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**EVALUATION REPORT**

**Johns Manville Corporation**
P.O. Box 5108
Denver, CO 80217
**(303) 987-4879**

**Evaluation Report J9340.05.08-R4**
**FL1037-R7**
**Date of Issuance: 05/19/2008**
**Revision 4: 10/14/2017**

**SCOPE:**
This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections noted herein.

**DESCRIPTION: JM Built-Up Roofing Systems**

**LABELING:** Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

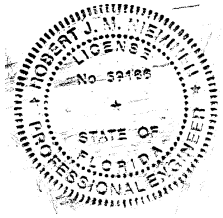
**ADVERTISEMENT:** The Evaluation Report number preceded by the words "Trinity | ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4, plus a 15-page Appendix.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**
*Florida Registration No. 59166, Florida DCA ANE1983*




The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/14/2017. This does not serve as an electronically signed document.

**CERTIFICATION OF INDEPENDENCE:**

1. Exterior Research & Design, LLC. d/b/a Trinity | ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity | ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

**ROOFING SYSTEMS EVALUATION:**

**1. SCOPE:**

**Product Category:** Roofing
**Sub-Category:** Built-Up Roofing Systems
**Compliance Statement:** **JM Built-Up Roofing Systems**, as produced by **Johns Manville Corporation**, have demonstrated compliance with the following sections of the Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

| Section | Property | Standard | Year |
|---|---|---|---|
| 1504.3.1 | Wind | FM 4474 | 2011 |
| 1504.7 | Impact | FM 4470 | 2012 |
| 1507.10.2 | Physical Properties | ASTM D2178 | 2004 |
| 1507.10.2 | Physical Properties | ASTM D3909 | 2012 |
| 1507.10.2 | Physical Properties | ASTM D4601 | 2012 |
| 1523.6.2 | Wind | TAS 114 | 2011 |

**3. REFERENCES:**

| Entity | Examination | Reference | Date |
|---|---|---|---|
| FM Approvals (TST1867) | FM 4470 | 3001629 | 09/10/1998 |
| FM Approvals (TST1867) | FM 4470 | 3D4A4.AM | 09/28/1998 |
| FM Approvals (TST1867) | FM 4470 | 3000949 | 06/05/1998 |
| FM Approvals (TST1867) | FM 4470 | 3001482 | 08/11/1998 |
| FM Approvals (TST1867) | FM 4470 | OZ8A9.AM | 09/10/1998 |
| FM Approvals (TST1867) | FM 4470 | 3007148 | 04/19/2000 |
| FM Approvals (TST1867) | FM 4470 | 3006346 | 08/15/2000 |
| FM Approvals (TST1867) | FM 4470 | 3009499 | 04/04/2001 |
| FM Approvals (TST1867) | FM 4470 | 3011057 | 08/10/2001 |
| FM Approvals (TST1867) | FM 4470 | 3012974 | 06/03/2002 |
| FM Approvals (TST1867) | FM 4470 | 3014090 | 09/05/2002 |
| FM Approvals (TST1867) | FM 4470 | 3011248 | 11/01/2002 |
| FM Approvals (TST1867) | FM 4470 | 3015444 | 07/11/2003 |
| FM Approvals (TST1867) | FM 4470/4474 | 3026130 | 04/26/2006 |
| IRT (TST7408) | TAS 114 | 99001.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99002.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99003.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99006.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99007.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99008.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99016.1.20.99 | 01/20/1999 |
| IRT (TST7408) | TAS 114 | 99009.2.10.99 | 02/10/1999 |
| IRT (TST7408) | TAS 114 | 99010.2.10.99 | 02/10/1999 |
| IRT (TST7408) | TAS 114 | 02-026 | 07/26/2002 |
| IRT (TST7408) | TAS 114 | 02-011 | 02/06/2002 |
| Miami-Dade (CER1592) | Physical Properties | Various NOAs | Current |
| UL LLC (QUA9625) | Quality Control | Service Confirmation | Exp. 06/23/2019 |

## 4. PRODUCT DESCRIPTION:

This Evaluation Report covers **Johns Manville Built-Up Roof Systems (BUR)** installed in accordance with **Johns Manville** published installation instructions and the Limitations / Conditions of Use herein. The following products make up the subject systems.

**TABLE 1: ROLL-GOODS FOR JOHNS MANVILLE BUILT-UP ROOF SYSTEMS**

| Type | Product | Specification | |
|---|---|---|---|
| | | Reference | Type |
| **Base Sheets** | DynaBase | ASTM D6163 | Type I |
| | GlasBase Plus | ASTM D4601 | Type II |
| | Ventsulation Felt | ASTM D 4897 | Type II |
| **Ply Sheets** | PermaPly 28 | ASTM D4601 | Type II |
| | GlasPly IV | ASTM D 4601 | Type IV |
| | GlasPly Premier | ASTM D 2178 | Type VI |
| **Cap Sheets** | GlasKap | ASTM D3909 | N/A |
| | GlasKap CR | ASTM D3909 | N/A |
| | GlasKap Plus | ASTM D5147 | N/A |

## 5. LIMITATIONS:

5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

5.2 This Evaluation Report is not for use in HVHZ jurisdictions.

5.3 Refer to a current UL Roofing Materials Directory for fire ratings of this product.

5.4 For steel deck installations, foam plastic insulation shall be separated from the building interior in accordance with **FBC 2603.4** unless the exceptions stated in **FBC 2603.4.1** and **2603.6** apply.

5.5 The roof system evaluation herein pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.

5.6 For recover installations, the existing roof shall be examined in accordance with **FBC 1511**.

5.7 For mechanically attached insulation or membrane or strip-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16. Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are **ANSI/SPRI WD1**, **FM Loss Prevention Data Sheet 1-29**, **Roofing Application Standard RAS 117** and **Roofing Application Standard RAS 137**. Assemblies marked with an asterisk* carry the limitations set forth in **Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (January 2016)** for Zone 2/3 enhancements.

5.8 For assemblies with all components fully bonded in place, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with **FBC Chapter 16**. No rational analysis is permitted for these systems.

5.9 For mechanically attached insulation or membrane over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with **ANSI/SPRI FX-1** or **Testing Application Standard TAS 105**.

5.10 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing in accordance with **ANSI/SPRI IA-1**, **ASTM E907**, **FM Loss Prevention Data Sheet 1-52** or **Testing Application Standard TAS 124** shall be conducted on mock-ups of the proposed new roof assembly.

5.11 For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing in accordance with **ASTM E907**, **FM Loss Prevention Data Sheet 1-52** or **Testing Application Standard TAS 124**.

5.12 Metal edge attachment (except gutters), shall be designed and installed for wind loads in accordance with FBC Chapter 16 and tested for resistance in accordance with **ANSI/SPRI ES-1** or **Roofing Application Standard RAS 111**, except the basic wind speed shall be determined from **FBC Figure 1609.3(1), 1609.3(2) or 1609.3(3)**.

5.13 All products in the roof assembly shall have quality assurance in accordance with **FAC Rule 61G20-3**.

## 6. INSTALLATION:

6.1 **Johns Manville Built-Up Roof Systems** shall be installed in accordance with **Johns Manville Corporation** published installation instructions, subject to the Limitations / Conditions of Use herein.

6.2 System attachment requirements for wind load resistance are set forth in Appendix 1. MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FBC 1609** for determination of design wind loads.

## 7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

## 8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by F.A.C. Rule 61G20-3 QA requirements.

## 9. QUALITY ASSURANCE ENTITY:

UL LLC – QUA9625; (847) 664-3623; LeAnna.Gradecki@ul.com

***- THE 15-PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -***

## APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE



**The following notes apply to the systems outlined herein:**

1. The roof system evaluation herein pertains to above-deck roof components. Roof decks shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. Wind load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.

2. Unless otherwise noted, fasteners and stress plates for insulation attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:
   - Wood Deck: UltraFast Fasteners or All Purpose Fasteners with UltraFast Metal Plates. Minimum ¾-inch plywood penetration or minimum 1-inch wood plank embedment.
   - Steel Deck: UltraFast Fasteners or All Purpose Fasteners with UltraFast Metal Plates. Minimum ¾-inch steel penetration and engage the top flute of the steel deck.
   - Structural concrete: All Purpose Fasteners with UltraFast Metal Plates or Structural Concrete Fasteners with UltraFast Metal Plates (flat bottom only). Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

3. Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite, gypsum-based roof board or Invinsa Roof Board that meets the QA requirements of F.A.C. Rule 61G20-3 and is documented as meeting FBC 1505.1 and, for foam plastic, FBC Chapter 26, when installed with the roof cover.

4. Minimum 200 psi, minimum 2-inch thick lightweight insulating concrete may be substituted for, or installed below the rigid insulation board for System Type D (mechanically attached base sheet, bonded roof cover), whereby the base sheet fasteners are installed through the LWIC to engage the structural steel or concrete deck. The structural deck shall be of equal or greater configuration to the steel and concrete deck listings. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.

5. Preliminary insulation attachment for System Type D: Refer to Section 2.2.10.1.3 of FM Loss Prevention Data Sheet 1-29 (January 2016).

6. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions.
   - Hot asphalt (HA): Full coverage at 25-30 lbs/square
   - JM MBR Bonding Adhesive (MBR-BA): Continuous ¾-inch wide ribbons, 12-inch o.c. or full coverage at 2.0 gal/square
   - JM Two-Part Urethane Insulation Adhesive (UIA-2): Continuous ¾-inch wide ribbons, 12-inch o.c.
   - ICP Adhesives CR-20: Continuous 2½ to 3½-inch ribbons, 12-inch o.c.
   - *Note: When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, boards shall be staggered from layer-to-layer.*
   - *Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing.*

7. Unless otherwise noted, all insulations are flat stock or taper board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the thinner board listed below may be used as a drop-in for the equivalent thicker material listed in the table:
   - JM Two-Part Urethane Insulation Adhesive (UIA-2): MDP = -315.0 psf (Min. 0.5-inch thick)
   - ICP Adhesives CR-20: MDP = -117.5 psf (Min. 1.0-inch thick)

8. Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.

9. For mechanically attached components or partially bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16, and Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are ANSI/SPRI WD1, FM Loss Prevention Data Sheet 1-29, Roofing Application Standard RAS 117 and Roofing Application Standard RAS 137. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (January 2016) for Zone 2/3 enhancements.

10. For assemblies where all components are fully adhered, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC Chapter 16, and no rational analysis is permitted.

11. For mechanically attached components over existing decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with ANSI/SPRI FX-1 or Testing Application Standard TAS 105.

12. For existing substrates in a bonded recover or re-roof installation, the existing roof surface or existing roof deck shall be examined for compatibility and bond performance with the selected adhesive, and the existing roof system (for recover) shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing in accordance with ANSI/SPRI IA-1, ASTM E907, FM Loss Prevention Data Sheet 1-52 or Testing Application Standard TAS 124.

13. For Recover Applications using System Type D, the insulation is optional. Alternatively, an FBC Approved coverboard may be used as a separator board, preliminarily attached prior to roof cover installation. The existing roof system shall be suitable for a recover application

14. Lightweight insulating concrete (LWIC) shall be cast in accordance with FBC Section 1917 to the satisfaction of the Authority Having Jurisdiction. For systems where specific LWIC is referenced, refer to current LWIC Product Approval for specific deck construction and limitations. Unless otherwise noted, for systems where specific LWIC is not referenced, the minimum design mix shall be 300 psi. In all cases, the minimum top-coat thickness is 2-inches. For LWIC over structural concrete, reference is made to FBC Section 1917.4.1, Point 1.

15. Unless otherwise noted, a JM BUR Roof Cover consists of hot asphalt applications of an optional base sheet of Glasbase, Glasbase Plus, PermaPly 28 or DynaBase followed by two or more plies of GlasPly IV or GlasPly Premier and an optional cap sheet of GlasKap, GlasKap Plus or GlasKap CR. Systems without a cap sheet shall be surfaced in accordance with JM requirements, meeting the fire resistance requirements of FBC 1505.1.

16. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609 for determination of design wind loads.

**TABLE 1A-1: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)**
**SYSTEM TYPE A-2: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Anchor Sheet | | | Base Insulation | | Top Insulation | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Type | Attach | Type | Attach | | |
| W-1. | Min. 19/32" plywood at max. 24-inch span | GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation base sheet | 32 ga., 1-5/8" diameter tin caps with 11 ga. annular ring shank nails | 12" o.c. at the 4-inch lap and 12" o.c. in two equally spaced, staggered center rows | One or more layers, any combination Min 1" ENRGY 3, JM ISO 3, Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -60.0 |

**TABLE 1A-2: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER**
**SYSTEM TYPE A-2: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Anchor Sheet | | | Base Insulation | | Top Insulation | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Type | Attach | Type | Attach | | |
| W-2. | Min. 19/32" plywood at max. 24-inch span | Two plies GlasBase, GlasBase Plus, PermaPly 28 or Ventsulation base sheet | Note 2 | 9" o.c. at the 4-inch lap and 12" o.c. in two equally spaced, staggered center rows | One or more layers, any combination Min 1" ENRGY 3, JM ISO 3; Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -52.5 |
| W-3. | Min. 19/32" plywood at max. 24-inch span | GlasPly Premier base sheet | Note 2 | 8" o.c. at the 3-inch lap and 8" o.c. in three equally spaced, staggered center rows | One or more layers, any combination Min 1" ENRGY 3, JM ISO 3, Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or Dura Board; Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -52.5 |

**TABLE 1B: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER**
**SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION LAYER, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Base Insulation Layer | | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Type | Attach | | |
| W-4. | Min. 19/32" plywood at max. 24-inch span | Min 1" ENRGY-3 or JM ISO 3 Min ¾" Fesco Board (homogeneous) or DuraBoard | Note 2 | 1 per 2ft$^2$ | Min ¾" Fesco Board (homogeneous); Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -45.0* |
| W-5. | Min. 19/32" plywood at max. 24-inch span | Min. 1.4" ENRGY-3 or JM ISO 3, Min 1.5" Fesco Foam or Dura Foam | Note 2 | 1 per 2.67ft$^2$ | Min ¾" Fesco Board (homogeneous); Min 1.5" Fesco Foam or Dura Foam; Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -45.0* |

## TABLE 1C: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
### SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

| System No. | Deck (Note 1) | Base Insulation Layer | | Top Insulation Layer | | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|
| | | Type | Attach | Type | Fasteners | Attach | | |
| W-6. | Min. 19/32" plywood at max. 24-inch span | (Optional) One or more layers, any combination | Loose laid | Min ¾" Fesco Board (homogeneous)<br>Min ½" Retro-Fit Board or DuraBoard | Note 2 | 1 per 2ft$^2$ | JM BUR | -45.0* |
| W-7. | Min. 19/32" plywood at max. 24-inch span | (Optional) One or more layers, any combination | Loose laid | Min 1.5" Fesco Foam or Dura Foam | Note 2 | 1 per 2.67ft$^2$ | JM BUR | -45.0* |

## TABLE 1D: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
### SYSTEM TYPE D: PRELIMINARILY ATTACHED INSULATION, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER

| System No. | Deck (Note 1) | Insulation Layer(s) | | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
|---|---|---|---|---|---|---|---|---|---|
| | | Type | Attach | Base | Fasteners | Attach | Ply | Cap | |
| W-8. | Min. 19/32" plywood at max. 24-inch span | One or more layers, any combination | Prelim Attach | One ply of GlasPly Premier | Note 2 | 8" o.c. at the 3-inch lap and 8" o.c. in three equally spaced, staggered center rows | One or more plies of GlasBase, GlasBase Plus, Perma Ply No. 28, GlasPly IV and/or GlasPly Premier (min 2 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -52.5 |

## TABLE 1E: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
### SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER

| System No. | Deck (Note 1) | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Ply | Cap | |
| W-9. | Min. 19/32" plywood at max. 24-inch span | GlasBase, GlasBase Plus, PermaPly 28 or Ventsulation | 32 ga., 1-5/8" diameter tin caps with 11 ga. annular ring shank nails | 9" o.c. at the 3-inch lap and 18" o.c. in two equally spaced, staggered center rows | One or more plies of GlasBase, GlasBase Plus, Perma Ply No. 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -45.0* |
| W-10. | Min. 19/32" plywood at max. 24-inch span | Two plies GlasBase, GlasBase Plus, PermaPly 28 or Ventsulation | 32 ga., 1-5/8" diameter tin caps with 11 ga. annular ring shank nails | 9" o.c. at the 3-inch lap and 12" o.c. in two equally spaced, staggered center rows | | | -52.5 |
| W-11. | Min. 19/32" plywood at max. 24-inch span | GlasPly Premier base sheet | Note 2 | 8" o.c. at the 3-inch lap and 8" o.c. in three equally spaced, staggered center rows | | | -52.5 |
| W-12. | Min. 19/32" plywood at max. 24-inch span | GlasBase, GlasBase Plus, PermaPly 28 or Ventsulation | 32 ga., 1-5/8" diameter tin caps with 11 ga. annular ring shank nails | 9" o.c. at the 3-inch lap and 12" o.c. in two equally spaced, staggered center rows | | | -60.0 |

**TABLE 2A: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER**

**SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Base Insulation Layer | | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Type | Attach | | |
| S-1. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 2" ENRGY 3, JM ISO 3 | Note 2 | 1 per 5.33ft$^2$ | Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -45.0* |
| S-2. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 1.4" ENRGY 3 or JM ISO 3 | Note 2 | 1 per 2.67ft$^2$ | One or more Layers of Min 1.5" Fesco Foam or DuraFoam, Min ¾" Fesco(Tapered) or Min ½" Retro-Fit | HA | JM BUR | -45.0* |
| S-3. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 2" ENRGY 3 or JM ISO 3, Min 1.5" Fesco Foam | Note 2 | 1 per 4ft$^2$ | One or more Layers of Min 1.5" Fesco Foam or DuraFoam, Min ¾" Fesco(Tapered) or Min ½" Retro-Fit | HA | JM BUR | -45.0* |
| S-4. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min ¾" Fesco | Note 2 | 1 per 2ft$^2$ | One or more Layers of Min 1.5" Fesco Foam or DuraFoam, Min ¾" Fesco(Tapered), or Min ½" Retro-Fit | HA | JM BUR | -45.0* |
| S-5. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 1.5" ENRGY 3 or JM ISO 3, Fesco Foam or Dura Foam | Note 2 | 1 per 2ft$^2$ | Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min ¾" Tapered Fesco or Fesco Board (homogeneous) | HA | JM BUR | -45.0* |
| S-6. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 1" Fesco Board (homogeneous) or Dura Board | Note 2 | 1 per 2ft$^2$ | Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min ¾" Tapered Fesco or Fesco Board (homogeneous) | HA | JM BUR | -45.0* |
| S-7. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 1.5" ENRGY 3, JM ISO 3, Fesco Foam, Dura Foam | Note 2 | 1 per 1.78ft$^2$ | Min 1.5" Fesco Foam, Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -60.0 |
| S-8. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min 2" ENRGY 3, JM ISO 3, Fesco Foam, Dura Foam | Note 2 | 1 per 1.45ft$^2$ | Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -75.0 |

| TABLE 2B: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER<br>SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Insulation Layer | | Top Insulation Layer | | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Fasteners | Attach | | |
| S-9. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | (Optional) One or more layers, any combination | Loose laid | Min 1.5" Fesco Foam | Note 2 | 1 per 4ft$^2$ | JM BUR | -45.0* |
| S-10. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | (Optional) One or more layers, any combination | Loose laid | Min. 1" Fesco Board (homogeneous) or min. 1/2" Retro-Fit Board | Note 2 | 1 per 2ft$^2$ | JM BUR | -45.0* |
| S-11. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | Min. 1.5" ENRGY 3 or JM ISO 3 | Loose laid | Min ¾" Fesco Board (homogeneous) or DuraBoard | Note 2 | 1 per 1.33ft$^2$ | JM BUR | -75.0 |

| TABLE 2C: STEEL OR STRUCTURAL CONCRETE DECKS– NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER<br>SYSTEM TYPE D: PRELIMINARILY ATTACHED INSULATION, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Insulation Layer(s) | | Base or Anchor Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | | Type | Attach | Base | Fasteners | Attach | Ply | Cap | |
| S-12. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | One or more layers, any combination | Prelim Attach | One ply of PermaPly 28, DynaBase, GlasBase Plus, DynaBase or Ventsulation | Note 2 | 9" o.c. at the 4-inch lap and 18" o.c. in two equally spaced, staggered center rows | One or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -45.0* |
| S-13. | Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete | One or more layers, any combination, loose laid<br>Min 1.5" ENRGY-3 or JM ISO 3 | Prelim. Attached | One ply of PermaPly 28, DynaBase, GlasBase Plus, DynaBase or Ventsulation | Note 2 | 9" o.c. at the 4-inch lap and 12" o.c. in two equally spaced, staggered center rows | | | -97.5 |

| TABLE 3A: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Insulation Layer | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Attach | | |
| C-1. | Min. 2,500 psi concrete | Min ¾" Fesco Board (homogeneous) | HA | (Optional) Additional layers of base insulation | HA | JM BUR | -112.0 |
| C-2. | Min. 2,500 psi concrete | Min 1.5" ENRGY-3 or JM ISO 3 | HA or MBR Adhesive | Min ¾" Fesco Board (homogeneous) or DuraBoard | HA or MBR Adhesive | JM BUR | -120.0 |
| C-3. | Min. 2,500 psi concrete, primed | Min 1.5" Dura Foam or Fesco Foam, Min 1.75" ENRGY-3 or JM ISO 3 | HA | Min ¾" Fesco Board (homogeneous) or DuraBoard | HA | JM BUR | -126.5 |
| C-4. | Min. 2,500 psi concrete, primed | Min 1.5 " ENRGY-3 or JM ISO 3, Min ¾" Fesco Board (homogeneous), Min ½" Retro-Fit Board or DuraBoard | HA | Min ¾" Fesco Board (homogeneous)<br>Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -150.0 |
| C-5. | Min. 2,500 psi concrete, primed | Min 1.5" Dura Foam or Fesco Foam, Min 1.4" ENRGY-3 or JM ISO 3 | HA | Min. ½" Retro-Fit or DuraBoard | HA | JM BUR | -155.0 |
| C-6. | Min. 2,500 psi concrete | Min. ¾-inch FescoBoard (homogeneous) | UIA-2 | (Optional) Min. ¾-inch FescoBoard (homogeneous) | UIA-2 | JM BUR | -285.0 |
| C-7. | Min. 2,500 psi concrete | Min. ½-inch Retro-Fit Board or DuraBoard | UIA-2 | (Optional) Min. ½-inch Retro-Fit Board or DuraBoard | UIA-2 | JM BUR | -305.0 |
| C-8. | Min. 2,500 psi concrete, primed | Min 1.5 " ENRGY-3 or JM ISO 3, Min ¾" Fesco Board (homogeneous), Min ½" Retro-Fit Board or DuraBoard | HA | Min. 1.5" Fesco Foam or DuraFoam, Min ¾" Fesco Board (homogeneous), Min ½" Retro-Fit Board or DuraBoard | HA | JM BUR | -305.0 |
| C-9. | Min. 2,500 psi concrete | (Optional) Min. 1.5-inch ENRGY 3 | UIA-2 or CR-20 | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | UIA-2 or CR-20 | JM BUR | -442.5 |
| C-10. | Min. 2,500 psi concrete | (Optional) Min. 1.5-inch ENRGY 3 | HA or OlyBond Classic full coverage | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | HA or OlyBond Classic full coverage | JM BUR | -495.0 |

| TABLE 3B: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER | | | | | |
|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Roof Cover (Note 15) | | | MDP (psf) |
| | | Base | Ply | Cap | |
| C-11. | Min. 2,500 psi concrete, primed | One ply of Ventsulation Felt Base Sheet | Two or more plies of GlasPly IV or GlasPly Premier | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -220.0 |
| C-12. | Min. 2,500 psi concrete, primed | One or more plies of GlasBase, GlasBase Plus, PermaPly 28, DynaBase, GlasPly IV or GlasPly Premier | | | -275.0 |

| TABLE 4A: LIGHTWEIGHT CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE A-2: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note1) | LWC (Note 14) | Anchor Sheet | | | Insulation | | | Roof Cover (Note 15) | MDP (psf) |
| | | | Type | Fasteners | Attach | Base | Top | Attach | | |
| LWC-1. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Cellular or Aggregate Lightweight Concrete (Min. 250 psi). *To qualify the LWC, the fastener shall document min. 93 lbf per Note 11* | One ply of GlasPly Premier | JM LWC Base Sheet Fasteners (Note 11) | 9" o.c. at the 4-inch lap and 12" o.c. in two equally spaced, staggered center rows | One or more layers Min 1" ENRGY-3 or JM ISO 3, Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min. ¾" Fesco Board (homogeneous) | Min ¾" Fesco Board (homogeneous, tapered) | HA | JM BUR | -52.5 |
| LWC-2. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Cellular or Aggregate Lightweight Concrete *To qualify the LWC, the fastener shall document min. 62 lbf per Note 11* | One ply of Dynabase, Ventsulation, GlasBase Plus or PermaPly 28 base | JM LWC Base Sheet Fasteners (Note 11) | 7" o.c. at the 3-inch lap and 7" o.c. in two equally spaced, staggered center rows | One or more layers Min 1" ENRGY-3 or JM ISO 3, Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min. ¾" Fesco Board (homogeneous) | Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min. ¾" Fesco Board (homogeneous) | HA | JM BUR | -52.5 |
| LWC-3. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2¼-inch thick Concrecel LWIC | One ply of GlasPly Premier | JM LWC Base Sheet Fasteners | 7" o.c. at the 3-inch lap and 7" o.c. in two equally spaced, staggered center rows | One or more layers Min 1" ENRGY-3 or JM ISO 3, Min 1.5" Fesco Foam or Dura Foam, Min ½" Retro-Fit Board or DuraBoard or Min. ¾" Fesco Board (homogeneous) | Min ½" Retro-Fit Board or DuraBoard or Min. ¾" Fesco Board (homogeneous) | HA | JM BUR | -82.5 |

| TABLE 4B: LIGHTWEIGHT CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck | | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | Deck (Note 1) | LWC (Note 14) | Type | Fasteners | Attach | Ply | Cap | |
| LWC-4. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 250 psi, minimum 2-inch thick cellular LWIC *To qualify the LWC, the fastener shall document min. 93 lbf per Note 11* | PermaPly 28, DynaBase, Vensulation or Glasply Premier | JM LWC Base Sheet Fasteners (Note 11) | 9" o.c. at the 4-inch lap and 12" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -52.5 |
| LWC-5. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2-inch thick cellular LWIC *To qualify the LWC, the fastener shall document min. 62 lbf per Note 11* | GlasBase Plus, PermaPly 28 or Ventsulation | JM LWC Base Sheet Fasteners (Note 11) | 7" o.c. at the 3-inch lap and 7" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -52.5 |
| LWC-6. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 250 psi, minimum 2-inch thick cellular LWIC *To qualify the LWC, the fastener shall document min. 88 lbf per Note 11* | PermaPly 28 | JM UltraLok 1.8" Fasteners (Note 11) | 9" o.c. at the 4-inch lap and 9" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -60.0 |
| LWC-7. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 250 psi, minimum 2-inch thick cellular LWIC *To qualify the LWC, the fastener shall document min. 110 lbf per Note 11* | DynaBase | JM Ultra-Lok 1.8" Fasteners (Note 11) | 9" o.c. at the 4-inch lap and 9" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -75.0 |
| LWC-8. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2-inch thick cellular LWIC | DynaBase, Ventsulation or Glasply Premier | Note 2 (Through to the structural deck) | 7" o.c. at the 4-inch lap and 7" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -75.0 |
| LWC-9. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2-inch thick Celcore LWIC | DynaBase, PermaPly 28, Ventsulation or GlasPly Premier | JM LWC Base Sheet Fasteners | 7" o.c. at the 4-inch lap and 7" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -75.0 |
| LWC-10. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2¼-inch thick Concrecel LWIC | GlasPly Premier, PermaPly 28 or Ventsulation | JM LWC Base Sheet Fasteners | 7" o.c. at the 3-inch lap and 7" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -82.5 |

| TABLE 4C: LIGHTWEIGHT CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck | | Base | | | Roof Cover (Note 15) | | MDP (psf) |
| | Deck (Note 1) | LWC (Note 11) | Type | Adhesive / Fasteners | Attach | Ply | Cap | |
| LWC-11. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2¼-inch thick Concrecel LWIC | GlasPly Premier | Hot asphalt | 50% strip mopped | One or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 2 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -67.5 |
| LWC-12. | Min. 22 ga. steel or min. 2,500 psi structural concrete. | Min. 300 psi, minimum 2¼-inch thick Concrecel LWIC | GlasPly Premier | Hot asphalt and JM LWC Base Sheet Fasteners | 50% strip mopped plus fasteners 4" o.c. at the 4-inch lap and 4" o.c. in four, equally spaced center rows | One or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 2 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -146.0 |

**TABLE 5A-1: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)**
**SYSTEM TYPE A-2: MECHANICALLY FASTENED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Anchor Sheet | | | Insulation | | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Base | Top | Attach | | |
| CWF-1. | Tectum or Fibroplank | GlasBase Plus, PermaPly 28 or Ventsulation | JM Polymer Auger Fasteners and Plates | 9" o.c. at the 4-inch lap and 12" o.c. in two, equally spaced, staggered center rows | (Optional) One or more layers Min 1" ENRGY-3 or JM ISO 3 | Min ½" Retro-Fit Board or DuraBoard<br>Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -45.0* |

**TABLE 5A-2: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER**
**SYSTEM TYPE A-2: MECHANICALLY FASTENED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Anchor Sheet | | | Insulation | | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Base | Top | Attach | | |
| CWF-2. | Tectum or Fibroplank | GlasPly Premier | JM UltraLok Fasteners<br>Min 1" Embedment | 9" o.c. at the 3-inch lap and 12" o.c. in two, equally spaced, staggered center rows | (Optional) One or more layers Min 1" ENRGY-3 or JM ISO 3 | Min ½" Retro-Fit Board or DuraBoard<br>Min ¾" Fesco Board (homogeneous) | HA | JM BUR | -82.5 |

**TABLE 5B: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)**
**SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER**

| System No. | Deck (Note 1) | Base Insulation Layer | | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
|---|---|---|---|---|---|---|---|---|
| | | Type | Fasteners | Attach | Type | Attach | | |
| CWF-3. | Tectum or Fibroplank | Min 1.3" ENRGY-3 or JM ISO 3 | JM Polymer Auger Fasteners and Plates | 1 per 3 $ft^2$ | Min ¾" Fesco Board (homogeneous) or DuraBoard | HA | JM BUR | -45.0* |
| CWF-4. | Tectum or Fibroplank | Min 1.5" Fesco Foam or Dura Foam | JM Polymer Auger Fasteners and Plates | 1 per 4 $ft^2$ | (Optional) Min ¾" Fesco Board (homogeneous) or DuraBoard | HA | JM BUR | -45.0* |
| CWF-5. | Tectum or Fibroplank | Min ¾" Fesco Board (homogeneous) or DuraBoard | JM Polymer Auger Fasteners and Plates | 1 per 2 $ft^2$ | (Optional) Min ¾" Fesco Board (homogeneous) or DuraBoard | HA | JM BUR | -45.0* |

| TABLE 5C: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Insulation Layer | | Top Insulation Layer | | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Fasteners | Attach | | |
| CWF-6. | Tectum or Fibroplank | (Optional) One or more layers, any combination | Loose laid | Min 1.5" Fesco Foam or Dura Foam | JM Polymer Auger Fasteners and Plates | 1 per 4ft$^2$ | JM BUR | -45.0* |
| CWF-7. | Tectum or Fibroplank | (Optional) One or more layers, any combination | Loose laid | Min ¾" Fesco Board (homogeneous)<br>Min ½" Retro-Fit Board or DuraBoard | JM Polymer Auger Fasteners and Plates | 1 per 2ft$^2$ | JM BUR | -45.0* |

| TABLE 5D-1: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)<br>SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | | Type | Fasteners | Attach | Ply | Cap | |
| CWF-8. | Tectum or Fibroplank | GlasBase Plus, PermaPly 28 or Vensulation | JM Polymer Auger Fasteners and Plates | 9" o.c. at the 4-inch lap and 12" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -45.0* |

| TABLE 5D-2: CEMENTITIOUS WOOD FIBER DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER<br>SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | | Type | Fasteners | Attach | Ply | Cap | |
| CWF-9. | Tectum or Fibroplank | GlasPly Premier | UltraLok Nail Fasteners<br>Min 1" Embedment | 9" o.c. at the 3-inch lap and 12" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -82.5 |

| TABLE 6A-1: GYPSUM DECKS – REROOF (TEAR-OFF)<br>SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Notes 1 & 12) | Base Insulation Layer | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Attach | | |
| G-1. | Existing sound gypsum or gypsum plank | (Optional) Min. 1.5-inch ENRGY-3 | UIA-2 | Min. ½-inch Retro-Fit Board or DuraBoard or min. ¾-inch Fesco Board (homogeneous) | UIA-2 | JM BUR | -112.5 |
| G-2. | Existing sound gypsum or gypsum plank | (Optional) Min. 1.5-inch ENRGY-3 | UIA-2 | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | UIA-2 | JM BUR | -112.5 |
| G-3. | Existing sound gypsum or gypsum plank | Min. 1.5-inch ENRGY-3 | CR-20 | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | CR-20 | JM BUR | -257.5 |

| TABLE 6A-2: GYPSUM DECKS – REROOF (TEAR-OFF)<br>SYSTEM TYPE A-2: MECHANICALLY FASTENED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Anchor Sheet | | | Insulation | | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Fasteners (Note 11) | Attach | Base | Top | Attach | | |
| G-4. | Existing sound gypsum or gypsum plank | GlasBase Plus, PermaPly 28 or Ventsulation | JM Polymer Auger Fasteners and Plates | 9” o.c. at the 4-inch lap and 12” o.c. in two, equally spaced, staggered center rows | (Optional) One or more layers Min 1” ENRGY-3 or JM ISO 3 | Min ½” Retro-Fit Board or DuraBoard; Min ¾” Fesco Board (homogeneous) | HA | JM BUR | -45.0* |

| TABLE 6A-2: GYPSUM DECKS – REROOF (TEAR-OFF) OR RECOVER<br>SYSTEM TYPE A-2: MECHANICALLY FASTENED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Anchor Sheet | | | Insulation | | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Fasteners (Note 11) | Attach | Base | Top | Attach | | |
| G-5. | Existing sound gypsum or gypsum plank | GlasPly Premier | JM UltraLok Fasteners Min 1” Embedment | 9” o.c. at the 3-inch lap and 12” o.c. in two, equally spaced, staggered center rows | (Optional) One or more layers Min 1” ENRGY-3 or JM ISO 3 | Min ½” Retro-Fit Board or DuraBoard<br>Min ¾” Fesco Board (homogeneous) | HA | JM BUR | -75.0 |

| TABLE 6B: GYPSUM DECKS – REROOF (TEAR-OFF)<br>SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Insulation Layer | | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Fasteners (Note 11) | Attach | Type | Attach | | |
| G-6. | Existing sound gypsum or gypsum plank | Min 1.3" ENRGY-3 or JM ISO 3 | JM Polymer Auger Fasteners and Plates | 1 per 2.67 $ft^2$ | Min ¾" Fesco Board (homogeneous) or DuraBoard or Min ½" Retro-Fit Board | HA | JM BUR | -45.0* |
| G-7. | Existing sound gypsum or gypsum plank | Min. ¾" Fesco Board (homogeneous) or DuraBoard | JM Polymer Auger Fasteners and Plates | 1 per 2 $ft^2$ | Min ¾" Fesco Board (homogeneous) or DuraBoard or Min ½" Retro-Fit Board | HA | JM BUR | -45.0* |

| TABLE 6C: GYPSUM DECKS – REROOF (TEAR-OFF)<br>SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Insulation Layer | | Top Insulation Layer | | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Fasteners (Note 11) | Attach | | |
| G-8. | Existing sound gypsum or gypsum plank | (Optional) One or more layers, any combination | Loose laid | Min 1.5" Fesco Foam or Dura Foam, Min ¾" Fesco Board (homogeneous), Min ½" Retro-Fit Board or DuraBoard | JM Polymer Auger Fasteners and Plates | 1 per 2.67$ft^2$ | JM BUR | -45.0* |

| TABLE 6D-1: GYPSUM DECKS – REROOF (TEAR-OFF)<br>SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | | Type | Fasteners (Note 11) | Attach | Ply | Cap | |
| G-9. | Existing sound gypsum or gypsum plank | GlasBase Plus, PermaPly 28 or Vensulation | JM Polymer Auger Fasteners and Plates | 9" o.c. at the 4-inch lap and 12" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -45.0* |

| TABLE 6D-2: GYPSUM DECKS – REROOF (TEAR-OFF) OR RECOVER<br>SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Deck (Note 1) | Base Sheet | | | Roof Cover (Note 15) | | MDP (psf) |
| | | Type | Fasteners (Note 11) | Attach | Ply | Cap | |
| G-10. | Existing sound gypsum or gypsum plank | GlasPly Premier | UltraLok Nail Fasteners<br>Min 1" Embedment | 9" o.c. at the 3-inch lap and 12" o.c. in two, equally spaced, staggered center rows | Two or more plies of GlasBase, GlasBase Plus, Perma Ply 28, GlasPly IV and/or GlasPly Premier (min 3 plies if no cap) | (Optional) One ply of GlasKap, GlasKap CR or GlasKap Plus | -82.5 |

| TABLE 7: RECOVER APPLICATIONS<br>SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER | | | | | | | |
|---|---|---|---|---|---|---|---|
| System No. | Substrate (Notes 1 & 12) | Base Insulation Layer | | Top Insulation Layer | | Roof Cover (Note 15) | MDP (psf) |
| | | Type | Attach | Type | Attach | | |
| R-1. | Existing asphaltic roof | Min 1.5" ENRGY-3 or JM ISO 3 | HA or MBR-BA | Min ¾" Fesco Board (homogeneous) or DuraBoard | HA or MBR-BA | JM BUR | -120.0 |
| R-2. | Existing asphaltic roof | Min. ¾-inch FescoBoard (homogeneous), min. ½-inch Retro-Fit Board or DuraBoard | UIA-2 | (Optional) Min. ¾-inch FescoBoard (homogeneous), min. ½-inch Retro-Fit Board or DuraBoard | UIA-2 | JM BUR | -120.0 |
| R-3. | Existing asphaltic roof | (Optional) Min. 1.5-inch ENRGY 3 | UIA-2 | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | UIA-2 | JM BUR | -120.0 |
| R-4. | Existing asphaltic roof | Min. ¾-inch FescoBoard or DuraBoard (homogeneous) | HA | (Optional) Min. ¾-inch FescoBoard or DuraBoard (homogeneous) | HA | JM BUR | -167.5 |
| R-5. | Existing asphaltic roof | (Optional) Min. 1.5-inch ENRGY 3 | CR-20 | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | CR-20 | JM BUR | -262.5 |
| R-6. | Existing asphaltic roof | Min. 1.5-inch ENRGY 3 | HA | Min. ½-inch Retro-Fit Board or min. ¾-inch Fesco Board (homogeneous) or DuraBoard | HA | JM BUR | -305.0 |
| R-7. | Existing asphaltic roof | (Optional) Min. 1.5-inch ENRGY 3 | HA | Min. 1.5-inch Fesco Foam or DuraFoam | HA | JM BUR | -305.0 |
| R-8. | Existing asphaltic roof | (Optional) Min. 1.5-inch ENRGY 3 | HA | Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board | HA | JM BUR | -420.0 |