*G33*	-	OPTIONAL *INSULATIONINSULATION*	*Preliminarily Secured* or secured with top layer	Min. 2-inch Fesco Foam	*UltraFast Fasteners and Plates* secured 1 fastener per 5.3ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM), JM TPO Membrane Adhesive (Low VOC), or JM LVOC Membrane Adhesive (TPO & EPDM)	**-37.5 (Lim. 9; Non-HVHZ)**
S-AM-2	*G33*	-	OPTIONAL *INSULATIONINSULATION*	*Preliminarily Secured* or secured with top layer	Min. 2-inch Invinsa Foam	*UltraFast Fasteners and Plates* secured 1 fastener per 5.3ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM), JM TPO Water Based Membrane Adhesive, JM TPO Membrane Adhesive (Low VOC) , or JM LVOC Membrane Adhesive (TPO & EPDM)	**-45 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-3	*G33*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.375-inch *SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 2.67ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-45 (Lim. 9)**
S-AM-4	*G33*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 4.0ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM) applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-45 (Lim. 9)**
S-AM-5	*G33*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 2.0ft^2	-	-	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83 gal/100ft^2 on membrane and substrate or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2	**-45 (Lim. 9)**
S-AM-6	*G33*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 2.0ft^2	*RetroPlus*	*RSUA* or *2-Part UIA;* applied 12-inch o.c	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM); Applied 1.67 gal/100ft^2	**-45 (Lim. 9)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-7	*G33, F2, L6, S24*	-	Min. 2-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 4.0ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;*Applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM)*;* Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-45 (Lim. 7)**
S-AM-8	*G33*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 4.0ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM), JM TPO Water Based Membrane Adhesive or JM LVOC Membrane Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC)	**-45 (Lim. 9)**
S-AM-9	*G33, F2, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.67ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM TPO*	JM TPO Water Based Membrane Adhesive	**-45 (Lim. 7)**
S-AM-10	*G33, F2, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.67ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM LVOC Membrane Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC)	**-52.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-11	*G33, F1, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-52.5 (Lim. 7)**
S-AM-12	*G33, F2, L6, S24*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2 or *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
S-AM-13	*G40, P, L6, S20*	-	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.45ft^2	JM Invinsa	*RSUA* or *2-Part UIA* ribbons spaced 12-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
S-AM-14	*G33, F2, L6, S24*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*UltraFast Fasteners and Plates* secured 1 fastener per 2.67ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-52.5 (Lim. 7)**
S-AM-15	*G33, F1, L6, S30*	-	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-60 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-16	*G33, F2W, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM TPO* or *JM TPO FB*	*JM TPO:* JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.83-1.10 gal/100ft^2 or JM LVOC Membrane Adhesive (TPO & EPDM) applied 0.83 gal/100ft^2 or *JM TPO FB:* JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-60 (Lim. 7)**
S-AM-17	*G33, F2, L6, S24*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.78ft^2	*JM TPO*	JM LVOC Membrane Adhesive (TPO & EPDM) or JM Membrane Bonding Adhesive (TPO & EPDM); Applied 0.55 gal/100ft^2	**-60 (Lim. 7)**
S-AM-18	*G80, F1W, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.0ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM LVOC Membrane Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC)	**-60 (Lim. 7)**
S-AM-19	*G33, F2W, L6, S18*	-	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK* or JM Invinsa	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	*JM TPO FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**
S-AM-20	L6, G80, F1, S30	-	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of *24 per 4-ft x 8-ft Board*	Min. 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-67.5 (Lim. 7)**
S-AM-21	*G33, F2, L6, S24*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*UltraFast Fasteners and Plates* secured 1 fastener per 2.0ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-67.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-22	*G33, F2, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.0ft^2	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-82.5 (Lim. 7)**
S-AM-23	*G80, F1W, L6, S24*	Min. 0.5-inch *DEXcell FA; UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2; JM Vapor Barrier SA self-adhered over SA Primer	Min. 1.5-inch *E3*	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	Min. 0.5-inch *DEXcell FA*	*RSUA* applied 6-inch o.c.	*JM TPO FB*	*RSUA* applied 6-inch o.c.	**-82.5 (Lim. 7)**
S-AM-24	*G33, F2, L6, S24*	Min. 0.5-inch *DEXcell FA* secured with top layer; JM Vapor Barrier SA self-adhered	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *DEXcell FA*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2	*JM TPO FB*	*RSUA* applied 4-inch o.c.	**-82.5 (Lim. 7)**
S-AM-25	*G80, F2, L6, S24*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 2-inch ENRGY 3 CGF or ENRGY 3 FR	*UltraFast Fasteners and Plates* secured 1 fastener per 1.33ft^2	*JM TPO*	JM Membrane Bonding Adhesive (TPO & EPDM) or JM TPO Membrane Adhesive (Low VOC) applied 0.83 gal/100ft^2 or JM TPO Water Based Membrane Adhesive; Applied 0.63-0.83 gal/100ft^2	**-105 (Lim. 7)**
S-AM-26	*G80, F2, L6, S24*	Min. 0.5-inch *DEXcell FA* secured with top layer; JM Vapor Barrier SA self-adhered	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *DEXcell FA*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2	*JM TPO FB*	*RSUA* applied 4-inch o.c.	**-142.5 (Lim. 7)**
S-AM-27	*G80, F1W, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM TPO* or *JM TPO FB*	JM TPO Water Based Membrane Adhesive; Applied 0.59-0.77 gal/100ft^2	**-150 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-M-1	*G33, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with High Load Fasteners and JM High Load Plus Plates; Fastener rows max. 114-inch o.c.	**-30 (Lim. 7; Non-HVHZ)**
S-M-2	*G33, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	JM TPO (Min. 60 mil)	Attached in-lap 12-inch o.c. with *HL Fastener & Plates*; Fastener rows max. 90-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
S-M-3	*G80, F2W, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with High Load Fasteners and JM High Load Plus Plates; Fastener rows max. 90-inch o.c.	**-45 (Lim. 7)**
S-M-4	*G80, F1, L6, S18*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 12-inch o.c. with *Extra HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
S-M-5	*G80, F1, L6, S18*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
S-M-6	*G80, F1, L6, S18*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *Extra HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-52.5 (Lim. 7)**
S-M-7	*G80, F1, L6, S18*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 90-inch o.c.	**-60 (Lim. 7)**
S-M-8	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
S-M-9	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 90-inch o.c.	**-75 (Lim. 7)**
S-M-10	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 54-inch o.c.	**-97.5 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Induction Welded Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-W-1	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7)**
S-W-2	*G33, F2, L6, S18*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *DensDeck, SECUROCK* or *INVINSA* or Min. 1.5-inch *E3*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-67.5 (Lim. 7)**
S-W-3	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 12 per 4-ft x 8-ft board (1 fastener per 2.67-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-75 (Lim. 7)**
S-W-4	*G33, F2, L6, S24*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates in a 24-inch by 16-inch grid pattern	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-82.5 (Lim. 7)**
S-W-5	*G80, F2, L6, S24*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates in a 24-inch by 16-inch grid pattern	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-90 (Lim. 7)**
S-W-6	*G33, F2W, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM TPO RhinoPlates at a rate of 15 per 4-ft x 8-ft board (1 fastener per 2.13-ft^2)	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-90 (Lim. 7)**

Mechanically Fastened Assemblies over *Wood Deck* (New or Existing)									
System No.	*Deck Detail*	Thermal Barrier	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
W-M-1	*T19/32P, L24*	As required	Min. 0.25-inch *INSULATIONINSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 4-inch o.c. with JM APB Plates and High Load Fasteners; Fastener rows max. 114-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
W-M-2	*T19/32P, L24, N6*	As required	Min. 0.25-inch *INSULATIONINSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM TPO*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 54-inch o.c.	**-60 (Lim. 7)**

APPENDIX C – APPROVED ASSEMBLIES FOR JM TPO SINGLE-PLY MEMBRANES

Induction Welded Assemblies over *Wood Deck* (New or Existing)									
System No.	*Deck Detail*	Thermal Barrier	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
W-W-1	*T7/16O* or *T15/32P, L24*	As required	OPTIONAL *INSULATIONI NSULATION*	*Preliminarily Secured* or secured with top layer	*INVINSA, SECUROCK* or Min. 1/2-inch *E3*	Min. 2-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 12-inch o.c. through sheathing into wood structural supports in row max. 8-ft o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-37.5 (Lim. 7; Non-HVHZ)**
W-W-2	*T7/16O* or *T15/32P, L24*	As required	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	-	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 18-inch o.c. through sheathing into wood structural supports in row max. 4-ft o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-45 (Lim. 7; Non-HVHZ)**
W-W-3	*T15/32P, L24, N6*	As required	Min. 0.25-inch *INSULATIONI NSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 24-inch o.c. through sheathing into wood structural supports in rows max. 24” o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-52.5 (Lim. 7)**
W-W-4	*T15/32P, L24, N6*	As required	Min. 0.25-inch *INSULATIONI NSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 9-inch o.c. through sheathing into wood structural supports in rows max. 48” o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-60 (Lim. 7)**
W-W-5	*T15/32P, L24, N6*	As required	Min. 0.25-inch *INSULATIONI NSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM TPO RhinoPlates secured max. 6-inch o.c. through sheathing into wood structural supports in rows max. 48” o.c.	JM TPO (Min. 60 mil)	Induction welded to JM TPO RhinoPlates	**-112.5 (Lim. 7)**

APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

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

1. Allowable pressures were calculated using a 2:1 margin of safety per FBC Section 1504.9.
2. Refer to **LIMITATIONS** and **NOMENCLATURE** sections of this evaluation when using the table(s) below.
3. Refer to **INSTALLATION** section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. *As Tested* information for roof deck construction is provided for information only. The addition of the *As Tested* deck information does not obviate the requirement for rational design of the roof deck and roof deck attachment in accordance with FBC requirements.

Assembly System Numbers and Definitions	
C-A-#	Adhered Assemblies over *Concrete Deck* (New or Existing)
C-AM-#	Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing or *Recover*)
C-M-#	Mechanically Fastened Assemblies over *Concrete Deck*
C-W-#	Induction Welded Assemblies over *Concrete Deck*
CW-A-#	Adhered Assemblies over *CWF Deck* (New or Existing)
CW-M-#	Mechanically Fastened Assemblies over *CWF Deck* (New, Existing, or *Recover*)
G-A-#	Adhered Assemblies over Poured Gypsum Deck (New or Existing)
G-M-#	Mechanically Fastened Assemblies over Poured Gypsum Deck (New, Existing or *Recover*)
LC-A-#	Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)
LC-M-#	Mechanically Fastened Lightweight Concrete Assemblies over *Concrete Deck* (New, Existing, or *Recover*)
LS-A-#	Adhered Lightweight Concrete Assemblies over *Steel Deck* (New or Existing)
LS-M-#	Mechanically Fastened Lightweight Concrete Assemblies over *Steel Deck* (New, Existing, or *Recover*)
R-A-#	Adhered *Recover* Assemblies
R-M-#	Mechanically Fastened *Recover* Assemblies
R-W-#	Induction Welded *Recover* Assemblies
S-AM-#	Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing or *Recover*)
S-M-#	Mechanically Fastened Assemblies over *Steel Deck* (New, Existing or *Recover*)
S-W-#	Induction Welded Assemblies over *Steel Deck*
W-AM-#	Assemblies with Adhered Membranes over Insulated *Wood Deck* (New, Existing or *Recover*)
W-M-#	Mechanically Fastened Assemblies over *Wood Deck* (New or Existing)
W-W-#	Induction Welded Assemblies over *Wood Deck* (New or Existing)

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-1	DynaBase applied in ADCO Millennium Hurricane Force Membrane Adhesive at 6-inch o.c.	Min. 1.5-inch ENRGY 3 applied in *RSUA* at 12-inch o.c.	DynaBase applied in ADCO Millennium Hurricane Force Membrane Adhesive at 6-inch o.c.	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-2	OPTIONAL JM Vapor Barrier SA applied over deck primed with JM SA Primer Low VOC	Min. 1.5-inch *E3* applied in *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	OPTIONAL *SECUROCK,* RetroPlus, or Invinsa applied in *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 9)**
C-A-3	OPTIONAL DynaBase HW or JM Vapor Barrier SA applied over deck primed with JM SA Primer Low VOC	Min. 1.5-inch *E3* applied in *RSUA;* Applied 12-inch o.c.	*SECUROCK* applied in *OSFA*, *RSUA,* or *2-Part UIA* at 12-inch o.c. followed by OPTIONAL DynaBase HW	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 9)**
C-A-4	-	Min. 1.5-inch *E3* (no FR) adhered with *UIA*,*2-Part UIA, OSFA,* or *RSUA* at 12-inch o.c.	OPTIONAL JM Invinsa adhered with *UIA* or *2-Part UIA* at 12-inch o.c.	*JM PVC FB*	JM PVC Membrane Adhesive (Water Based)*;* Applied 1 gal/100ft^2 or ASTM D 312 Type IV Asphalt	**-105 (Lim. 9)**
C-A-5	-	Min. 1.5-inch *E3* (no FR) adhered with *UIA*, *2-Part UIA, OSFA* or *RSUA* at 12-inch o.c.	OPTIONAL JM Invinsa adhered with *UIA* or *2-Part UIA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1.67 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.67 gal/100ft^2	**-105 (Lim. 9)**
C-A-6	-	Min. 1.5-inch *E3* (no FR) adhered with *UIA,* or *2-Part UIA, OSFA* or *RSUA* at 12-inch o.c.	JM Invinsa adhered with *UIA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**
C-A-7	-	Min. 1.5-inch *E3* (no FR) applied in *RSUA, OSFA* or *2-Part UIA;*Applied 12-inch o.c.	-	*JM PVC FB*	*RSUA* or *2-Part UIA* applied 4-inch o.c.	**-112.5 (Lim 9)**
C-A-8	-	Min. 1.5-inch *E3* (no FR), min. 1-inch Fesco, min. 1.5-inch Fesco Foam, or Retro-Fit adhered with ASTM D 312 Type asphalt	-	*JM PVC FB*	ASTM D 312 Type IV Asphalt	**-150 (Lim. 9)**
C-A-9	-	Min. 1.5-inch *E3* (no FR) adhered with *2-Part UIA, OSFA* or *RSUA* at 12-inch o.c. or ASTM D 312 Type IV Asphalt	-	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1.67 gal/100ft^2 with *JM PVC* only or ASTM D 312 Type IV Asphalt with *JM PVC FB* only	**-217.5 (Lim. 9)**
C-A-10	-	-	-	*JM PVC FB*	JM PVC Membrane Adhesive (Water Based)*;* Applied 1 gal/100ft^2	**-217.5 (Lim. 9)**
C-A-11	DynaBase HW	*SECUROCK* applied in *RSUA* at 12-inch o.c.	DynaBase HW	*JM PVC FB*	*RSUA* applied at 12-inch o.c.	**-217.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Assemblies over *Concrete Deck* (New or Existing)						
System No.	Vapor Barrier	Base Insulation	Top Insulation or Base Ply	Membrane	Membrane Attachment	*MDP* (psf)
C-A-12	DynaBase HW torch adhered over deck primed with ASTM D 41 primer	Min. 1.5-inch ENRGY 3 CGF applied in *RSUA* at 12-inch o.c.	*SECUROCK* applied in *RSUA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-292.5 (Lim. 9)**
C-A-13	-	*DEXcell CB* or *DEXcell FA* applied in *2-Part UIA* or OlyBond 500 at 12-inch o.c.	-	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC) with *JM PVC* only or JM PVC Membrane Adhesive (Water Based) with *JM PVC FB* only	**-390 (Lim. 9)**

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-1	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC); Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-52.5 (Lim. 7)**
C-AM-2	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*AP Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
C-AM-3	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC); Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 0.8-1 gal/100ft^2	**-52.5 (Lim. 7)**
C-AM-4	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-5	Min. 1.5-inch ENRGY 3	*AP Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-52.5 (Lim. 7)**
C-AM-6	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 1.5-inch *E3*	*AP Fasteners and Plates* secured 1 fastener per 1.78ft^2	*JM PVC FB*	ASTM D 312 Type IV Asphalt	**-52.5 (Lim. 7)**
C-AM-7	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 1.5-inch *E3*	*AP Fasteners and Plates* secured 1 fastener per 1.78ft^2	*JM PVC FB*	ASTM D 312 Type IV Asphalt	**-52.5 (Lim. 7)**
C-AM-8	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-60 (Lim. 7)**
C-AM-9	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-60 (Lim. 7)**
C-AM-10	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-60 (Lim. 7)**
C-AM-11	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.78ft^2	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-60 (Lim. 7)**
C-AM-12	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK,* RetroPlus, or Invinsa	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation or Base Sheet	Top Insulation or Base Sheet Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-AM-13	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 6-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**

Mechanically Fastened Assemblies over *Concrete Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-M-1	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *Extra HL Fastener & Plates*; Fastener rows max. 114-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
C-M-2	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps; Fastener rows max. 73-inch o.c.	**-45 (Lim. 7)**
C-M-3	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* or *PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
C-M-4	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-45 (Lim. 7)**
C-M-5	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 72-inch o.c.	**-45 (Lim. 7)**
C-M-6	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* (Min. 60 mil)	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 73-inch o.c.	**-52.5 (Lim. 7)**
C-M-7	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side laps in rows max. 70-inch o.c.	**-52.5 (Lim. 9)**
C-M-8	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps; Fastener rows max. 73-inch o.c.	**-60 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Concrete Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-M-9	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-60 (Lim. 7)**
C-M-10	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* or *JM PVC FB*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 4.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
C-M-11	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 5.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
C-M-12	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with Extra High Load Fasteners & OMG Super XHD 2-3/4 Barbed Plates; Min. 5.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
C-M-13	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*APB Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**
C-M-14	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 12-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**
C-M-15	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	High Load LH Fasteners and Polymer Membrane Batten OR High Load Fasteners and Deep Well Batten strip spaced 6-inch o.c. within min. 4-inch heat welded side laps in rows max. 71-inch o.c.	**-60 (Lim. 9)**
C-M-16	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* (Min. 60 mil)	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 72-inch o.c.	**-75 (Lim. 7)**

Induction Welded Assemblies over *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-W-1	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with All Purpose Fasteners placed max. 12” o.c. in rows max. 72” o.c.	**-37.5 (Lim. 7; Non-HVHZ)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Induction Welded Assemblies over *Concrete Deck* (New, Existing, or *Recover*)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
C-W-2	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with All Purpose Fasteners placed max. 12” o.c. in rows max. 60” o.c.	**-45 (Lim. 7)**
C-W-3	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with All Purpose Fasteners and JM PVC RhinoPlates at a rate of 8 per 4-ft x 8-ft board (staggered) (1 fastener per 4.0-ft^2)	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-52.5 (Lim. 7)**
C-W-4	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with All Purpose Fasteners and JM PVC RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-67.5 (Lim. 7)**
C-W-5	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with All Purpose Fasteners placed max. 6” o.c. in rows max. 72” o.c.	**-82.5 (Lim. 7)**
C-W-6	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with All Purpose Fasteners placed max. 6” o.c. in rows max. 60” o.c.	**-90 (Lim. 7)**
C-W-7	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with All Purpose Fasteners and JM PVC RhinoPlates at a rate of 15 per 4-ft x 8-ft board (1 fastener per 2.13-ft^2)	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-90 (Lim. 7)**

Adhered Assemblies over *CWF Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
CW-A-1	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	JM Invinsa	*OSFA* or *2-Part UIA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**
CW-A-2	Min. 475 psi Celcore MF with HS Rheology Admixture installed	Poured-in-place	-	-	Base Ply: JM DynaBase Membrane: *JM PVC FB*	Base Ply: ADCO Millennium Hurricane Force Membrane Adhesive applied 12” o.c. Membrane: *RSUA* applied 12” o.c.	**-117.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Assemblies over *CWF Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
CW-A-3	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	*SECUROCK*	*RSUA, OSFA,* or *2-Part UIA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-140 (Lim. 9)**
CW-A-4	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	-	-	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-157.5 (Lim. 9)**
CW-A-5	Min. 475 psi Celcore MF with HS Rheology Admixture installed	Poured-in-place	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-167.5 (Lim. 9)**
CW-A-6	Min. 475 psi Celcore MF with HS Rheology Admixture installed	Poured-in-place	-	-	*JM PVC FB*	*RSUA* applied 4-inch o.c.	**-197.5 (Lim. 9)**

Mechanically Fastened Assemblies over *CWF Deck* (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
CW-M-1	-	-	-	-	*JM PVC FB/ DynaFast*	1.8" Twin Loc-Nail without integrated plate fastened 6-inch o.c. along Straight Line Batten Bar within min. 4-inch heat welded side laps and in one intermediate row centered between side laps	**-60 (Lim. 9)**

Adhered Assemblies over Poured Gypsum Deck (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP (psf)*
G-A-1	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	-	-	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2	**-75 (Lim. 9)**
G-A-2	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	JM Invinsa	*2-Part UIA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-75 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Assemblies over Poured Gypsum Deck (New or Existing)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP (psf)*
G-A-3	Min. 1.5-inch *E3* (no FR)	*2-Part UIA* applied 12-inch o.c.	*SECUROCK*	*RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-75 (Lim. 9)**
G-A-4	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	-	-	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2	**-77.5 (Lim. 9)**
G-A-5	Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	JM Invinsa	*OSFA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-77.5 (Lim. 9)**
G-A-6	OPTIONAL Min. 1-inch ENRGY 3	*OSFA* applied 12-inch o.c.	*SECUROCK*	*RSUA* or *OSFA* applied 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-77.5 (Lim. 9)**
G-A-7	Invinsa	*OSFA* applied 12-inch o.c.	-	-	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-92.5 (Lim. 9)**
G-A-8	Min. 1.5-inch *E3* (no FR)	*UIA* at 12-inch o.c.	JM Invinsa	*UIA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**

Mechanically Attached Assemblies over Poured Gypsum Deck (New, Existing, or ***Recover***)							
System No.	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP (psf)*
G-M-1	-	-	-	-	*JM PVC FB/ DynaFast*	1.8" Twin Loc-Nail without integrated plate fastened 6-inch o.c. along Straight Line Batten Bar within min. 4-inch heat welded side laps and in one intermediate row centered between side laps	**-60 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-1	Min. 250 psi Elastizell with Zell-Crete Fibers installed over DynaBase HW over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-75 (Lim. 9)**
LC-A-2	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Min. 1.5-inch ENRGY 3	*RSUA* ribbons spaced 12-inch o.c.	*JM PVC* *JM PVC FB*	JM PVC: JM PVC Membrane Adhesive (Low VOC) or JM PVC FB: *RSUA* applied 4-inch o.c.	**-77.5 (Lim. 9)**
LC-A-3	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 CGF Top Layer: *SECUROCK*	Base and Top layer secured with *RSUA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); or JM PVC Membrane Adhesive (Water Based) *a*pplied 0.67 gal/100ft^2	**-77.5 (Lim. 9)**
LC-A-4	Min. 300 psi *LWIC*	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC* *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC) or JM PVC FB: *2-Part UIA* applied 4-inch o.c.	**-80 (Lim. 9)**
LC-A-5	Min. 300 psi *LWIC*	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); or JM PVC Membrane Adhesive (Water Based) *a*pplied 0.67 gal/100ft^2	**-80 (Lim. 9)**
LC-A-6	Min. 250 psi Elastizell with Zell-Crete Fibers installed over DynaBase HW over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-85 (Lim. 9)**
LC-A-7	Min. 330 psi *LWIC*	-	-	*JM PVC FB*	JM PVC Membrane Adhesive (Water Based)*;* Applied 1 gal/100ft^2	**-90 (Lim. 9)**
LC-A-8	Min. 383.5 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL JM Vapor Barrier SA or DynaBase HW over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-92.5 (Lim. 9)**
LC-A-9	Min. 383.5 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL JM Vapor Barrier SA or DynaBase HW over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-102.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-10	Min. 160 psi Elastizell	Base Layer: Min. 1.5-inch *E3* (no FR) Top Layer: JM Invinsa	Base Layer: *UIA* at 6-inch o.c. or 2-*Part UIA* at 12-inch o.c. Top Layer: *UIA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**
LC-A-11	Min. 250 Elastizell with Zell-Crete Fibers	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-117.5 (Lim. 9)**
LC-A-12	Min. 310 psi Elastizell with Zell-Crete Fibers	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-130 (Lim. 9)**
LC-A-13	Min. 310 psi Elastizell with Zell-Crete Fibers	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-130 (Lim. 9)**
LC-A-14	Min. 375 psi Concrecel	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-147.5 (Lim. 9)**
LC-A-15	Min. 550 psi Elastizell with Zell-Fibers	-	-	Base Ply: JM DynaBase Membrane: *JM PVC FB*	Base Ply: ADCO Millennium Hurricane Force Membrane Adhesive applied 12” o.c. Membrane: *RSUA* applied 12” o.c.	**-167.5 (Lim. 9)**
LC-A-16	Min. 475 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL DynaBase HW	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-167.5 (Lim. 9)**
LC-A-17	Min. 375 psi Concrecel	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-172.5 (Lim. 9)**
LC-A-18	Min. 550 psi Elastizell with Zell-Fibers	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-177.5 (Lim. 9)**
LC-A-19	Min. 475 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL DynaBase HW	-	-	Base Ply: DynaBase Membrane: *JM PVC FB*	Base Ply: ADCO Millennium Hurricane Force Membrane Adhesive applied 6” o.c. Membrane: *RSUA* applied 6” o.c.	**-192.5 (Lim. 9)**
LC-A-20	Min. 262 psi *LWIC*	*SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c	*JM PVC*	JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-210 (Lim. 9; Non-HVHZ)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Concrete Deck* (New or Existing)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LC-A-21	Min. 262 psi *LWIC*	*SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch adhered Membrane: *RSUA* applied 12" o.c.	**-210 (Lim. 9; Non-HVHZ)**
LC-A-22	Min. 550 psi Elastizell with Zell-Fibers	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-225 (Lim. 9)**
LC-A-23	Min. 550 psi Elastizell with Zell-Fibers	-		Base Ply: JM DynaBase Membrane: *JM PVC FB*	Base Ply: ADCO Millennium Hurricane Force Membrane Adhesive applied 6" o.c. Membrane: *RSUA* applied 6" o.c.	**-192.5 (Lim. 9)**
LC-A-24	Min. 475 psi Celcore MF with HS Rheology Admixture installed over OPTIONAL DynaBase HW	-	-	*JM PVC FB*	*RSUA* applied 4-inch o.c.	**-257.5 (Lim. 9)**
LC-A-25	Min. 383.5 psi Celcore MF with HS Rheology Admixture (No EPS Board) installed over DynaBase HW over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-262.5 (Lim. 9)**
LC-A-26	Min. 250 Elastizell with Zell-Crete Fibers (no EPS Board)	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-290 (Lim. 9)**
LC-A-27	Min. 375 psi Concrecel	-	-	*JM PVC FB*	MBR Low VOC Membrane Adhesive applied 2-2.5 gal/100ft^2	**-342.5 (Lim. 9)**
LC-A-28	Celcore MF with HS Rheology Admixture (min. 49 pcf wet cast density)	-	-	*JM PVC FB*	JM PVC Membrane Adhesive (Water Based); Applied 1 gal/100ft^2	**-367.5 (Lim. 9)**
LC-A-29	Min. 370 psi Concrecel (No EPS Board)	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-375 (Lim. 9)**
LC-A-30	Min. 250 psi Elastizell with Zell-Crete Fibers (no EPS Board)	-	-	*JM PVC FB*	*RSUA* applied 4-inch o.c.	**-390 (Lim. 9)**
LC-A-31	Min. 383.5 psi Celcore MF with HS Rheology Admixture (no EPS board) installed over ASTM D 41 primed concrete	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-417.5 (Lim. 9)**
LC-A-32	Min. 370 psi Concrecel (No EPS board)	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-480 (Lim. 9)**
LC-A-33	Min. 383.5 psi Celcore MF with HS Rheology Admixture (No EPS Board)	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-502.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Attached Lightweight Concrete Assemblies over *Concrete Deck* (New, Existing, or *Recover*)						
System No.	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP (psf)*
LC-M-1	Min. 475 psi Celcore MF with HS Rheology	-	-	*JM PVC FB/ DynaFast*	1.8" Twin Loc-Nail without integrated plate fastened 6-inch o.c. along Straight Line Batten Bar within min. 4-inch heat welded side laps and in one intermediate row centered between side laps	**-60 (Lim. 9)**

Adhered Lightweight Concrete Assemblies over *Steel Deck* (New or Existing)							
System No.	*Deck Detail*	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LS-A-1	*G33, P, L5, S15*	Min. 475 psi Celcore MF with HS Rheology	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-60 (Lim. 9)**
LS-A-2	G80, P, L5, S15	Min. 383.5 psi Celcore MF with HS Rheology Admixture	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-75 (Lim. 9)**
LS-A-3	G80, P, L5, S15	Min. 383.5 psi Celcore MF with HS Rheology Admixture	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-75 (Lim. 9)**
LS-A-4	*G33*	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Min. 1.5-inch ENRGY 3	*RSUA* ribbons spaced 12-inch o.c.	*JM PVC* *JM PVC FB*	JM PVC: JM PVC Membrane Adhesive (Low VOC) or JM PVC FB: *RSUA* applied 4-inch o.c.	**-77.5 (Lim. 9)**
LS-A-5	G33	Min 340 psi Celcore MF with HS Rheology Admixture over deck treated with Celcore S-1	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 CGF Top Layer: *SECUROCK*	Base and Top layer secured with *RSUA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); or JM PVC Membrane Adhesive (Water Based) applied 0.67 gal/100ft^2	**-77.5 (Lim. 9)**
LS-A-6	G33	Min. 300 psi *LWIC*	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC* *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC) or JM PVC FB: *2-Part UIA* applied 4-inch o.c.	**-80 (Lim. 9)**
LS-A-7	G33	Min. 300 psi *LWIC*	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); or JM PVC Membrane Adhesive (Water Based) applied 0.67 gal/100ft^2	**-80 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered Lightweight Concrete Assemblies over *Steel Deck* (New or Existing)							
System No.	*Deck Detail*	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP* (psf)
LS-A-8	G80, P, L5, S12	Min. 370 psi Concrecel	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-97.5 (Lim. 9)**
LS-A-9	G80, P, L5, S15	Min. 250 psi Elastizell with Zell-Crete Fibers	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-97.5 (Lim. 9)**
LS-A-10	G80, P, L5, S15	Min. 250 psi Elastizell with Zell-Crete Fibers	-	-	*JM PVC FB*	*RSUA* applied 6-inch o.c.	**-97.5 (Lim. 9)**
LS-A-11	G33	Min. 310 psi Elastizell with Zell-Crete Fibers	Min. 1.5-inch ENRGY 3	*2-Part UIA* ribbons spaced 12-inch o.c	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-130 (Lim. 9)**
LS-A-12	G33	Min. 310 psi Elastizell with Zell-Crete Fibers	Base Layer: Min. 1.5-inch ENRGY 3 or ENRGY 3 AGF Top Layer: *SECUROCK*	*2-Part UIA* ribbons spaced 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC)	**-130 (Lim. 9)**

Mechanically Attached Lightweight Concrete Assemblies over *Steel Deck* (New, Existing, or *Recover*)							
System No.	*Deck Detail*	LWIC	Insulation/Cover Board	Insulation/Cover Board Attachment	Membrane	Membrane Attachment	*MDP (psf)*
LS-M-1	*G33, P, L5, S15*	Min. 475 psi Celcore MF with HS Rheology	-	-	*JM PVC FB/ DynaFast*	1.8" Twin Loc-Nail without integrated plate fastened 6-inch o.c. along Straight Line Batten Bar within min. 4-inch heat welded side laps and in one intermediate row centered between side laps	**-60 (Lim. 9)**

Adhered *Recover* Assemblies						
System No.	*Deck Detail*	Insulation	Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-A-1	*Concrete Deck*	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates (Square)* or *UltraFast Fasteners and Plates (Square)* secured 1 fastener per 2ft^2	*JM PVC FB*	JM PVC Membrane Adhesive (Water Based); Applied 1 gal/100ft^2 or ASTM D 312 Type IV Asphalt	**-45 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Adhered *Recover* Assemblies						
System No.	*Deck Detail*	Insulation	Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-A-2	BUR or Mod-Bit Roofing with mineral surfacing	-	-	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-45 (Lim. 9)**
R-A-3	*Concrete Deck*	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates (Square)* or *UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.78ft^2	*JM PVC FB* or *JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 1 gal/100ft^2 with *JM PVC FB* only or ASTM D 312 Type IV Asphalt with *JM PVC FB* only	**-52.5 (Lim. 7)**
R-A-4	BUR over *Concrete Deck*	Base Layer: Min. 1.5-inch *E3* (no FR) Top Layer: Optional JM Invinsa	Base Layer: 2-*Part UIA* at 12-inch o.c. Top Layer: 2-*Part UIA* at 12-inch o.c.	*JM PVC FB* or *JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 1 gal/100ft^2 or ASTM D 312 Type IV Asphalt with *JM PVC FB* only	**-105 (Lim. 9)**
R-A-5	BUR over *Concrete Deck*	JM Invinsa	JM MBR Bonding Adhesive	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**
R-A-6	BUR over *Concrete Deck*	Base Layer: Min. 1.5-inch *E3* (no FR) Top Layer: JM Invinsa	Base Layer: *UIA* at 6-inch o.c. or 2-*Part UIA* at 12-inch o.c. Top Layer: *UIA* at 12-inch o.c.	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 0.83 gal/100ft^2 or JM PVC Membrane Adhesive (Water Based); Applied 0.67 gal/100ft^2	**-112.5 (Lim. 9)**
R-A-7	BUR over *Concrete Deck*	Min. 1.5-inch *E3* (no FR)	2-*Part UIA* at 12-inch o.c.	*JM PVC FB* or *JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2 with *JM PVC* only or ASTM D 312 Type IV Asphalt with *JM PVC FB* only	**-217.5 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Fastened *Recover* Assemblies								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-M-1	*Steel Deck (G33, P, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
R-M-2	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-45 (Lim. 7)**
R-M-3	*Steel Deck (G33, F1, L6)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side laps in rows max. 70-inch o.c.	**-52.5 (Lim. 9)**
R-M-4	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-60 (Lim. 7)**
R-M-5	*LWIC* over *Steel Deck (G33, F1, L5, S12)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *INSULATION*	*Preliminarily Secured*	*JM PVC FB* (min. 60 mil)	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
R-M-6	*Steel Deck (G33, P, L6)*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	High Load LH Fasteners and Polymer Membrane Batten OR High Load Fasteners and Deep Well Batten strip spaced 6-inch o.c. within min. 4-inch heat welded side laps in rows max. 71-inch o.c.	**-60 (Lim. 9)**
R-M-7	*Steel Deck (G33, F1, L6)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*APB Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**
R-M-8	*Steel Deck (G33, F1* or *P, L6)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 12-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Induction Welded *Recover* Assemblies								
System No.	Existing Roof	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
R-W-1	*Steel Deck (G33, L6)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates placed max. 12” o.c. in rows max. 72” o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
R-W-2	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates placed max. 12” o.c. in rows max. 60” o.c.	**-45 (Lim. 7)**
R-W-3	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *E3*, or *SECUROCK* or *INVINSA*	JM Purlin Fasteners and JM PVC RhinoPlates secured to structural supports 6-inch o.c.; Fastener rows max. 120-inch o.c.	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-45 (Lim. 7)**
R-W-4	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *E3*, or *SECUROCK* or *INVINSA*	JM Purlin Fasteners and JM PVC RhinoPlates secured to structural supports 18-inch o.c.; Fastener rows max. 60-inch o.c.	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-45 (Lim. 7)**
R-W-5	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM PVC RhinoPlates at a rate of 8 per 4-ft x 8-ft board (staggered) (1 fastener per 4.0-ft^2)	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-52.5 (Lim. 7)**
R-W-6	*Concrete Deck*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Optional *SECUROCK*	JM All Purpose Fasteners and JM PVC RhinoPlates secured at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-67.5 (Lim. 7)**
R-W-7	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *E3*, or *SECUROCK* or *INVINSA*	JM Purlin Fasteners and JM PVC RhinoPlates secured to structural supports 12-inch o.c.; Fastener rows max. 60-inch o.c.	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-67.5 (Lim. 7)**
R-W-8	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates placed max. 6” o.c. in rows max. 72” o.c.	**-82.5 (Lim. 7)**
R-W-9	*Steel Deck (G33, F1, L6, S24)* or *Concrete Deck*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 0.5-inch *E3*, or *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates placed max. 6” o.c. in rows max. 60” o.c.	**-90 (Lim. 7)**
R-W-10	Existing metal roof having Min. 16 ga. steel purlins at max. 5ft o.c.	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	Min. 1-inch *E3*, or *SECUROCK* or *INVINSA*	JM Purlin Fasteners and JM PVC RhinoPlates secured to structural supports 6-inch o.c.; Fastener rows max. 60-inch o.c.	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-120 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-1	*G33*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 2-inch Fesco Foam	*UltraFast Fasteners and Plates* secured 1 fastener per 5.3ft^2	*JM PVC* or *JM PVC FB*	*JM PVC: PVC Bonding Adhesive* *JM PVC FB:* JM PVC Membrane Bonding Adhesive (Water Based)	**-37.5 (Lim. 9; Non-HVHZ)**
S-AM-2	*G33*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 2-inch Invinsa Foam	*UltraFast Fasteners and Plates* secured 1 fastener per 5.3ft^2	*JM PVC, JM PVC FB* or *JM PVC SD Plus*	*PVC Bonding Adhesive*	**-45 (Lim. 9)**
S-AM-3	*G33*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 4.0ft^2	*JM PVC, JM PVC FB* or *JM PVC SD Plus*	*PVC Bonding Adhesive*	**-45 (Lim. 9)**
S-AM-4	*G33,F2, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.67ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Water Based)	**-45 (Lim. 7)**
S-AM-5	*G33,F2, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.67ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)	**-52.5 (Lim. 7)**
S-AM-6	*G33, F1, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC); Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-52.5 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-7	*G33, F1, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.33ft^2	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
S-AM-8	*G33, F2, L6, S24*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;*Applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1 gal/100ft^2	**-52.5 (Lim. 7)**
S-AM-9	*G33, F2, L6, S24*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-52.5 (Lim. 7)**
S-AM-10	*G33, F2, L6, S24*	-	Min. 1.5-inch ENRGY 3	*UltraFast Fasteners and Plates* secured 1 fastener per 1.33ft^2	*SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-52.5 (Lim. 7)**
S-AM-11	*G33, F2, L6, S18*	-	OPTIONAL *INSULATION*	Simultaneously secured with top layer	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.78ft^2	*JM PVC FB*	ASTM D 312 Type IV Asphalt	**-52.5 (Lim. 7)**
S-AM-12	*G33, F2W, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.00ft^2	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)*;* Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based)*;* Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-60 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-13	*G33, F1, L6, S30*	-	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-60 (Lim. 7)**
S-AM-14	*G33, F1, L6, S30*	-	Min 1.5-inch ENRGY 3	*UltraFast Fasteners & Plates* secured at a rate of 1 fastener per 1.78ft^2	Min 1/2-inch *SECUROCK*	*OSFA*, *RSUA* or *2-Part UIA* applied 12-inch o.c.	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC); Applied 1-1.1 gal/100ft^2 with *JM PVC* only or JM PVC Membrane Adhesive (Water Based); Applied 0.8-1.2 gal/100ft^2 with *JM PVC FB* only	**-60 (Lim. 7)**
S-AM-15	*G40, P, L6, S20*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*SECUROCK*	*UltraFast Fasteners and Plates (Square)* secured 1 fastener per 1.78ft^2	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-60 (Lim. 7)**
S-AM-16	*G80, F1W, L6, S24*	-	Min. 1.5-inch *E3*	Simultaneously secured with top layer	*InvinsaPlus*	*UltraFast Fasteners and Plates* secured 1 fastener per 2.0ft^2; Boards laid perpendicular to deck flutes and insulation boards with seams staggered	*JM PVC* or *JM PVC FB*	JM PVC Membrane Adhesive (Low VOC)	**-60 (Lim. 7)**
S-AM-17	*G33, F2W, L6, S18*	-	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK*, RetroPlus, or Invinsa	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	*JM PVC FB*	*RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**
S-AM-18	*G33, F2W, L6, S18*	-	Min. 1.5-inch *E3*	*UltraFast Fasteners and Plates* secured 1 fastener per 1ft^2	*SECUROCK,*	*OSFA*, *RSUA* or *2-Part UIA;* Applied 6-inch o.c.	Base Ply: DynaBase HW Membrane: *JM PVC FB*	Base Ply: Torch Adhered Membrane: *RSUA* applied 12-inch o.c.	**-67.5 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Assemblies with Adhered Membranes over Insulated *Steel Deck* (New, Existing, or *Recover*)									
System No.	*Deck Detail*	Thermal Barrier and Vapor Retarder	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-AM-19	*G80, F1W, L6, S24*	Min. 0.5-inch *DEXcell FA; UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2; JM Vapor Barrier SA self-adhered over SA Primer	Min. 1.5-inch *E3*	*RSUA* or *2-Part UIA;* Applied 6-inch o.c.	Min. 0.5-inch *DEXcell FA*	*RSUA* applied 6-inch o.c.	*JM PVC FB* (Min. 60 mil)	*RSUA* applied 6-inch o.c.	**-82.5 (Lim. 7)**
S-AM-20	*G33, F2, L6, S24*	Min. 0.5-inch *DEXcell FA* secured with top layer; JM Vapor Barrier SA self-adhered	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *DEXcell FA*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2	*JM PVC FB* (Min. 60 mil)	*RSUA* applied 4-inch o.c.	**-82.5 (Lim. 7)**
S-AM-21	*G80, F2, L6, S24*	Min. 0.5-inch *DEXcell FA* secured with top layer; JM Vapor Barrier SA self-adhered	Min. 1.5-inch *E3*	Simultaneously secured with top layer	Min. 0.5-inch *DEXcell FA*	*UltraFast Fasteners and Plates* secured 1 fastener per 1.0ft^2	*JM PVC FB*	*RSUA* applied 4-inch o.c.	**-142.5 (Lim. 7)**

Mechanically Fastened Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-M-1	*G33, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *Extra HL Fastener & Plates*; Min. 6-inch wide side laps; Fastener rows max. 114-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
S-M-2	*G33, F1* or *P, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* or *JM PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-M-3	*G33, F1, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-45 (Lim. 7)**
S-M-4	*G33, F1* or *P, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 114-inch o.c.	**-45 (Lim. 7)**
S-M-5	*G80, F1, L6, S30*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps; Fastener rows max. 73-inch o.c.	**-45 (Lim. 7)**
S-M-6	*G33, P, L6*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 72-inch o.c.	**-45 (Lim. 7)**
S-M-7	*G80, F1, L6, S30*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* (Min. 60 mil)	Attached in-lap 12-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 73-inch o.c.	**-52.5 (Lim. 7)**
S-M-8	*G33, F1, L6, S24*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side laps in rows max. 70-inch o.c.	**-52.5 (Lim. 9)**
S-M-9	*G33, F1, L6, S24*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps; Fastener rows max. 54-inch o.c.	**-60 (Lim. 7)**
S-M-10	*G80, F1, L6, S30*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 5-inch wide side laps; Fastener rows max. 73-inch o.c.	**-60 (Lim. 7)**
S-M-11	*G80, F1, L6, S30*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* or *JM PVC FB*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 4.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
S-M-12	*G80, F1, L6, S24*	Min. 1.5-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 5.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-M-13	*G80, F1, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with Extra High Load Fasteners & OMG Super XHD 2-3/4 Barbed Plates; Min. 5.5-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 114-inch o.c.	**-60 (Lim. 7)**
S-M-14	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*APB Fasteners & Plates* spaced 6-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**
S-M-15	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	*HL Fasteners & Plates* spaced 12-inch o.c within each min. 4-inch heat welded side lap.	**-60 (Lim. 9)**
S-M-16	*G33, P, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC FB/ DynaFast*	High Load LH Fasteners and Polymer Membrane Batten OR High Load Fasteners and Deep Well Batten strip spaced 6-inch o.c. within min. 4-inch heat welded side laps in rows max. 71-inch o.c.	**-60 (Lim. 9)**
S-M-17	*G80, F1, L6, S30*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC* (Min. 60 mil)	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Min. 6-inch wide side laps with min. 2-inch wide heat welds; Fastener rows max. 72-inch o.c.	**-75 (Lim. 7)**

Induction Welded Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-W-1	*G33, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with High Load Fasteners placed max. 12” o.c. in rows max. 72” o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
S-W-2	*G33, F1, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with High Load Fasteners placed max. 12” o.c. in rows max. 60” o.c.	**-45 (Lim. 7)**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Induction Welded Assemblies over *Steel Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
S-W-3	*G33, P, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM PVC RhinoPlates at a rate of 8 per 4-ft x 8-ft board (staggered) (1 fastener per 4.0-ft^2)	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-52.5 (Lim. 7)**
S-W-4	*G33, F1, L6, S18*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM PVC RhinoPlates at a rate of 8 per 4-ft x 8-ft board (1 fastener per 4.0-ft^2)	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-67.5 (Lim. 7)**
S-W-5	*G33, F1, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with High Load Fasteners placed max. 6” o.c. in rows max. 72” o.c.	**-82.5 (Lim. 7)**
S-W-6	*G33, F1, L6, S24*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC SD Plus* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates with High Load Fasteners placed max. 6” o.c. in rows max. 60” o.c.	**-90 (Lim. 7)**
S-W-7	*G33, F2W, L6*	Min. 1-inch *E3*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Attached with High Load Fasteners and JM PVC RhinoPlates at a rate of 15 per 4-ft x 8-ft board (1 fastener per 2.13-ft^2)	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-90 (Lim. 7)**

Assemblies with Adhered Membranes over Insulated *Wood Deck* (New, Existing, or *Recover*)								
System No.	*Deck Detail*	Base Insulation	Base Insulation Attachment	Top Insulation or Coverboard	Top Insulation or Coverboard Attachment	Membrane	Membrane Attachment	*MDP* (psf)
W-AM-1	*T19/32O, L24*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	*DEXcell FA*	*AP Fasteners & Plates (Square)* at a rate of 6 per 4-ft x 4-ft board (1 fastener per 2.67-ft^2)	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2	**-37.5 (Lim. 7; Non-HVHZ)**
W-AM-2	*T7/16O* or *T15/32P, L24*	OPTIONAL *INSULATION*	*Preliminarily Secured* or secured with top layer	Min. 1.5-inch ENRGY 3	*AP Fasteners & Plates (Square)* at a rate of 16 per 4-ft x 8-ft board (1 fastener per 2-ft^2)	*JM PVC*	JM PVC Membrane Adhesive (Low VOC); Applied 1.67 gal/100ft^2	**-45 (Lim. 7; Non-HVHZ))**

APPENDIX D – APPROVED ASSEMBLIES FOR JM PVC SINGLE-PLY MEMBRANES

Mechanically Fastened Assemblies over *Wood Deck* (New or Existing)									
System No.	*Deck Detail*	Thermal Barrier	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
W-M-1	*T19/32P, L25*	As required	Min. 0.25-inch *INSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 6-inch o.c. with *HL Fasteners & Plates*; Fastener rows max. 72-inch o.c.	**-37.5 (Lim. 7; Non-HVHZ)**
W-M-2	*T15/32P, L24, N6*	As required	Min. 0.25-inch *INSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	*Preliminarily Secured*	*JM PVC*	Attached in-lap 12-inch o.c. with All Purpose Fasteners and High Load Plates through deck into wood supports; Fastener shall have sufficient length to penetrate min. 1.5-inch into wood supports; Fastener rows max. 72-inch o.c.	**-45 (Lim. 7)**

Induction Welded Assemblies over *Wood Deck* (New or Existing)									
System No.	*Deck Detail*	Thermal Barrier	Base Insulation	Base Insulation Attachment	Top Insulation	Top Insulation Attachment	Membrane	Membrane Attachment	*MDP* (psf)
W-W-1	*T15/32P, L24, N6*	As required	Min. 0.25-inch *INSULATION*	*Preliminarily Secured* or secured with top layer	OPTIONAL *SECUROCK* or *INVINSA*	Min. 2.25-inch JM All Purpose Fastener and JM PVC RhinoPlates secured max. 24-inch o.c. through sheathing into wood structural supports in rows max. 24” o.c.	*JM PVC* (Min. 60 mil)	Induction welded to JM PVC RhinoPlates	**-52.5 (Lim. 7)**

END OF REPORT