



## TGFU.R8992 Roofing Systems

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### Roofing Systems

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#### SIKA SARNAFIL INC

R8992

CANTON COMMERCE CENTER  
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CANTON, MA 02021-2842 USA

References to "Sikacoat" include "Sikacoat FC3500", "Sikacoat BC400", "Sikacoat FC3400", "Sikacoat BC420".

Reference to "Sarnatherm m" include "Tapered Sarnatherm m" or "Sarnatherm m 25 psi".

"Sarnatherm m Cover Board" may be placed over the "Sarnatherm m" in any of the following classifications.

Reference to "Sarnatherm-R Insulation" include "Sarnatherm-R Tapered Insulation".

Reference to "Sarnatherm-R CG Insulation" include "Sarnatherm-R CG Tapered Insulation".

"Sarnatherm-A Roof Board" may be used over any "Sarnatherm" polyisocyanurate insulation product in any of the following Classifications.

"Textured G410-12", "Textured G410-14", "Textured G410-14/Felt", "Textured G410-15", "Textured G410-18" and "Textured G410-20" are acceptable alternates to "G410-12", "G410-14", "G410-14/Felt", "G410-15", "G410-18" and "G410-20" respectively.

A minimum 1-in. thick layer of SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" in any existing non-combustible roof deck Classification. This can be above or below additional insulation layers described in the Certified roofing system. The resulting roofing assembly can be used over a combustible roof deck (minimum 15/32-in. plywood). All insulation joints must be staggered a minimum of 6-in. from the roof deck joints and from the insulation joints directly below. The maximum incline shall be in accordance with the Certification established for the original roof covering system as listed on UL's online Roofing Systems Certification Directory; however the incline cannot exceed 3:12.

"RetroPlus" is an acceptable alternate to SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" in any applicable Classification. "RetroPlus" may be placed over SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" in any applicable Classification.

Any of the following insulations may be used in lieu of Johns Manville "ENRGY 3" in any applicable Classification: "SarnathermM AGF", "ENRGY 3 AGF", "SarnathermM 25 PSI AGF", "ENRGY 3 25 psi AGF", "SarnathermM CG", "ENRGY 3 CGF", "SarnathermM 25 PSI CG", "ENRGY 3 25 psi CGF".

"InvinsoFoam" or "Tapered InvinsoFoam" may be used in lieu of the combination of "Invinso" and SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" in any Classified system where "Invinso" is directly over SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3".

"ENRGY 3 FR" is a suitable alternate to SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" in any applicable Classification. Johns Manville "Invinso FR" is a suitable alternate to Johns Manville "Invinso" in any applicable Classification.

Johns Manville "Invinso" may be used over SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", or as an acceptable alternate to SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", in any of the following Classifications.

Minimum 1/2-in. thick gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" may be used in any existing noncombustible roof deck Classification. When this is done, the resulting roof covering system is acceptable for use over combustible (15/32-in. minimum) roof decks. The joints in the gypsum board and barrier board are offset a minimum of 6-in. with the joints in the roof deck.

Minimum 1/2-in. thick gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" may be used in any existing noncombustible roof deck Classification. When this is done, the resulting roof covering system is acceptable for use over combustible (15/32-in. minimum) roof decks. The joints in the gypsum board or barrier board are offset a minimum of 6-in. with the joints in the roof deck. If polystyrene insulation is used in the existing noncombustible roof deck Classification, it must be placed beneath the gypsum board Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard"

Any roof covering system listed for use over a combustible roof deck can be installed over a non-combustible roof deck and achieve the same classification.

Uniform thickness or tapered insulation may be used in the following systems provided they do not exceed the indicated incline or thickness.

Unless otherwise indicated, on non-combustible roof decks, Sika Sarnafil Inc. "Sarnatherm Roofboard H" or "Sarnatherm Composite Roofboard H", or Hunter Panels "H-Shield HD" or "H-Shield HD Composite" may replace, or be used in addition to, any Sika Sarnafil Inc. Sarnatherm product or Hunter Panels H-Shield product or any UL Classified wood fiberboard, in any UL Classified insulated roofing system assembly and retain the classification of that assembly, though the max slope cannot exceed 1/2:12 if Sika Sarnafil Inc. "Sarnatherm Roofboard H" or "Sarnatherm Composite Roofboard H", or Hunter Panels "H-Shield HD" or "H-Shield HD Composite" is used directly below TPO membrane. Unless otherwise indicated, on combustible roof decks, Sika Sarnafil Inc. "Sarnatherm Roofboard H" or "Sarnatherm Composite Roofboard H", or Hunter Panels "H-Shield HD" or "H-Shield HD Composite", may be used in addition to any Sika Sarnafil Inc. Sarnatherm or Hunter Panels H-Shield product or any UL Classified wood fiber board, in any insulated UL Classified roofing system assembly and retain the classification of that assembly, though the max slope cannot exceed 1/2:12 if Sika Sarnafil Inc. "Sarnatherm Roofboard H" or "Sarnatherm Composite Roofboard H", or Hunter Panels "H-Shield HD" or "H-Shield HD Composite" is used directly below TPO membrane.

Sika Sarnafil Inc. "Sarnatherm Roofboard H" or "Sarnatherm Composite Roofboard H", or Hunter Panels "H-Shield HD" or "H-Shield HD Composite" may be used over any UL Classified polystyrene on non-combustible roof decks. Maximum incline shall be in accordance with the Classification established for the insulation/membrane roof covering system, but cannot exceed 2:12.

"Sarnacol 2170R" is an acceptable alternate to "Sarnol 2170".

"SPL-45" is an acceptable alternate to "Sikaplan 45" in all applicable Classifications.

"SPL-60" is an acceptable alternate to "Sikaplan 60" in all applicable Classifications.

"Vapor Retarder SA 31", "Ply Sheet HA 87" adhered with hot roofing asphalt, "Ply Sheet TA 87" heat fused, "Vapor Barrier SA 106" self-adhered, and "Vapor Retarder TA 138" heat fused installed directly to the deck may be used in all applicable non-combustible systems or combustible systems where minimum 1/4-in. thick G-P Gypsum Corp. "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" or Certainteed Gypsum Inc "GlasRoc", USG Corp. "SECUROCK® Glass-Mat Roof Board (Type SGMRX)" or National Gypsum Co "DEXcell Glass Mat Roof Board" or "DEXcell FA Glass Mat Roof Board" used as a barrier board is installed above the sheet.

#### **For Combustible Roof Decks - Class A:**

1. A minimum 3-in. layer or a minimum two layers of 1.5-in. of Sika Sarnafil Inc, "Sarnatherm Composite Roofboard H" or Hunter Panels, "H-Shield HD Composite" is placed directly over a combustible roof deck and is covered with any UL Classified roof covering membrane used in any UL Class A roof covering assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 3-in. minimum total thickness of Sika Sarnafil Inc. "Sarnatherm Composite Roofboard H" or Hunter Panels "H-Shield HD Composite". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

2. A minimum 1.9-in. layer of Sika Sarnafil Inc. "Sarnatherm Composite Roofboard H or Hunter Panels "H-Shield HD Composite" is placed over a minimum 1 layer of Carlisle Syntec Inc. "FR Base Sheet 1S" or GAF "VersaShield FB-1S" over a combustible roof deck. The insulation is covered with any UL Classified roofing membrane used in any UL Class A roof covering assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9-in. minimum total thickness of Sika Sarnafil Inc. "Sarnatherm Composite Roofboard H" or Hunter Panels "H-Shield HD Composite". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

3. A minimum 1/2-in. layer of Sika Sarnafil Inc. "Sarnatherm Roofboard H", or Hunter Panels "H-Shield HD" over a minimum 2.5-in. layer of any Sika Sarnafil Inc. or Hunter Panels Classified polyisocyanurate insulation is placed directly over a combustible roof deck and is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 3-in. minimum total thickness. The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

4. A minimum 1/2-in. layer of Sika Sarnafil Inc. "Sarnatherm Roofboard H", or Hunter Panels "H-Shield HD" over a minimum 1.4-in. layer of any Sika Sarnafil Inc or Hunter Panels Classified polyisocyanurate insulation is placed over a minimum 1 layer of Carlisle Syntec Inc. "FR Base Sheet 1S" or GAF "VersaShield FB-1S" over a combustible roof deck. The insulation is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9-in. minimum total thickness. The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

1. A minimum 1/4-in. thick layer of Johns Manville "Invinsa FR" is placed directly over a combustible roof deck (minimum 15/32-in. plywood) and is covered with any UL Classified roof covering membrane used in any UL Class A roof covering assembly to achieve a Class A fire Classification. As an alternative, SIKASARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", any thickness, may be used below minimum 1/4-in. thick "Invinsa FR". All insulation joints must be staggered a minimum of 6-in. from the deck joints and from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation(s) roof covering assembly as published in UL's online Roofing Systems Directory; however the incline cannot exceed 3:12.

2. A minimum 1-in. thick layer of "ENRGY 3 FR" is placed directly over a combustible roof deck (minimum 15/32-in. plywood) and is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", any thickness, may be used below the 1-in. minimum thickness of "ENRGY 3 FR". All insulation joints must be staggered a minimum of 6-in. from the deck joints and from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation(s) roof covering assembly as listed on UL's online Roofing Systems directory; however the incline cannot exceed 3:12.

#### For Combustible Roof Decks - Class A:

A minimum 1 in. layer of ATLAS ROOFING CORP "AC Foam IV" or "**Sarnatherm a CG Plus**" placed directly over a combustible deck and covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternate, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used above or below the 1 in. minimum total thickness of ATLAS ROOFING CORP "AC Foam IV" or "**Sarnatherm a CG Plus**". All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline cannot exceed 1:12.

#### For Combustible Roof Decks - Class A:

A minimum 3 in. layer or a minimum two layers of 1.5 in. of ATLAS ROOFING CORP "AC Foam III" or "**Sarnatherm a CG**" is placed directly over a combustible deck and is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 3 in. minimum total thickness of ATLAS ROOFING CORP "AC Foam III" or "**Sarnatherm a CG**". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline cannot exceed 1/2:12.

#### For Combustible Roof Decks - Class B:

1. A minimum 1.9-in. layer of Sika Sarnafil Inc. "Sarnatherm Composite Roofboard H" or Hunter Panels "H-Shield-CG", "H-Shield HD Composite" is placed directly over a combustible roof deck and is covered with any UL Classified roofing membrane used in any UL Class B roof covering assembly to achieve a Class B fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9-in. minimum thickness layer of Sika Sarnafil Inc. or Hunter Panels. The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

2. A minimum 1/2-in. layer of Sika Sarnafil Inc. "Sarnatherm Roofboard H", or Hunter Panels "H-Shield HD" over a minimum of 1.4-in. layer of any Sika Sarnafil Inc or Hunter Panels Classified polyisocyanurate insulation is placed directly over a combustible roof deck and is covered with any UL Classified roof covering membrane used in any UL Class B roof covering assembly to achieve a Class B fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9-in. minimum thickness layer. The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold process adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6-in. from the roof deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roof covering assembly, however the incline cannot exceed 1/2:12.

### FLUID APPLIED COATING SYSTEMS

#### Class A

1. Deck: NC

Incline: 2

**Surfacing:** — "Sikacoat", applied in two or more coats, for a total of 2 to 5-gal/100-ft.<sup>2</sup>. May be reinforced with polyester fabric (3-oz/sq yd max).

2. Deck: NC

Incline: 2

**Surfacing:** — "Sikacoat", 6 to 12-gal/sq, reinforced with polyester fabric (3-oz/sq/yd max).

3. Deck: C-15/32

Incline: 2

**Insulation (Optional):** — Any UL Classified, any thickness, mechanically fastened.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened.

**Coating:** — "Sikacoat", 6 to 12-gal/100-ft.<sup>2</sup>, reinforced with polyester fabric (3-oz/sq/yd max).

4. Deck: NC

Incline: Unlimited

**Surfacing:** — "Sikacoat FC3600" at 2.5-gal per 100-ft.<sup>2</sup>.

### ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Unless otherwise specified, min insulation thicknesses shall be "Fesco" or "DuraBoard" 3/4-in., SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" 1/4-in., "Fesco-Foam" 1.5-in. min, "Fesco-Foam" minimum 1.5-in. placed foam side down over minimum 3/4-in. thick "Fesco" or "DuraBoard", mechanically fastened to the roof

deck, is a suitable alternate for 1.5-in. min "Fesco-Foam".

Uniform thickness or tapered insulation may be used in the following systems provided they do not exceed the indicated incline or thickness.

The following products may be used in lieu of SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3".

### Class A

#### 1. Deck: NC

**Incline:** 3

**Insulation:** — "Sarnatherm I", uniform thickness or tapered foamed plastic, 8.2-in. max, or Johns Manville "Barrier Board Plus, Plus-A, -D or -M", uniform thickness or tapered composite, 1.5 to 4.1-in., with "Sarnatherm I" or "Sarnatherm II", uniform thickness or tapered, 8.2-in. max, mechanically fastened or hot mopped.

**Ply Sheets:** — Four layers Type 15 perforated asphalt organic felt, hot mopped.

**Surfacing:** — Gravel or slag.

#### 2. Deck: C-15/32

**Incline:** 1

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Base Sheet:** — One ply Type G1 or "GlasPly IV" or "GlasPly Premier", or Type G2 "Glas-Base" or "Ventsulation", or "DynaBase" or, "DynaGrip Base SD/SA" or any "Referenced SBS Base Sheets" (modified bitumen), nailed or hot mopped or self-adhered.

**Ply Sheet:** — Two or more plies Type G1 or "GlasPly IV", "GlasPly Premier", hot mopped.

**Surfacing:** — Gravel, crushed stone or slag and hot roofing asphalt.

#### 3. Deck: C-3/4

**Incline:** 3

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Base Sheet:** — Type G2 "PermaPly 28", "GlasBase" or "Ventsulation" or "DynaBase" (modified bitumen), nailed or hot mopped.

**Ply Sheet:** — Two or more plies Type G1 or "GlasPly IV", "GlasPly Premier", hot mopped.

**Surfacing:** — Gravel, crushed stone or slag and hot roofing asphalt.

#### 4. Deck: C-3/4

**Incline:** 3

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — Three or more plies Type G1 or "GlasPly IV", "GlasPly Premier", nailed or hot mopped.

**Surfacing:** — Gravel, crushed stone or slag and hot roofing asphalt.

#### 5. Deck: NC

**Incline:** 1-1/2

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Base Sheet:** — Type G2 "PermaPly 28", "GlasBase" or "Ventsulation" or "DynaBase" (modified bitumen), nailed or hot mopped.

**Surfacing:** — Type G3 "GlasKap", hot mopped.

#### 6. Deck: NC

**Incline:** 1-1/2

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — Two or more plies Type G1 or "GlasPly IV", "GlasPly Premier", nailed or hot mopped.

**Surfacing:** — Type G3 "GlasKap".

#### 7. Deck: C-15/32

**Incline:** 1

**Insulation (Optional):** — Any thickness, one or more layers of 1/2-in. SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene. All insulation joints offset from plywood deck joints, 6-in. min.

**Base Sheet:** — One ply Type G1 or "GlasPly Premier" or "GlasPly IV", or Type G2 "PermaPly 28", "GlasBase" or "Ventsulation", or "DynaBase" (SBS modified bitumen), mechanically attached or hot mopped.

**Ply Sheet:** — One or more plies Type G1 or "GlasPly Premier", "GlasPly IV", hot mopped.

**Surfacing:** — Type G3 "GlasKap", hot mopped.

## 8. Deck: C-15/32

Incline: 1

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation. One layer of 1/2-in. "Retro-Fit Board" may be placed on top of the above insulations but is not acceptable by itself.

**Base Sheet:** — "PermaPly 28", "GlasBase", "Ventsulation", "DynaBase", "GlasPly IV", "GlasPly Premier", nailed.

**Ply Sheet:** — "DynaPly T1", "DynaPly" or "DynaBase", hot mopped.

**Surfacing:** — Type G3 "GlasKap", hot mopped.

## 10. Deck: C-15/32

Incline: 3

**Insulation (Optional):** — Any thickness, one or more layers 1/2-in. SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened. All insulation joints offset from plywood roof deck joints, 6-in. min.

**Base Sheet:** — "PermaPly 28" or "GlasBase", nailed or adhered with hot roofing asphalt.

**Ply Sheet:** — Two or more plies "Roof Defender Fiber Glass Cap Sheet", "GlasBase", "GlasPly IV", "GlasPly Premier".

**Surfacing:** — Gravel or slag.

## 11. Deck: C-15/32

Incline: 2

**Base Sheet:** — "Roof Defender Fiber Glass Cap Sheet" or "GlasBase", nailed or adhered with hot roofing asphalt.

**Insulation:** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate, hot mopped or mechanically fastened, in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — Two or more plies Type G1 or "GlasPly IV", "GlasPly Premier".

**Surfacing:** — Type G3 "GlasKap".

## 12. Deck: NC

Incline: 2

**Base Sheet (Optional):** — "Roof Defender Fiber Glass Cap Sheet", "GlasBase", "GlasBase Plus" or "Ventsulation", nailed or adhered with hot roofing asphalt.

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate, hot mopped or mechanically fastened, in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — Two or more plies Type G1 or "GlasPly IV", "GlasPly Premier".

**Surfacing:** — Type G3 "GlasKap".

## 14. Deck: C-15/32

Incline: 1/2

**Insulation (Optional):** — Any thickness, one or more layers of "Invinsa", SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3"; or any UL Classified polyisocyanurate insulation. All insulation joints offset from plywood deck joints, 6-in. min.

**Base Sheet:** — One ply Type G1 or Johns Manville "GlasPly Premier" or "GlasPly IV", or Type G2 Johns Manville "PermaPly 28", "GlasBase" or "Ventsulation", or "DynaBase" (SBS modified bitumen), mechanically attached or hot mopped.

**Ply Sheet:** — One or more plies Type G1 or Johns Manville "GlasPly Premier", "GlasPly IV", hot mopped.

**Surfacing:** — Type G3 Johns Manville "GlasKap", hot mopped.

## 15. Deck: NC

Incline: 1/2

**Insulation (Optional):** — SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", any thickness, mechanically fastened, in combination with 1/2-in. Johns Manville "Retro-Fit" cover board, hot mopped.

**Ply Sheet:** — Two or more plies Johns Manville "GlasPly Premier" or "GlasPly IV", hot mopped.

**Surfacing:** — "GlasKap CR" hot mopped.

## 16. Deck: C-15/32

Incline: 1/2

**Base Sheet:** — Johns Manville "PermaPly 28", mechanically attached or hot mopped.

**Insulation:** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate, hot mopped or mechanically fastened, in combination (optional) with 1/2-in. thick Johns Manville "Retro-Fit" cover board, or 3/4-in. "Fesco" or "DuraBoard".

**Ply Sheet:** — Two or more plies Type G1 or Johns Manville "GlasPly IV", "GlasPly Premier", hot mopped.

**Surfacing:** — Johns Manville "GlasKap CR" hot mopped.

## 17. Deck: C-15/32

Incline: 1/2

**Insulation (Optional):** — Any thickness, one or more layers "Invinsa", SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation. All insulation joints offset from plywood deck joints, 6-in. minimum.

**Base Sheet:** — One ply Type G1 or Johns Manville "GlasPly IV", "GlasPly Premier", or Type G2 Johns Manville "PermaPly 28", "GlasBase" or "Ventsulation", or "DynaBase" (SBS modified bitumen), mechanically attached or hot mopped.

**Ply Sheet:** — One or more plies Type G1 or Johns Manville "GlasPly IV", "GlasPly Premier", hot mopped.

**Surfacing:** — Johns Manville "GlasKap CR" hot mopped.

## 18. Deck: NC

Incline: 1

Impact: 4

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. Johns Manville "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Base Sheet:** — Two to four plies Type G1 or Type G2 or Type G3, nailed or hot mopped.

**Surfacing:** — Gravel, crushed stone or slag and hot roofing asphalt.

#### Class B

1. Deck: NC

Incline: 3

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. Johns Manville "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Base Sheet:** — Type G2 Johns Manville "Roof Defender Fiber Glass Cap Sheet", "GlasBase" or "Ventsulation", or "DynaBase" (modified bitumen), nailed.

**Ply Sheet:** — One or more plies Johns Manville "GlasPly IV", "GlasPly Premier", hot mopped.

**Surfacing:** — Type G3 Johns Manville "GlasKap", hot mopped.

2. Deck: NC

Incline: 3

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. Johns Manville "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — Two or more plies Type G1 or Johns Manville "GlasPly IV", "GlasPly Premier", nailed or hot mopped.

**Surfacing:** — Type G3 Johns Manville "GlasKap", hot mopped.

4. Deck: NC

Incline: 1

**Insulation (Optional):** — SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3", any thickness, mechanically fastened.

**Insulation:** — 1/4-inch "Invinsa", hot mopped.

**Ply Sheet:** — Two or more plies Johns Manville "GlasPly Premier" or "GlasPly IV", hot mopped.

**Surfacing:** — Johns Manville "GlasKap CR" hot mopped.

#### Class C

1. Deck: C-15/32

Incline: 1-1/2

**Base Sheet (Optional):** — Johns Manville "PermaPly 28", "GlasBase", "GlasPly IV", "GlasPly Premier", nailed or adhered with hot roofing asphalt.

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — One or more plies Johns Manville "PermaPly 28", "GlasBase", "GlasPly IV" or "GlasPly Premier".

**Surfacing:** — Type G3 Johns Manville "GlasKap".

2. Deck: C-15/32

Incline: 3

**Base Sheet (Optional):** — Johns Manville "PermaPly 28", "GlasBase", "GlasPly IV" or "GlasPly Premier", nailed or adhered with hot roofing asphalt.

**Insulation (Optional):** — Any thickness, one or more layers SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. Johns Manville "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — One or more plies Type G1 or Johns Manville "GlasPly IV" or "GlasPly Premier", adhered with hot roofing asphalt.

**Surfacing:** — Hot roofing asphalt, "TopGard B", applied at a rate of 2-3-gal/sq, Karnak Corp. "Karnak No. 220 Fibrated Asphalt Emulsion", applied at a rate of 3-gal/sq, "TopGard A", applied at a rate of 1 3/4 - 2-gal/sq; or "TopGard B", at the rate of 2-3-gal/sq, or Karnak "Karnak No. 220 Fibrated Asphalt Emulsion", at a rate of 3-gal/sq, in combination with "Fibrated Aluminum Roof Coating", applied at the rate of 2-gal/sq, "Fibrated Aluminum", applied at 1 1/2 to 2-gal/sq, or Karnak "97AF", applied at 1 1/2 to 2-gal/100-ft.<sup>2</sup>.

3. Deck: C-15/32

Incline: Unlimited

**Base Sheet (Optional):** — Johns Manville "PermaPly 28", "GlasBase", "GlasPly IV" or "GlasPly Premier", nailed or adhered with hot roofing asphalt.

**Insulation (Optional):** — SIKA SARNAFIL INC "SarnathermM CG", "SarnathermM 25 PSI CG", "SarnathermM AGF", "SarnathermM 25 PSI AGF" or Johns Manville "ENRGY 3" or any UL Classified polyisocyanurate insulation, hot mopped or mechanically fastened in combination (optional) with 1/2-in. Johns Manville "Retro-Fit" cover board, or 3/4-in. Johns Manville "Fesco" or "DuraBoard" over polystyrene.

**Ply Sheet:** — One or more plies Johns Manville "PermaPly 28", "GlasBase", "GlasPly IV" or "GlasPly Premier".

**Surfacing:** — Type G3 Johns Manville "GlasKap".

#### MAINTENANCE AND REPAIR SYSTEMS

**Class A, B, C****1. Deck:** NC**Incline:** 3/4**Existing Roof System:** — Class A, B or C (gravel may be removed) to retain the existing Classification covered with:**Insulation:** — "Sarnatherm I" (tapered or uniform thickness), mechanically fastened.**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2-gal/100-ft.<sup>2</sup>, "S327" mechanically fastened.**2. Deleted.****3. Deck:** C-15/32**Incline:** 2**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C system to retain the existing Classification is covered with:**Slip Sheet (Optional):** — "Sarnafelt NWP", loose laid.**Insulation (Optional):** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).**4. Deck:** C-15/32**Incline:** 2**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:**Insulation (Optional):** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20",

"G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq, "Sarnacol V949" at 1.5 to 2.5-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>, "S327", mechanically fastened.

4a. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:  
**Insulation (Optional):** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "Sikaplan 45", "Sikaplan 60", "Sikaplan 80", "Sikaplan 45 Feltback", "Sikaplan 60 Feltback" or "Sikaplan 80 Feltback", mechanically fastened.

5. **Deck:** C-15/32

**Incline:** 2

**Existing Roof System:** — Insulated or noninsulated combination hot and cold Class A, B or C system to retain the existing Classification is covered with:

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/ per 100-ft.<sup>2</sup>, "S327" mechanically fastened.

6. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Class A gravel surfaced B-U-R (gravel to remain intact).

**Insulation:** — Polystyrene/perlite or polystyrene/wood fiber (perlite 3/4-in. minimum thickness or 1/2-in. minimum UNTIED STATES GYPSUM CO. Interiors "Micore ML 180", Hubert wood fiber, Georgia-Pacific Sturdi-top or Wood Fiber Industries "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1-in. min thickness). The polystyrene is to be 3-in. maximum thickness.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq, "Sarnacol 2121" adhesive at 1.75-gal/sq or "S327", "S327/Felt", "S327-14", "S327-14/felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), "Sikaplan 45", "Sikaplan 60", "Sikaplan 45 Feltback", "Sikaplan 60 Feltback", "Sikaplan 80", "Sikaplan 80 Feltback", mechanically fastened.

7. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Class A gravel surfaced B-U-R (gravel to remain intact).

**Insulation:** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"



j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"

k. "Sarnatherm m"

l. "Sarnatherm-R Insulation"

m. "Sarnatherm Roof Board A-III"

**Slip Sheet (Optional):** — "Sarnafelt NWP", loose laid.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq, "Sarnacol 2121" adhesive at 1.75-gal/sq or "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20" or "S327-24" (PVC), "Sikaplan 45", "Sikaplan 60", "Sikaplan 80", "Sikaplan 45 Feltback", "Sikaplan 80 Feltback" or "Sikaplan 60 Feltback", mechanically fastened.

8. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C system to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness:

Celotex - "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm AP".

**Slip Sheet (Optional):** — "Sarnafelt NWP", loose laid.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).

9. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>, "S327" mechanically fastened.

10. **Deck:** C-15/32

**Incline:** 1/4

**Existing Roof System:** — Class A gravel surfaced B-U-R (gravel to remain intact).

**Insulation:** — One of the following, any thickness:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>, "S327" mechanically fastened.

11. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C system to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness: "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Slip Sheet (Optional):** — "Sarnafelt NWP", loose laid.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).

12. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness: "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq, "Sarnacol V949" at 1.5 to 2.5-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>, "S327," mechanically fastened.

12a. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness: "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Membrane:** — "Sikaplan 45", "Sikaplan 60", "Sikaplan 80", "Sikaplan 45 Feltback", or "Sikaplan 60 Feltback", "Sikaplan 80 Feltback", mechanically fastened.

13. **Deck:** C-15/32

**Incline:** 2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1.75-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/100-ft.<sup>2</sup>.

14. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Class A gravel surfaced B-U-R (gravel to remain intact).

**Insulation:** — Polystyrene/perlite or polystyrene/wood fiber (perlite 3/4-in. min thickness or 1/2-in. min UNTIED STATES GYPSUM CO. Interiors "Micore ML 180", Hubert wood fiber, Georgia-Pacific Sturdi-top or Wood Fiber Industries "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1-in. minimum thickness). The polystyrene is to be 3 in. max thickness.

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Adhesive" at 1.75-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/100-ft.<sup>2</sup>.

15. **Deck:** C-15/32

**Incline:** 1/2

**Existing Roof System:** — Class A gravel surfaced B-U-R (gravel to remain intact).

**Insulation:** — One of the following, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1.75-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/100-ft.<sup>2</sup>.

16. **Deck:** C-15/32**Incline:** 1-1/2**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:**Insulation (Optional):** — One of the following, any thickness: "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1.75-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/100-ft.<sup>2</sup>.18. **Deleted.**19. **Deleted.**20. **Deleted.**21. **Deleted.**22. **Deleted.**23. **Deck:** C-15/32 or NC**Incline:** See Note**Existing Roof System:** — Any Class A, B or C roofing system, to retain the existing Classification, is covered with:**Membrane:** — Any UL Classified membrane.**Note 1:** Maximum incline shall be in accordance with Classification established for insulation/membrane roofing system, but cannot exceed 2:12. TPO membranes are limited to a 1/2:12. maximum slope.24. **Deck:** C-15/32**Incline:** 4**Existing Roof System:** — To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap BUR system or modified bitumen membrane system.**Insulation:** — (Optional) "Sarnatherm", "Sarnatherm a", "Sarnatherm m", "Sarnatherm-R Insulation", Hunter Panels "H-Shield", "H-Shield CG", "H-Shield HD Composite CG", Atlas "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTerm", "IKOTerm III", Johns-Manville "ENRGY 3", Rmax Operating LLC "Multi-Max FA-3" or "Ultra-Max".**Cover Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol Low Rise Membrane Adhesive (A)" or Sarnacol OM Feltback Membrane Adhesive25. **Deck:** C-15/32**Incline:** 1**Existing Roof System:** — To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap BUR system or modified bitumen membrane system.**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive"26. **Deck:** NC**Incline:** 4**Existing Roof System:** — To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap BUR system or modified bitumen membrane system.**Insulation:** — (Optional) "Sarnatherm", "Sarnatherm a", "Sarnatherm m", "Sarnatherm-R Insulation", Hunter Panels "H-Shield", "H-Shield CG", "H-Shield HD Composite CG", Atlas "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTerm III", Johns-Manville "ENRGY 3", Rmax Operating LLC "Multi-Max FA-3" or Ultra-Max".**Cover Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".27 **Deck:** NC**Incline:** 2**Existing Roof System:** — To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap BUR system or modified bitumen membrane system.**Insulation:** — "Sarnatherm", "Sarnatherm a", "Sarnatherm m", "Sarnatherm-R Insulation", Hunter Panels "H-Shield", "H-Shield CG", "H-Shield HD Composite CG", Atlas "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTerm III", Johns-Manville "ENRGY 3", Rmax Operating LLC "Multi-Max FA-3" or "Ultra-Max".**Cover Board:** — Hunter Panels "Hunter HD" or Johns Manville "Invinsa Roof Board".**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".28 **Deck:** NC**Incline:** 1**Existing Roof System:** — To maintain existing Classifications) - Any Class A, B or C, uncoated, insulated or uninsulated, Type G3 mineral surfaced cap BUR system or modified bitumen membrane system.**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".

29. **Deck:** C-15/32

**Incline:** 2

**Existing Roof System:** — (To maintain existing Classification) Any Class A, B, or C, coated or uncoated, insulated or uninsulated, smooth surfaced or Type G3 mineral surfaced cap sheet BUR or modified bitumen roof system covered with:

**Ply Sheet (Optional):** — Maximum of 3 plies of polyester fabric (Not UL Classified), (23/4 to 3-ounces) embedded in emulsion.

**Surfacing:** — "Sikacoat FC 3400", "Sikacoat BC400", "Sikacoat FC3500" or "Sikacoat BC420", maximum 3-gal/100-ft.<sup>2</sup>.

30. **Deck:** C-15/32

**Incline:** 1

**Existing Roof System:** — (To maintain existing Classification) Any Class A, B, or C, coated or uncoated, insulated or uninsulated, smooth surfaced or Type G3 mineral surfaced cap sheet BUR or modified bitumen roof system.

**Ply Sheet (Optional):** — Maximum of 3 plies of polyester fabric (Not UL Classified), (23/4 to 3-ounces) embedded in emulsion.

**Surfacing:** — "Sikacoat FC 3400" or "Sikacoat BC400", 4 to 8-gal/100-ft.<sup>2</sup>.

31. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C system to retain the existing Classification is covered with:

**Slip Sheet (Optional):** — "Sarnafelt NWP", loose laid.

**Insulation (Optional):** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).

32. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus" any thickness:

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/sq, "Sarnacol V949" at 1.5 to 2.5-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>, "S327", mechanically fastened.

33. **Deck:** C-15/32

**Incline:** 1-1/2

**Existing Roof System:** — Insulated or noninsulated cap sheet, Class A, B or C System to retain the existing Classification is covered with:

**Insulation (Optional):** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", any thickness.

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1.75-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1.5 to 2.5-gal/100-ft.<sup>2</sup>.

**Class B**

1. **Deck:** C-15/32

**Incline:** 2

**Existing Class B Roof System** — as follows to retain the existing Classification:

**Insulation (Optional):** — One or more layers glass fiber, polyisocyanurate, perlite/polyisocyanurate composite polyurethane or perlite/polyurethane composite, 6.5-in. max.

**Ply Sheet:** — Three layers Type G1 GAF "GAFGALS Ply 4" or "GAFGALS Ply 3", hot mopped.

**Surfacing:** — Grundy "Fibered Aluminum Coating" 11/2-gal/100-ft.<sup>2</sup> covered with:

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

2. **Deck:** C1-1/2 TG

**Incline:** No Limitations

**Existing Roof:** — Class A shingles

**Barrier Board:** — 3/8-in. thick gypsum board, mechanically fastened.

**Membrane:** — 5327 (PVC).

**SINGLE PLY MEMBRANE SYSTEMS**

All PVC seams are hot air welded.

For NC decks, insulation shall be mechanically fastened, adhered with "Sarnacol LR 2001" adhesive at approx. 175-ft<sup>2</sup> per-gal. or adhered with hot asphalt.

The following classified membranes may be produced in thicknesses of 45-mils to 96-mils for the "G410", and "S327" membrane families, and in thicknesses of 45-mils to 120-mils for "G476".

The following "G410" membranes are interchangeable: "G410-12", "G410-15", "G410-18", "G410-20", "Textured G410-12", "Textured G410-15", "Textured G410-18" and "Textured G410-20", including colors.

The following "G410 Feltback" membranes are interchangeable: "G410-12 Feltback", "G410-15 Feltback", "G410-18 Feltback" and "G410-20 Feltback", including colors.

The following "S327" membranes are interchangeable: "S327-12", "S327-15", "S327-18" and "S327-20", including colors.

The following "S327 Feltback" membranes are interchangeable: "S327-12 Feltback", "S327-15 Feltback", "S327-18 Feltback" and "S327-20

Feltback", including colors.

The following "Sikaplan" membranes are interchangeable: "Sikaplan 45", "Sikaplan 60" and "Sikaplan 80".

The following "Sikaplan Feltback" membranes are interchangeable: "Sikaplan Feltback 45", "Sikaplan Feltback 60" and "Sikaplan Feltback 80".

The following "G476" membranes are interchangeable: "G476-12", "G476-15", "G476-18" and "G476-20" are interchangeable.

The following "G476 Feltback" membranes are interchangeable: "G476-12 Feltback", "G476-15 Feltback", "G476-18 Feltback" and "G476-20 Feltback".

**Class A - Ballasted**

1. Deck: NC

**Incline:** 2

**Insulation:** — Polystyrene (any thickness), glass fiber, perlite/polyurethane composite, perlite, polyurethane or wood fiber, any thickness, laid loosely.

**Membrane:** — One or more of the following, laid loosely or mechanically fastened:

"G410" or "G410-14" or "G410-14/Felt" or "G410-15" or "G410-15/Felt" or "G410-18" or "G410-18/Felt" or "G410-20" or "G410-20/Felt" or "G410-24" (PVC) or

"S327" or "S327/Felt" or "S327-14" or "S327-14/Felt" or "S327-15" or "S327-15/Felt" or "S327-18" or "S327-20" or "S327-24" (PVC) or

"S330-12" or "S330-15" or "S330-18" or "S330-20" (PVC) or

"TG66-12" or "TG66-15" or "TG66-18" (FPO).

**Surfacing:** — River bottom stone, 3/4 to 1 1/2-in. diameter, 1000-lb/100-ft.<sup>2</sup>.

2. Deck: NC

**Incline:** 1

**Insulation:** — Perlite, glass fiber or polyisocyanurate 3/4-in. minimum.

**Membrane:** — One or more of the following, laid loosely or mechanically fastened:

"G410" or "G410-14" or "G410-14/Felt" or "G410-15" or "G410-15/Felt" or "G410-18" or "G410-18/Felt" or "G410-20" or "G410-20/Felt" or "G410-24" (PVC) or

"S327" or "S327/Felt" or "S327-14" or "S327-14/Felt" or "S327-15" or "S327-15/Felt" or "S327-18" or "S327-20" or "S327-24" (PVC) or

"S330-12" or "S330-15" or "S330-18" or "S330-20" (PVC) or

"TG66-12" or "TG66-15" or "TG66-18" (FPO).

**Surfacing:** — River bottom stone, 3/4 to 1 1/2-in. diameter, 1000-lb/100-ft.<sup>2</sup>.

3. Deck: NC

**Incline:** 2

**Membrane:** — One or more of the following, laid loosely or mechanically fastened:

"G410" or "G410-14" or "G410-14/Felt" or "G410-15" or "G410-15/Felt" or "G410-18" or "G410-18/Felt" or "G410-20" or "G410-20/Felt" or "G410-24" (PVC) or

"S327" or "S327/Felt" or "S327-14" or "S327-14/Felt" or "S327-15" or "S327-15/Felt" or "S327-18" or "S327-20" or "S327-24" (PVC) or

"S330-12" or "S330-15" or "S330-18" or "S330-20" (PVC) or

"TG66-12" or "TG66-15" or "TG66-18" (FPO).

**Slip Sheet (Optional):** — Dry inorganic glass fiber mat.

**Insulation:** — Dow Chemicals USA, Styrofoam RM, "PD", "SM", "TG", Grayboard or Styrorib (plastic), any thickness.

As an alternate, the membrane may be loose laid over the insulation.

**Scrim (Optional):** — "Fabrene", "International Paper D689" or "Rufon Polypropylene Scrim", 2-oz/yd or "SarnabARRIER," 1.5-oz/yd.

**Surfacing:** — Crushed stone, river bottom stone (3/4 to 1 3/4-in. diameter), 900-lbs/sq, concrete blocks 10-lb/sq min, spread not more than 1/8-in. apart, or Styrofoam panels surfaced with 3/8-in. minimum concrete mortar butted together.

4. Deck: NC

**Incline:** 2

**Insulation:** — "Sarnatherm I", uniform thickness or tapered foamed plastic, any thickness or Johns Manville "Barrier Board Plus, Plus -A, -D or -M," uniform thickness or tapered composite .

"Sarnatherm a", "Sarnatherm I" or "Sarnatherm II", uniform thickness or tapered, any thickness or

"Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered"

Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered"

Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard" or "Sarnatherm"

"Foil", any thickness laid loosely or mechanically fastened.

**Membrane:** — One or more of the following, laid loosely or mechanically fastened:

"G410" or "G410-14" or "G410-14/Felt" or "G410-15" or "G410-15/Felt" or "G410-18" or "G410-18/Felt" or "G410-20" or

"G410-20/Felt" or "G410-24" (PVC) or

"S327" or "S327/Felt" or "S327-14" or "S327-14/Felt" or "S327-15" or "S327-15/Felt" or "S327-18" or "S327-20" or "S327-24" (PVC)

or

"S330-12" or "S330-15" or "S330-18" or "S330-20" (PVC) or  
"TG66-12" or "TG66-15" or "TG66-18" (FPO).

**Surfacing:** — River bottom stone (3/4 to 1 1/2-in. diameter) at 1000-lb/100-ft.<sup>2</sup>.

5. **Deck:** C-15/32

**Incline:** 2

**Slip Sheet:** — Polypropylene felt or polyester felt (not UL Classified).

**Membrane:** — One or more of the following, laid loosely or mechanically fastened:

"G410" or "G410-14" or "G410-14/Felt" or "G410-15" or "G410-15/Felt" or "G410-18" or "G410-18/Felt" or "G410-20" or  
"G410-20/Felt" or "G410-24" (PVC) or

"S327" or "S327/Felt" or "S327-14" or "S327-14/Felt" or "S327-15" or "S327-15/Felt" or "S327-18" or "S327-20" or "S327-24" (PVC)  
or

"S330-12" or "S330-15" or "S330-18" or "S330-20" (PVC) or

"TG66-12" or "TG66-15" or "TG66-18" (FPO).

**Surfacing:** — Concrete blocks minimum 10-lb/ft.<sup>2</sup> spread not more than 1/4-in. apart or river bottom stone (3/4 to 1 3/4-in. diameter)  
1200-lbs/100-ft.<sup>2</sup> river bottom stone (3/4 to 1 1/2-in. diameter) at 1000-lb/100-ft.<sup>2</sup>.

#### Class Class A, B or C (See Note)

1. **Deck:** NC (See Note 1)

**Incline:** See Note 1

**Insulation:** — Any UL Classified, any thickness, adhered with "Sarnacol AD Board Adhesive" or "Sarnacol 2163".

**Membrane:** — Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPA, TPO or TRE  
membrane system suitable for use with any roof insulation.

**Note 1:** Classification (A, B or C) and maximum incline will be the same as that of the Classified Roof Covering System (TGFU) currently  
limited to noncombustible roof deck.

#### Class A - Fully Adhered (PVC/TPA)

1. **Deck:** NC

**Incline:** 1

**Insulation:** — Glass fiber, wood fiber or perlite any combination, any thickness, mechanically fastened with metal insulation anchors.

**Membrane:** — "G410", "G410-Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt"  
or "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol 2170 VC" at 1 1/2 to 2 1/2-gal/100-ft.<sup>2</sup>.

2. **Deck:** NC

**Incline:** 1

**Insulation:** — Rmax Operating LLC "Ply-1", any thickness, mechanically fastened with metal insulation anchors.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20" or "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol  
2170 VC" at 1 1/2 to 2 1/2-gal/100-ft.<sup>2</sup>.

3. **Deck:** NC

**Incline:** 1

**Insulation:** — Cellular concrete, gypsum concrete, vermiculite concrete, perlite concrete or structural concrete.

**Membrane:** — "G-410", "G-410 Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt",  
"G410-20", "G410-20/Felt", "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol 2170 VC" at 1 1/2 to 2 1/2-gal/sq or "Sarnacol  
2121" adhesive at 1 3/4 to 2 1/4-gal/100-ft.<sup>2</sup>.

4. **Deck:** NC

**Incline:** 1-1/2

**Insulation:** — Cellular concrete, structural concrete, perlite concrete, gypsum concrete or vermiculite concrete.

**Vapor Barrier:** — "Vapor Stop 298" (not Classified), laid loosely with laps sealed according to the manufacturer's instructions.

**Insulation:** — Rmax Operating LLC "Ply-1" (foil faced) 2 1/2-in. maximum, mechanically fastened with metal insulation anchors.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20" or "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol  
2170 VC" at 1 1/2 - 2 1/2-gal/sq or "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>.

5. **Deck:** NC

**Incline:** 2

**Insulation:** — "Sarnatherm m" or Johns Manville "ENRGY 3", any thickness.

**Membrane:** — "G-410", "G-410 Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20",  
"G410-20/Felt" or "G410-24" (PVC), secured with "Sarnacol 2121" adhesive at 1.75-gal/100-ft.<sup>2</sup>.

6. **Deck:** NC

**Incline:** 1

**Insulation:** — Wood fiberboard, 0.5-in. min.

**Membrane:** — "G-410", "G-410 Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt",  
"G410-20", "G410-20/Felt" or "G410-24" (PVC), secured with "Sarnacol 2121" adhesive at 2 1/4-gal/100-ft.<sup>2</sup>.

7. **Deck:** NC

**Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene, Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness):

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm-R Insulation"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line," or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with Sarnacol 2121 at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

8. Deleted.

9. Deleted.

10. Deck: NC **Incline:** 3/4

**Insulation:** — "Sarnatherm I," uniform thickness or tapered foamed plastic, 8.2-in. max or Johns Manville "Barrier Board Plus-M", uniform thickness or tapered composite, any thickness, mechanically fastened.

**Membrane:** — Either "G-410", "G410-14", "G410-15", "G410-18", "G410-20" or "G410-24" (PVC), adhered with Sarnafil "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

11. Deck: NC **Incline:** 1/2

**Insulation:** — "Sarnatherm I", uniform thickness or tapered foamed plastic, 0.9-in. minimum, no maximum, or Johns Manville "Barrier Board Plus or Plus-M", any thickness, no max, mechanically fastened.

**Membrane:** — "G-410", "G410-14", "G410-15", "G410-18", "G410-20" or "G410-24" (PVC), adhered with Sarnafil "Sarnacol 2170" or "Sarnacol 2170 VC" or "Sarnacol V949" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

12. Deck: C-15/32 **Incline:** 2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) or Type G1 and Type G2.

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place any thickness):

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm-R Insulation"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line", "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "SarnaTherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"

**Membrane:** — "G327-15", "G327-15/Felt", "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

13. **Deck:** Structural Cement Fiber Unit**Incline:** 2**Vapor Barrier (Optional):** — Type G1 or Type G2 base sheet.**Insulation (Optional):** — One of the following or combinations, mechanically fastened or hot mopped in place any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 90+GW"
- e. Apache Products "Apache AP" or "Apache White Line"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II".
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

14. **Deck:** NC**Incline:** 1-1/2**Vapor Barrier (Optional):** — Polyethylene or kraft (Not Classified).**Insulation (Optional):** — Polystyrene or polyisocyanurate, any thickness**Barrier Board:** — 1-in. wood fiberboard, 15/32-in. plywood, 7/16-in. oriented strand board or minimum 1/4- in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard".**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt" or "G410-24" (PVC), adhered with either "Sarnacol 2121" at 13/4 to 21/4-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.15. **Deck:** NC**Incline:** 3**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place, any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410".16. **Deck:** NC**Incline:** 2



**Insulation:** — Cellular concrete, structural concrete, gypsum concrete, vermiculite concrete or perlite concrete.

**Barrier:** — Granular surfaced asphalt cap sheet or Type G2 base sheet set in hot asphalt or mechanically attached.

**Membrane:** — "G410/Felt", "G410-14/Felt", "G410-15/Felt", "G410-18/Felt" or "G410-20/Felt", fully adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1 1/2 to 2 1/4-gal/100-ft.<sup>2</sup>.

17. **Deck:** C-3 11/16 **Incline:** 1

**Base Sheet:** — Type G2, nailed or hot mopped.

**Insulation:** — (3-in. minimum) Johns Manville "ENRGY 2G".

**Membrane:** — "G410" (PVC), adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 1 1/2 to 2 1/2-gal/100-ft.<sup>2</sup>.

18. **Deck:** C-15/32 **Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or PVC (Not Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/2-in. thick gypsum board with all joints staggered a minimum of 6-in. from the plywood joints.

**Membrane:** — "G410" or "G410/Felt" adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at a rate of 11/2 to 21/2-gal/100-ft.<sup>2</sup> or "Sarnacol 2121" adhesive at a rate of 13/4 to 21/4-gal/100-ft.<sup>2</sup>.

19. **Deck:** NC **Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene, Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness):

Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

20. **Deck:** C-15/32 **Incline:** 1-1/2

**Barrier Board:** — Minimum 5/8-in. thick gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with insulation fasteners (6-in. offset of the gypsum board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) or Type G1 and Type G2.

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness):

Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP".

**Membrane:** — "G327-15", "G327-15/Felt", "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

21. **Deck:** Structural Cement Fiber Unit **Incline:** 1-1/2

**Vapor Barrier (Optional):** — G1 or G2 base sheet.

**Insulation (Optional):** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness):

Celotex "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm Ultra".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

22. **Deck:** NC **Incline:** 2-1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness):

Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP".

**Membrane:** — "G410".

23. **Deck:** C-3-11/16 **Incline:** 1/2

**Base Sheet:** — Type G2, nailed or hot mopped.

**Insulation:** — (3 in. min) Celotex "Hy-Therm AP".

**Membrane:** — "G410" (PVC), adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

24. **Deck:** C-15/32 **Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene, polypropylene, karft or PVC (not UL Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" with 6-in. staggered joints, mechanically fastened.

**Membrane:** — "G410", "G410-12", "G410-15", "G410-18", "G410-20", "G410-24" (PVC), adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 2-gal/100-ft.<sup>2</sup>.

25. **Deck:** Structural Cement Fiber Unit

**Incline:** 2

**Vapor Barrier (Optional):** — Rosin paper (not UL Classified) and Type 15 or 30 felt, G1 or G2 two to four plies mechanically fastened or hot mopped.

**Insulation:** — One or more layers of one of the following (1/8 in. tapered) any thickness, mechanically fastened or hot mopped in place:

1. Apache "Pyrox"
2. John Manville "ENRGY 3"
3. Atlas Roofing Corp. "ACFoam II"
4. "Sarna Therm I"
5. "Sarna Therm II"
6. "Sarnatherm a"
7. "Sarnatherm m"
8. "Sarnatherm Roof Board A-III"
9. "Sarnatherm a CG Plus"

**Membrane:** — "G410" or "S327", fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal.sq or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

26. **Deleted.**

27. **Deleted.**

28. **Deck:** NC

**Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene, Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness): "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with Sarnacol 2121 at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>

29. **Deleted.**

30. **Deleted.**

31. **Deleted.**

32. **Deleted.**

33. **Deleted.**

33a. **Deleted.**

34. **Deleted.**

34a. **Deleted.**

35. **Deck:** NC

**Incline:** 1/2

**Insulation (Optional):** — Any UL Classified Extruded Polystyrene, any thickness, mechanically fastened or adhered with UL Classified insulation adhesive.

**Membrane:** — "G476-15 SA" (PVC) 120-mil, self-adhered.

36. **Deck:** C-15/32

**Incline:** 1/2

**Insulation (Optional):** — Any UL Classified Polyisocyanurate or UL Classified Polystyrene, any thickness, mechanically fastened or adhered with UL Classified insulation adhesive.

**Grounding Screen (Optional):** — Aluminum 18 by 16 screen mesh (not UL Classified).

**Barrier Board:** — Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", minimum 1/4-in. thick, mechanically fastened or adhered with UL Classified insulation adhesive with butt joints in barrier board off-set a minimum of 6-in. from plywood decks butt joints.

**Membrane:** — "G476-15 SA" (PVC) 120-mil, self-adhered.

37. **Deck:** C-15/32

**Incline:** 2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) or Type G1 and Type G2.

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place any thickness):

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1-3/4 to 2-1/4-gal/100-sq ft, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

38. **Deck:** Structural Cement Fiber Unit

**Incline:** 2

**Vapor Barrier (Optional):** — Type G1 or Type G2 base sheet.

**Insulation (Optional):** — One of the following or combinations, mechanically fastened or hot mopped in place any thickness:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 90+GW"
- e. Apache Products "Apache AP" or "Apache White Line"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II".
- i. "Sarnatherm a"
- j. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 13/4 to 21/4-gal/100-sq ft, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

39. **Deck:** NC

**Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene or kraft (Not Classified).

**Insulation (Optional):** — Polystyrene or polyisocyanurate, any thickness.

**Barrier:** — 1-in. wood fiberboard or, 15/32-in. plywood or 7/16-in. oriented strand board or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard".

**Membrane:** — "Sikaplan Adhered" (PVC), adhered with "Sikaplan Water Based Membrane Adhesive" at 13/4 to 21/4-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

40. **Deck:** C-15/32

**Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or PVC (Not Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/2-in. thick gypsum board with all joints staggered a min of 6-in. from the plywood joints.

**Membrane:** — "Sikaplan Adhered" (PVC) adhered with "Sikaplan Water Based Membrane Adhesive" adhesive at a rate of 13/4 to 21/4-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

41. **Deck:** Structural Cement Fiber Unit

**Incline:** 2

**Vapor Barrier (Optional):** — Rosin paper (not UL Classified) and Type 15 or Type 30 felt, Type G1 or Type G2 two to four plies mechanically fastened or hot mopped.

**Insulation:** — One or more layers of one of the following (1/8 in. tapered) any thickness, mechanically fastened or hot mopped in place:

1. Apache "Pyrox"
2. John Manville "ENRGY 3"
3. Atlas Roofing Corp. "ACFoam II"
4. "Sarna Therm I"
5. "Sarna Therm II"
6. "Sarnatherm a"
7. "Sarnatherm m"
8. "Sarnatherm Roof Board A-III"
9. "Sarnatherm a CG Plus"

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 13/4 to 21/4-gal/sq, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

42. **Deck:** NC

**Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene, Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, mechanically fastened or hot mopped in place (any thickness): "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 13/4 to 21/4-gal/100-sq ft, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

43. **Deck:** C-15/32

**Incline:** 1/2

**Insulation (Optional):** — Any UL Classified Polyisocyanurate or UL Classified Polystyrene, any thickness, mechanically fastened or adhered with UL Classified insulation adhesive.

**Barrier Board:** — Minimum Georgia-Pacific Gypsum Corp. "DensDeck DuraGuard™ Roofboard," or "DensDeck® Roofboard" or "DensDeck Prime® Roofboard," mechanically fastened or adhered with UL Classified insulation adhesive with butt joints in barrier board off-set a minimum of 6-in. from plywood decks butt joints.

**Grounding Screen (Optional):** — Aluminum 18 by 16 screen mesh (not UL Classified).

**Membrane:** — "G476-15" (PVC) 60-mil, "G476-18" (PVC) 72-mil or "G476-20" (PVC) 80-mil adhered with Sarnacol 2121 at 13/4 to 21/4-gal/100-ft.<sup>2</sup> or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

44 **Deck:** NC

**Incline:** Unlimited

**Vapor Barrier:** — Optional

**Insulation:** — (Optional) Any UL Classified isocyanurate or polystyrene insulation.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol OM Feltback Membrane Adhesive"

45 **Deck:** C-15/32

**Incline:** Unlimited

**Vapor Barrier:** — Optional

**Insulation:** — (Optional) Any UL Classified isocyanurate or polystyrene insulation.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol OM Feltback Membrane Adhesive"

46. **Deck:** NC

**Incline:** 4

**Vapor Barrier:** — Optional

**Insulation:** — Any UL Classified isocyanurate or polystyrene insulation

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or United States

Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive".

47 **Deck:** C-15/32

**Incline:** 4

**Vapor Barrier:** — Optional

**Insulation:** — (Optional) Any UL Classified isocyanurate or polystyrene insulation.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", Temple-Inland "GreenGlass" or CertainTeed "GlasRoc".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive".

48. **Deck:** NC

**Incline:** Unlimited

**Vapor Barrier:** — Optional.

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol OM Feltback Membrane Adhesive".

49. **Deck:** NC

**Incline:** 4

**Vapor Barrier:** — Optional.

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive".

50. **Deck:** NC

**Incline:** 2

**Vapor Barrier:** — Optional.

**Insulation:** — "Sarnatherm", "Sarnatherm a", "Sarnatherm m", "Sarnatherm-R Insulation", Hunter Panels "H-Shield", "H-Shield CG", "H-Shield HD Composite CG", Atlas Roofing Corp. "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTerm III", Johns-Manville "ENRGY 3".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".

51 **Deck:** NC

**Incline:** 2

**Vapor Barrier:** — Optional.

**Insulation:** — Any UL Classified isocyanurate or polystyrene insulation.

**Cover Board:** — Hunter Panels "Hunter HD" or Johns Manville "Invinsa Roof Board".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".

52 **Deck:** C-15/32

**Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene, polypropylene, kraft or PVC (not UL Classified) or any UL Classified vapor barrier.

**Insulation (Optional):** — Any UL Classified polyisocyanurate or polystyrene insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck Prime Roofboard" or "United States Gypsum Co.", "SECUROCK® Glass-Mat Roof Board (Type SGMRX)" with all joints staggered a minimum of 6-in. from the plywood joints, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — G410, S327, G410/Felt or S327/Felt, adhered with Sarnacol 2121 adhesive at 3/4 to 1 1/4-gal/100-ft.<sup>2</sup>.

53. **Deck:** NC

**Incline:** 2

**Insulation:** — Cellular Concrete, gypsum concrete, vermiculite concrete, perlite concrete, or structural concrete.

**Base Sheet:** — "Base Sheet NB 48", mechanically fastened.

**Ply Sheet:** — "Ply Sheet HA 87", adhered with hot roofing asphalt or "Ply Sheet TA 87", torch applied.

**Membrane:** — "G410-15 Feltback", "G410-18 Feltback" or "G410-20 Feltback", adhered with "Sarnacol OM Feltback Membrane Adhesive" or "Sarnacol AD Feltback Membrane Adhesive".

54. **Deck:** NC

**Incline:** 3

**Insulation:** — Cellular Concrete, gypsum concrete, vermiculite concrete, perlite concrete, or structural concrete.

**Base Sheet:** — "Base Sheet NB 48", mechanically fastened.

**Insulation:** — Any UL Classified, any thickness, adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "Dens Deck Roofboard", "Dens Deck Prime Roofboard", adhered with any UL Classified insulation adhesive.

**Ply Sheet:** — "Ply Sheet HA 87", adhered with hot roofing asphalt or "Ply Sheet TA 87", torch applied.

**Cap Sheet:** — "G410-15 Feltback", "G410-18 Feltback" or "G410-20 Feltback", adhered with "Sarnacol OM Feltback Membrane Adhesive" or "Sarnacol AD Feltback Membrane Adhesive".

55. **Deck:** NC

**Incline:** 3

**Insulation:** — Cellular Concrete, gypsum concrete, vermiculite concrete, perlite concrete, or structural concrete.

**Base Sheet:** — "Base Sheet NB 48", mechanically fastened.

**Insulation:** — Any UL Classified, any thickness, adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "Dens Deck Roofboard", "Dens Deck Prime Roofboard", adhered with any UL Classified insulation adhesive.

**Ply Sheet:** — "Vapor Retarder SA 106" self-adhered.

**Cap Sheet:** — "G410-15 Feltback", "G410-18 Feltback" or "G410-20 Feltback", adhered with "Sarnacol OM Feltback Membrane Adhesive" or "Sarnacol AD Feltback Membrane Adhesive".

56. **Deck:** C-15/32

**Incline:** 3

**Insulation:** — Any UL Classified, any thickness mechanically attached or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "Dens Deck Roofboard", "Dens Deck Prime Roofboard" mechanically fastened or adhered with any UL Classified insulation adhesive.

**Ply Sheet:** — "Ply Sheet HA 87", adhered with hot roofing asphalt or "Ply Sheet TA 87", torch applied.

**Cap Sheet:** — "G410-15 Feltback", "G410-18 Feltback" or "G410-20 Feltback", adhered with "Sarnacol OM Feltback Membrane Adhesive" or "Sarnacol AD Feltback Membrane Adhesive".

57. **Deck:** C-15/32

**Incline:** 3

**Insulation:** — Any UL Classified polyisocyanurate insulation, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "Dens Deck Roofboard", "Dens Deck Prime Roofboard", mechanically fastened or adhered with any UL Classified insulation adhesive.

**Ply Sheet:** — "Vapor Retarder SA 106" self-adhered.

**Membrane:** — "G410-15 Feltback", "G410-18 Feltback" or "G410-20 Feltback", adhered with "Sarnacol OM Feltback Membrane Adhesive" or "Sarnacol AD Feltback Membrane Adhesive".

58. **Deck:** NC

**Incline:** 1

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — "Sarnatherm", "Sarnatherm a", Hunter Panels, "H-Shield", "H-Shield HD" "H-Shield CG", "H-Shield HD Composite CG", Atlas Roofing Corp. "ACFoamII", "ACFoamIII", "ACFoamIV", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

59. **Deck:** C-15/32

**Incline:** 1

**Thermal Barrier:** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — "Sarnatherm", "Sarnatherm a", "Sarnatherm m", Hunter Panels, "H-Shield", "H-Shield HD" "H-Shield CG", "H-Shield HD Composite CG", Atlas Roofing Corp. "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTherm III", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

60. **Deck:** NC

**Incline:** 1

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Any UL Classified insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Cover Board:** — "Sarnatherm Roof Board A-III", "Sarnatherm Roofboard H", Atlas Roofing, "ACFoam-III HD CoverBoard", Hunter Panels, "H-Shield HD", 1/2 in. thick, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

61. **Deck:** C-15/32

**Incline:** 3

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Any UL Classified insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

62. **Deck:** NC

**Incline:** 1

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof

Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — "Sarnatherm", "Sarnatherm a", Hunter Panels, "H-Shield", "H-Shield HD" "H-Shield CG", "H-Shield HD Composite CG", Atlas Roofing Corp. "ACFoamII", "ACFoamIII", "ACFoamIV", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

63. Deck: NC

Incline: 3

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Any UL Classified insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

64. Deck: NC

Incline: 1

**Vapor Barrier (Optional):** — Polyethylene, Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place (any thickness):

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with Sarnacol 2121 at 13/4 to 21/4-gal/100-sq ft, or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

65. Deck: C-15/32

Incline: 1-1/2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) or Type G1 and Type G2.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place any thickness):

**Membrane:** — "G327-15", "G327-15/Felt", "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

66. Deck: Structural Cement Fiber Unit

Incline: 1-1/2

**Vapor Barrier (Optional):** — Type G1 or Type G2 base sheet.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place any thickness:

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC), fully adhered with "Sarnacol 2121" at 13/4 to 21/4-gal/100-sq ft or "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-sq ft.

67. Deck: NC

Incline: 2-1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place, any thickness:

**Membrane:** — "G410".

68. Deck: C-15/32

Incline: 1-1/2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) or Type G1 and Type G2.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place any thickness):

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 1-3/4 to 2-1/4-gal/100-sq ft, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

69. Deck: Structural Cement Fiber Unit

Incline: 1-1/2

**Vapor Barrier (Optional):** — Type G1 or Type G2 base sheet.

**Insulation (Optional):** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", mechanically fastened or hot mopped in place any thickness:

**Membrane:** — "Sikaplan Adhered" (PVC), fully adhered with "Sikaplan Water Based Membrane Adhesive" at 13/4 to 21/4-gal/100-sq ft, "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

70. **Deck:** NC **Incline:** 1-1/2

**Vapor Barrier (Optional):** —

**Insulation:** — "Sarnatherm", "Sarnatherm a", "Sarnatherm m", "Sarnatherm-R Insulation", Hunter Panels "H-Shield", "H-Shield CG", "H-Shield HD Composite CG", Atlas Roofing Corp. "ACFoamII", "ACFoamIII", "ACFoamIV", IKO "IKOTherm III", Johns-Manville "ENRGY 3", Rmax Operating LLC "Multi-Max FA-3" or "Ultra-Max".

**Membrane:** — "G410 Feltback" or "S327 Feltback" adhered with "Sarnacol AD Feltback Membrane Adhesive" or "Sarnacol OM Feltback Membrane Adhesive".

71. **Deck:** NC **Incline:** 1/2

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Ultra Max", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

72. **Deck:** C-15/32 **Incline:** 1/2

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Ultra Max", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

73. **Deck:** NC **Incline:** 1/2

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — "Rmax Operating LLC "Multi-Max FA-3" or "Ultra Max", any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

**Class A - Fully Adhered (TPO)**

1. **Deck:** NC **Incline:** 1/2

**Insulation:** — "Sarnatherm m" or Johns Manville "ENRGY 3", any thickness.

**Membrane:** — "Sarnafil TPO", 45 or 60-mil, fully adhered with "CRSI Bonding Adhesive C1006" at 1-gal/100-ft.<sup>2</sup>.

**Class B - Fully Adhered (PVC/TPA)**

1. **Deck:** C-15/32 **Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene, kraft or PVC (not UL Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness.

**Barrier:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" mechanically fastened.

**Membrane:** — "G410", "G410-12", "G410-14", "G410-15", "G410-20", "G410-24", "S327", "S327-12", "S327-14", "S327-15", "S327-20", "S327-24" adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" at 1 1/2 to 2 1/2-gal/100-ft.<sup>2</sup>.

2. **Deck:** C-15/32 **Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene, polypropylene, karft or PVC (not UL Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" with 6-in. staggered joints, mechanically fastened.

**Membrane:** — "G410", "G410/Felt", "G410-12", "G410-12/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-12", "S327-12/Felt", "S327-15", "S327-15/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC), adhered with "Sarnacol 2170" or "Sarnacol 2170 VC" adhesive at 2-gal/sq or "Sarnacol 2121" adhesive at 3/4 to 1 3/4-gal/100-ft.<sup>2</sup>.

3. **Deck:** NC **Incline:** 3/4

**Insulation:** — "Sarnatherm m", or Johns Manville "ENRGY 3 any thickness.

**Membrane:** — "Sarnafil TPO", 45 or 60-mil, fully adhered with "CRSI Bonding Adhesive C1006" at 1-gal./100-ft.<sup>2</sup>.



## 4. Deck: C-15/32

Incline: 4

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Any UL Classified insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered

## 5. Deck: NC

Incline: 4

**Thermal Barrier (Optional):** — 1/2 in. thick gypsum board or 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Roofboard", "Dens Deck Prime Roofboard" or or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)" mechanically fastened with insulation fasteners, or adhered with urethane based low rise adhesive or hot asphalt, with joints in the gypsum board and barrier board offset a minimum of 6-in. with the joints in the roof deck.

**Vapor Barrier (Optional):** — Polyethylene, Kraft (not Classified), Type G1, Type G2 or self-adhered SBS base sheet.

**Insulation:** — Any UL Classified insulation, any thickness, mechanically fastened or adhered with any UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum "Dens Deck Prime Roofboard" or United States Gypsum Co. "SECUROCK Gypsum-Fiber Roof Board (Type FRX-G)", "SECUROCK Glass-Mat Roof Board (Type SGMRX)", mechanically fastened or adhered with any UL Classified insulation adhesive.

**Membrane:** — "Sarnafil G410 Self Adhered Membrane", self-adhered.

## Class C - Fully Adhered (PVC/TPA)

## 1. Deck: C (Tectum Deck) 4-in.

Incline: 2-1/2

**Separation Sheet:** — Type G1, Type G2 or Type G3 sheet nailed.

**Insulation:** — Johns Manville "ENRGY-IM", any thickness, mechanically fastened with metal insulation anchors or hot mopped in place.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20" or "G410-24" (PVC), secured with "Sarnacol 2170" or "Sarnacol 2170 VC" at 11/2 to 21/2-gal/100-ft.<sup>2</sup>.

## Class A - Mechanically Fastened (PVC/TPA)

Membrane is secured to the roof deck with metal bars or metal plates and screws in accordance with the manufacturer's recommended installation instructions.

## 1. Deck: NC

Incline: 1

**Insulation:** — Glass fiber, wood fiber or perlite, any thickness, mechanically fastened with metal insulation anchors.

**Membrane:** — "G410", "G410-15", "S327" or "S327-15" (PVC).

## 2. Deck: NC

Incline: 1

**Insulation:** — GAF "Gaftemp", glass fiber or wood fiber, any combination, 3/4 to 33/4 in., mechanically fastened with metal insulation anchors.

**Separation Sheet:** — "Sarnafelt 400" or Fortifiber

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

## 3. Deck: NC

Incline: 1

**Insulation:** — Cellular concrete, gypsum concrete, vermiculite concrete, perlite concrete or structural concrete.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-15", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).

## 4. Deleted.

## 5. Deck: NC

Incline: 1 1/2

**Insulation (Optional):** — Polystyrene or polyisocyanurate, any thickness.

**Barrier Board:** — Plywood (0.50-in. minimum) or minimum 1/4-in. Georgia-Pacific Gypsum LLC "DensDeck ®", mechanically fastened with metal insulation anchors.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC).

## 6. Deck: NC

Incline: 1

**Barrier Board (Optional):** — Minimum 5/8-in. thick Gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard".

**Insulation:** — Dow Chemical USA RM Styrofoam or E.P.S, any thickness.

**Barrier Board:** — Huebert Fiberboard 1-in. fiberboard.

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC).

7. **Deck:** NC

**Incline:** 1

**Insulation:** — GAF "Gaftemp", glass fiber or wood fiber, any thickness, mechanically fastened with metal insulation anchors.

**Membrane:** — "S327/Felt", "S327L/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24".

8. **Deck:** NC

**Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, any thickness, mechanically fastened or hot mopped in place with hot roofing asphalt:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm", Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

9. **Deleted.**

10. **Deleted.**

11. **Deck:** C-15/32

**Incline:** 1/2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board, mechanically fastened with insulation fasteners (6-in. offset at the gypsum board joints from the plywood joints).

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20", "G410-24", "G410-14/Felt", "G410-15/Felt", "G410-18/Felt", "G410-20/Felt", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC).

12. **Deck:** C-15/32

**Incline:** 2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4- in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One of the following or combinations any thickness, mechanically fastened or hot mopped in place:

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 3"
- g. "Sarnatherm I" or "Sarnatherm II"
- h. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm", Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"

Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"

k. "Sarnatherm m"

l. "Sarnatherm-R Insulation"

m. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

13. Deleted.

14. Deleted.

15. Deleted.

16. Deck: NC **Incline:** 1-1/4

**Insulation:** — "Sarnatherm I", uniform thickness or tapered foamed plastic, or Johns Manville "Barrier Board Plus-M", uniform thickness or tapered composite, any thickness, mechanically fastened.

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC), mechanically fastened as per manufacturer's instructions.

17. Deck: NC **Incline:** 3/4

**Insulation:** — "Sarnatherm I", uniform thickness or tapered foamed plastic, 0.9 in. minimum, no max, or Johns Manville "Barrier Board Plus-M", uniform thickness or tapered composite, any thickness, mechanically fastened.

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC), mechanically fastened.

18. Deck: C-15/32 **Incline:** 2

**Insulation:** — Polystyrene, any thickness.

**Barrier Board:** — Minimum 5/8-in. thick gypsum or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with 6-in. offset of the barrier board joint from the plywood joints.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

19. Deck: C-15/32 **Incline:** 2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board, mechanically fastened with 6-in. offset of the gypsum joints from the plywood joints.

**Insulation:** — Polystyrene, any thickness.

**Barrier Board:** — 3/4-in. perlite board.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

20. Deck: NC **Incline:** 4

**Insulation:** — Cellular concrete, gypsum concrete, vermiculite concrete, perlite concrete or structural concrete.

**Membrane:** — "G410" or "S327" (PVC).

21. Deck: C-15/32 **Incline:** 1/2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board with joints offset 6-in. from joints in plywood.

**Insulation (Optional):** — Operating LLC "Multi-Max" or "Thermarroof Plus," Firestone Building Products Co. LLC "Iso 95+GL" or "Iso 95+GW", Apache Products "Apache Pyrox" or "Apache White Line", Johns Manville "ENRGY IM, IA or IG", Sarnafil "Sarnatherm I", "Sarnatherm II" or "Sarnatherm Composite", Atlas Roofing Corp. "ACFoam II", any thickness.

**Membrane:** — "G410", "G410/Felt", "S327", "S327/Felt", (PVC) 48 or 60-mil.

22. Deck: C-15/32 **Incline:** 1/2

**Insulation (Optional):** — Operating LLC "Multi-Max" or "Thermarroof Plus", Firestone Building Products Co. LLC "ISO 95+GL" or "ISO 95+GW", Apache Products "Apache Pyrox" or "Apache White Line", Johns Manville "ENRGY IM", "Sarna Therm II" or "Sarna Therm Composite", Atlas Roofing Corp. "ACFoam II", any thickness.

**Barrier Board:** — Minimum 1/2-in. thick gypsum board.

**Membrane:** — "G410", "G410/Felt", "S327", "S327/Felt" (PVC), 48 or 60-mil.

23. Deck: C-15/32 **Incline:** 1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation (Optional):** — One of the following or combinations, mechanically fastened any thickness:

a. Perlite

- b. "Sarnatherm a CG Plus"
- c. Firestone Building Products Co. LLC "Iso 95 + GL", "Iso 95 + GW"
- d. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- e. Johns Manville " ENRGY 3 "
- f. "Sarnatherm I" or "Sarnatherm II"
- g. Atlas Roofing Corp. "ACFoam II"
- i. "Sarnatherm a"
- j. "Sarnatherm", Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- k. "Sarnatherm m"
- l. "Sarnatherm-R Insulation"
- m. "Sarnatherm Roof Board A-III"

**Barrier Board:** — Partek Insulation "Paroc Capboard", 3/4-in. with joints staggered 6-in. from the plywood deck joints, mechanically fastened.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" (PVC).

24. **Deck:** C-15/32 **Incline:** 3

**Insulation:** — Partec "Paroc Capboard" 3/4-in. with insulation joints staggered 6-in. from the plywood deck joint, mechanically fastened.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" (PVC).

25. **Deck:** C15/32 **Incline:** No Limitations

**Insulation (Optional):** — Polyisocyanurate, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" with all joints staggered a minimum of 6-in. from the plywood joints.

**Membrane:** — "S327", "S327-12", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24".

26. **Deck:** NC **Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation (Optional):** — UL Classified EPS, any thickness.

**Insulation:** — One of the following or combinations, 1-in. thick minimum, mechanically fastened.

- a. Perlite
- b. Fiberboard
- c. "Sarnatherm a CG Plus"
- d. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"
- e. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"
- f. Johns Manville "ENRGY 2" or "Barrier Board Plus"
- g. Johns Manville "ENRGY 3"
- h. "Sarnatherm I" or "Sarnatherm II"
- i. Atlas Roofing Corp. "ACFoam II"
- j. "Sarnatherm a"
- k. "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"
- l. "Sarnatherm m"
- m. "Sarnatherm-R Insulation"
- n. "Sarnatherm Roof Board A-III"

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

27. **Deck:** NC **Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, any thickness, mechanically fastened or hot mopped in place with hot roofing asphalt:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

28. **Deck:** C-15/32

**Incline:** 1-1/2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One of the following or combinations, any thickness, mechanically fastened or hot mopped in place:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

29. **Deck:** C-15/32

**Incline:** 1/4

**Barrier Board:** — Minimum 1/2-in. gypsum board with joints offset 6-in. from joints in plywood.

**Insulation (Optional):** — Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP" any thickness.

**Membrane:** — "G410", "G410/Felt", "S327", "S327/Felt" (PVC), 48 or 60-mil.

30. **Deck:** C-15/32

**Incline:** 1/4

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified) .

**Insulation (Optional):** — One of the following or combinations, mechanically fastened any thickness:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II", "Hy-Therm AP".

**Barrier Board:** — Partek Insulations "Paroc Capboard", 3/4-in. minimum with joints staggered 6-in. from the plywood deck joints, mechanically fastened.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" (PVC).

31. **Deck:** NC

**Incline:** 1-1/2

**Vapor Board (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation (Optional):** — UL Classified EPS, any thickness.

**Insulation:** — One of the following or combinations, 1-in. thick min, mechanically fastened:

Celotex "Top RII", "Hy-Tec", "Hy-Tec II" or "Hy-Therm AP".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

32. **Deck:** C-15/32

**Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene, polypropylene, karft or PVC (not UL Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" with 6-in. staggered joints, mechanically fastened.

**Membrane:** — "G410", "G410/Felt", "G410-12", "G410-12/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-12", "S327-12/Felt", "S327-15", "S327-15/Felt", "S327-20", "S327-20/Felt", "S327-24" (PVC).

33. **Deck:** NC

**Incline:** 1-1/2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — One of the following or combinations, any thickness, mechanically fastened or hot mopped in place with hot roofing asphalt: "Sarnatherm", "Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard".

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

34. **Deck:** NC

**Incline:** 1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One or more layers "Sarnatherm", "Sarnatherm a", Hunter Panels "H-Shield", Atlas Roofing Corp. "ACFoamII" or Johns Manville "ENRGY 3", any thickness, mechanically fastened or hot mopped.

**Membrane:** — "Sikaplan 45", "Sikaplan 45 Feltback", "Sikaplan 60", "Sikaplan 60 Feltback", "Sikaplan 80" or "Sikaplan 80 Feltback",

mechanically fastened.

34a. **Deck:** C-15/32

**Incline:** 1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One or more layers polystyrene, any thickness, mechanically fastened or hot mopped.

**Slip Sheet:** — Atlas Roofing Corp. "FR 10" or "FR 50".

**Membrane:** — "Sikaplan 45", "Sikaplan 45 Feltback", "Sikaplan 60", "Sikaplan 60 Feltback", "Sikaplan 80" or "Sikaplan 80 Feltback", mechanically fastened.

35. **Deck:** NC

**Incline:** 4

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation (Optional):** — Any UL Classified, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" or United States Gypsum Co. "SECUROCK™ Roof Board (Type FRX-G), mechanically fastened.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, mechanically fastened.

36. **Deck:** C-15/32

**Incline:** 4

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness, mechanically fastened or hot mopped.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Glass-Mat Roof Board (Type SGMRX)" or Certainteed Gypsum Inc. "GlasRoc", mechanically fastened with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Membrane:** — "Sikaplan 45 Feltback", "Sikaplan 60 Feltback, or "Sikaplan 80 Feltback", mechanically fastened.

36a. **Deck:** C-15/32

**Incline:** Unlimited

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation (Optional):** — One or more layers polyisocyanurate, polystyrene or combinations, any thickness, mechanically fastened or hot mopped.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Glass-Mat Roof Board (Type SGMRX)" or Certainteed Gypsum Inc. "GlasRoc", mechanically fastened with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Membrane:** — "Sikaplan 45", "Sikaplan 60" or "Sikaplan 80", mechanically fastened.

37. **Deck:** C-15/32

**Incline:** 1

**Insulation (Optional):** — Any UL Classified, any thickness

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, mechanically fastened.

38. **Deck:** C-15/32

**Incline:** 3

**Base Sheet:** — One ply Type G2, mechanically fastened.

**Insulation (Optional):** — Any UL Classified, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, mechanically fastened.

39. **Deck:** C-15/32

**Incline:** 1/2

**Base Sheet:** — One ply Type G2, mechanically fastened.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Insulation (Optional):** — "Sarnatherm", "Sarnatherm a", Hunter Panel "H-Shield", Atlas Roofing Corp. "ACFoam II", "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, any thickness.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, mechanically fastened.

40. **Deck:** C-15/32

**Incline:** 3

**Insulation:** — Fiberglass, polyisocyanurate, perlite or wood fiber, UL Classified, any thickness.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck

DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, mechanically fastened.

41. **Deck:** C-15/32

**Incline:** 1/2

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" or minimum 1/4-in. thick United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) with all barrier board butt joints staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.

**Insulation:** — "Sarnatherm", "Sarnatherm a", Hunter Panel "H-Shield", Atlas Roofing Corp. "ACFoam II", any thickness.

**Membrane:** — "Sikaplan 45" (PVC) 45-mil, "Sikaplan 45 Feltback" (PVC) 45-mil, "Sikaplan 60" (PVC) 60-mil, or "Sikaplan 60 Feltback" (PVC) 60-mil, "Sikaplan 80" (PVC) 80-mil or "Sikaplan 80 Feltback" (PVC) 80-mil, mechanically fastened.

42. **Deck:** C-15/32

**Incline:** 2

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard", mechanically fastened with all butt joints staggered a minimum of 6-in. from the plywood deck joints.

**Insulation (Optional):** — The Dow Chemical Co. "HY-THERM AP" or "Sarnatherm" or "Sarnatherm a" or Hunter Panel "H-Shield" or Atlas Roofing Corp. "ACFoam II", any thickness, mechanically fastened.

**Membrane:** — "S327-15 EEL H RAL 8029" (PVC) 60-mil (1.5-mm), mechanically fastened.

43. **Deck:** NC

**Incline:** 2

**Barrier Board (Optional):** — Minimum 1/4-in. thick "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard," mechanically fastened with all butt joints staggered a min of 6-in. from the plywood deck joints.

**Insulation (Optional):** — The Dow Chemical Co. "HY-THERM AP" or "Sarnatherm" or "Sarnatherm a" or Hunter Panel "H-Shield" or Atlas Roofing Corp. "ACFoam II", any thickness.

**Membrane:** — "S327-15 EEL H RAL 8029" (PVC) 60-mil (1.5-mm), mechanically fastened.

44. **Deleted.**

45. **Deleted.**

46. **Deleted.**

47. **Deleted.**

48. **Deck:** C-15/32

**Incline:** 1/2

**Insulation (Optional):** — Any UL Classified Polyisocyanurate or UL Classified Polystyrene, any thickness loose laid, mechanically fastened or adhered with UL Classified insulation adhesive.

**Barrier Board:** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" mechanically fastened, loose laid or adhered with UL Classified insulation adhesive with butt joints in barrier board off-set a minimum of 6-in. from plywood decks butt joints.

**Separator Mat (Optional):** — One ply polypropylene mat (not UL Classified), 18-oz/yd<sup>2</sup> maximum, mechanically fastened or loose laid.

**Grounding Screen (Optional)** — Aluminum 18 x 16 screen mesh (not UL Classified).

**Membrane:** — "G476-15" (PVC) 60-mil or "G476-18" (PVC) 72-mil or "G476-20" (PVC) 80-mil, mechanically fastened.

49. **Deck:** NC

**Incline:** 1/2

**Separator Mat (Optional):** — One ply polypropylene mat (not UL Classified), 18-oz/yd<sup>2</sup> maximum, mechanically fastened or loose laid.

**Membrane:** — "G476-15" (PVC) 60-mil or "G476-18" (PVC) 72-mil or "G476-20" (PVC) 80-mil, mechanically fastened.

50. **Deck:** C-15/32

**Incline:** See note

**Insulation:** — Rmax Operating LLC "Ultra-Max FR", 2-in. minimum. All insulation joints must be staggered a minimum of 6-in. from the roof deck joints.

**Membrane:** — Any UL Classified membrane that currently has a Class A noncombustible roof deck rating with "Sarnatherm r", "Sarnatherm-R CG Insulation" Rmax Operating LLC "Multi-Max FA-3" or "Ultra-Max".

**Note:** The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline shall not exceed 11/2:12.

51. **Deck:** NC

**Incline:** 1/2

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — One or more layers polystyrene, any thickness, mechanically fastened or hot mopped.

**Insulation:** — One or more layers "Sarnatherm" or Hunter Panels "H-Shield", minimum 1 in thick, mechanically fastened or adhered with hot roofing asphalt.

**Membrane:** — "Sikaplan 45", "Sikaplan 45 Feltback", "Sikaplan 60", "Sikaplan 60 Feltback", "Sikaplan 80" or "Sikaplan 80 Feltback", mechanically fastened.

52. **Deck:** NC

**Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarof Plus", any thickness, mechanically fastened or hot mopped in place

with hot roofing asphalt:

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-20", "S327-24" (PVC), laid loosely.

53. **Deck:** C-15/32

**Incline:** 2

**Barrier Board:** — Minimum 1/2-in. thick gypsum board or minimum 1/4- in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" , mechanically fastened with insulation fasteners (6-in. offset of the barrier board joints from the plywood joints).

**Vapor Barrier (Optional):** — Polyethylene or Kraft (not Classified).

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", any thickness, mechanically fastened or hot mopped in place:  
**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-20/Felt" or "S327-24" (PVC).

54. **Deck:** NC

**Incline:** 2

**Vapor Barrier (Optional):** — Polyethylene Kraft or Sarnavap PVC film (not Classified).

**Insulation (Optional):** — UL Classified EPS, any thickness.

**Insulation:** — Rmax Operating LLC "Multi-Max FA-3" or "Thermarroof Plus", 1-in. thick minimum, mechanically fastened.

**Membrane:** — "G410", "G410/Felt", "G410-14", "G410-14/Felt", "G410-15", "G410-15/Felt", "G410-18", "G410-18/Felt", "G410-20", "G410-20/Felt", "G410-24", "S327", "S327/Felt", "S327-14", "S327-14/Felt", "S327-15", "S327-15/Felt", "S327-18", "S327-18/Felt", "S327-20", "S327-24" (PVC), laid loosely.

**Class A - Mechanically Fastened (TPO)**

1. **Deck:** NC

**Incline:** 2

**Barrier Board (Optional):** — Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" mechanically fastened with all butt joints staggered a minimum of 6-in. from the plywood deck joints.

**Membrane:** — "TS 77-12E" (TPO) 45-mil (1.2-mm) or "TS 77-20E" (TPO) 80-mil (2.0-mm), mechanically fastened.

2. **Deck:** NC

**Incline:** 3/4

**Insulation:** — Hunter Panels "H-Shield", "H-Shield-WF" , any thickness.

**Membrane:** — "Sarnafil TPO", 45 or 60-mil.

3. **Deck:** C-15/32

**Incline:** Unlimited

**Insulation (Optional):** — "Sarnatherm m", Atlas Roofing Corp. "ACFoam II", Apache Products "Apache White Line", or "Apache Pyrox", Hunter Panels "H-Shield", "H-Shield-WF" or Johns Manville "ENRGY 3" or "Barrier Board Plus", RhoFlex "Isocyanurate GL, GW or HF", any thickness.

**Barrier Board:** — Minimum 1/2-in. thick gypsum board with staggered joints (6-in. offset).

**Membrane:** — "Sarnafil TPO", 45 or 60-mil.

4. **Deck:** NC

**Incline:** 1/2

**Insulation:** — "Sarnatherm m" or Johns Manville, "ENRGY 3", any thickness.

**Membrane:** — "Sarnafil TPO", 45 or 60-mil.

5. **Deck:** C-15/32

**Incline:** 4-1/2

**Insulation (Optional):** — Rmax Operating LLC "Multi-Max-3", any thickness.

**Barrier Board:** — Minimum 1/2-in. thick gypsum board with staggered joints (6-in. offset).

**Membrane:** — "Sarnafil TPO", 45 or 60-mil.

**Class B - Mechanically Fastened (PVC/TPA)**

1. **Deck:** NC

**Incline:** 1

**Insulation:** — Rmax Operating LLC "Ply-1", any thickness.

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC), mechanically fastened with metal bars and screws.

2. **Deleted.**

3. **Deck:** C 1-1/2 TG

**Incline:** 1/2

**Barrier Board:** — Minimum 5/8-in. thick gypsum board, mechanically fastened with insulation fasteners.

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC).

4. **Deck:** C 3/4 Sheathing boards

**Incline:** 1/2



**Barrier Board:** — Minimum 5/8-in. thick gypsum board, mechanically fastened with insulation fasteners (gypsum board joints are paper tape embedded in cementitious compound).

**Membrane:** — "G410", "G410-14", "G410-15", "G410-18", "G410-20", "G410-24", "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC).

5.

6. C 1-1/2 TG

No Limitation

**Insulation:** — One of the following or combinations (1-inch minimum thickness):

a. "Sarnatherm-R Insulation"

b. Firestone Building Products Co. LLC "Iso 95+GL", "Iso 95+GW"

c. Apache Products "Apache Pyrox", "Apache White Line" or "Apache Tapered Pyrox"

d. Johns Manville "ENRGY 3"

e. "Sarnatherm I", "Sarnatherm II"

f. Atlas Roofing Corp. AC Foam II

g. "Sarnatherm a"

h. "Sarnatherm", Tapered Sarnatherm", "Sarnatherm Perlite Composite", "Tapered Sarnatherm Perlite Composite", "Sarnatherm Woodfiber Composite", "Tapered Sarnatherm Woodfiber Composite" or "Sarnatherm Nailboard"

i. "Sarnatherm m"

**Barrier Board:** — Minimum 3/8-in. minimum gypsum board, mechanically fastened with metal insulation fasteners (6-in. offset gypsum board joints from insulation board joints).

**Membrane:** — "S327", "S327-14", "S327-18", "S327-20" or "S327-24" (PVC)

7.

8.

**Barrier Board:** — Minimum 3/8-in. thick gypsum board or minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard".

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC)

**Barrier Board:** — Minimum 5/8-in. thick gypsum board, mechanically fastened with metal insulation fasteners 6-in. offset barrier board joints from the plywood joints.

**Membrane:** — "S327", "S327-14", "S327-15", "S327-18", "S327-20" or "S327-24" (PVC)

"G410/felt" or "S327/felt" (PVC), 48 or 60-mil.

Minimum 3/4-in. thick perlite with all joints staggered a minimum of 6-in. from the plywood joints.

Minimum 1/4-in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard", "DensDeck Prime® Roofboard", "DensDeck DuraGuard™ Roofboard" with all joints staggered 6-in. minimum from the insulation joints.

"" (PVC).