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Roofing Systems

COMPANY

Atlas Molded Products, a Division of Atlas Roofing Corporation

8240 BYRON CENTER AVE SW

BYRON CENTER, MI 49315-8866 United States

R16529

"ThermalStar" is an acceptable alternate to all EPS insulations utilized in the following Classifications. The boards are available as ASTM C578 Type I, VIII, II, or IX.

Minimum 1/2 in. thick UL Classified gypsum board or minimum 1/4 in. thick UL Classified Georgia-Pacific Gypsum LLC "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard" may be substituted for any coverboard material shown in these Classifications when placed immediately under any UL Classified Membrane. When this is done, the resulting roofing system is acceptable for use over any combustible or noncombustible roof deck. The butt joints of the gypsum board and/or "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard" coverboard are offset a minimum of 6 in. with the joints of the roof deck. The gypsum and/or "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard" must overlay the polystyrene.

A noncombustible roof deck roofing system Classification that includes 1/2 in. wood fiberboard as cover board over EPS, may have as an alternate to minimum 1/2 in. thick fiberboard, a layer of minimum 1-in. thick polyisocyanurate. To maintain the Classification, proper membrane/polyisocyanurate compatibility must be maintained and inclines restrictions observed.

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Class A

1. **Deck:** NC

Incline: 3 (See note)

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, field covered with 1/2 in. min perlite or wood fiber.

Ply Sheet: — 3 to 5 plies Type 15, G1 or G2.

Surfacing: — Gravel or Type G3 mineral surfaced cap sheet.

Note: Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing.

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

Incline: 3 (See note)

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, field covered with 3/4 in. min perlite.

Ply Sheet: — 3 to 5 plies Type 15, G1 or G2.

Surfacing: — Gravel or Type G3 mineral surfaced cap sheet.

Note: Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing.

SINGLE PLY MEMBRANE SYSTEMS

Class A - Ballasted

Unless otherwise indicated, insulation may be loose laid or mechanically fastened; membrane may be loose laid, mechanically fastened or adhered in place.

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

Incline: 2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, field covered with min 3/4 in. perlite.

Membrane: — Any UL Classified membrane system. Surfacing: River bottom stone (3/4 to 1-1/2 in. diam), 1000 lb/sq.

2. **Deck:** NC

Incline: 2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Membrane: — Any UL Classified membrane system.

Surfacing: — River bottom stone (3/4 to 1-1/2 in. diam), 1000 lb/sq.

3. **Deck:** NC

Incline: 2

Note: Deck must be one of the following: A.) Monolithic poured cementitious deck. B.) Steel covered with gypsum board or perlite board, 1/2 in. min. C.) Structural decks with all joints covered with Type 30 base sheet, extending 6 in. (min) on each side of joint. D.) Metal deck covered with cellular concrete, gypsum concrete, vermiculite concrete or perlite concrete.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Membrane: — Any UL Classified membrane system.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diam), 1000 lb/sq.

Class A - Fully Adhered

1. **Deck:** NC

Incline: 2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.]

Base Sheet: — Soprema Inc. "EPS FLAM STICK", self-adhered.

Cap Sheet: — Soprema Inc. "Sopralene Flam 180 FR+ Granular" or "Sopralene Flam 250 FR+ Granular", heat welded.

2. **Deck:** NC

Incline: 2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Base Sheet: — Soprema Inc. "EPS FLAM STICK FR", self-adhered.

Cap Sheet: — Soprema Inc. "Sopralene Flam 180 FR+ Granular" or "Sopralene Flam 250 FR+ Granular", heat welded.

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

Incline: 1

Barrier Board: — Minimum 1/4 in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard" or minimum 1/2 in. thick gypsum board with butt joints staggered a minimum of 6 in. offset to plywood roof deck joints.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Base Sheet: — "EPS FLAM STICK", self-adhered.

Cap Sheet: — Soprema Inc. "Sopralene Flam 180 FR + Granular " or "Sopralene Flam 250 FR + Granular ", heat welded.

4. **Deck:** NC

Incline: 1

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Base Sheet: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Membrane: — Polyglass USA Inc., "Elastoflex SA V FR ", self-adhered.

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

Incline: 1/2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Base Sheet: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Membrane: — Polyglass USA Inc., "Elastoflex SA V FR ", self-adhered.

6. **Deck:** NC

Incline: 1

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness.

Base Sheet: — Polyglass USA Inc. “Elastoflex SA V FR Base”, self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. “Elastoflex SA V FR Base”, self-adhered.

Membrane: — Polyglass USA Inc. “Elastoflex SA V FR Base”, self-adhered.

7. **Deck:** NC

Incline: 3/4

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness.

Base Sheet: — Ridglass Manufacturing “Roofgard HD” self-adhered.

Base/Ply Sheet: — Ridglass Manufacturing “Roofgard Base-Ply G” self-adhered.

Membrane: — Ridglass Manufacturing “Roofgard FR G” self-adhered.

Class A, B or C (See note) – Fully Adhered

Incline is reduced to 1 in. when Type G3 mineral surfaced cap sheet is used as the surfacing. Unless otherwise indicated, insulation is mechanically fastened in place.

1. **Deck:** NC

Incline: See note

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness, field covered with 1/2 in. min perlite or wood fiber.

Membrane: — Any UL Classified modified bitumen system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline and surfacing shall be in accordance with the Classification established for the insulation/membrane roofing system. Base sheet (if any) shall be in accordance with the Classification established for the insulation/membrane roofing system

2. **Deck:** NC

Incline: See note

Insulation: — EPS/perlite or EPS/wood fiber (perlite 3/4 in. min thickness or 1/2 in. min USG Interiors' "Micore MC 180", Huebert wood fiber, Georgia-Pacific Corp. "Sturdi-Top", Wood Fiber Industries' "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1 in. min thickness), any combination, any thickness of the following: “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, field covered with perlite or wood fiber, any thickness.

Membrane: — Any UL Classified EPDM, CPE, CSPE, PVE, CR, NBP or PIB membrane system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.

Class A, B or C (See note) - Mechanically Fastened

1. **Deck:** NC

Incline: See note

Insulation: — EPS/perlite or EPS/wood fiber (perlite 3/4 in. min thickness or 1/2 in. min USG Interiors' "Micore MC 180", Huebert wood fiber, Georgia-Pacific Corp. "Sturdi-Top", Wood Fiber Industries' "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1 in. min thickness), any combination, any thickness of the following: “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, field covered with perlite or wood fiber.

Membrane: — Any UL Classified EPDM, CPE, CSPE, PVC, CR, NBP or PIB membrane system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing system.

Class A - Mechanically Fastened

1. **Deck:** NC

Incline: See note

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness.

Slip Sheet: — Atlas “FR-10” or Elk “VersaShield FB-1S”.

Membrane: — Any UL Classified CPE, CSPE, PVC, NBP, TPA, or EIP.

Note: Maximum incline is determined by any existing insulation/membrane Classification, but cannot exceed 1:12.

2. **Deck:** NC

Incline: See note

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or Elk "VersaShield FB-1S".

Membrane: — Any UL Classified TPO or PIB.

Note: Maximum incline is determined by any existing insulation/membrane Classification, but cannot exceed 1/2:12.

3. **Deck:** NC

Incline: See note

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or Elk "VersaShield FB-1S".

Membrane: — Any UL Classified EPDM.

Note: Maximum incline is determined by any existing insulation/membrane Classification, but cannot exceed 1/4:12.

4. **Deck:** NC

Incline: 1

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — HPG Roofing Systems "SR 50", "SR 60" or "SR 80".

5. **Deck:** NC

Incline: 1

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — Seal-Dry/USA System "3000", "5000" or "7000" (PVC).

6. **Deck:** NC

Incline: 3

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — JPS Elastomerics "Hi-Tuff" (CSM).

7. **Deck:** NC

Incline: 2

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — Sarnafil "S327" or "G410".

8. **Deck:** NC

Incline: 1/4

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — Cooley "C3" (TPA).

9. **Deck:** NC

Incline: 3

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — Duro-Last "Duro-Last" (PVC).

10. **Deck:** NC

Incline: 3

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Slip Sheet: — Atlas "FR-10" or "FR-11".

Membrane: — Bond Cote Roofing Systems "Bond Cote".

11. **Deleted.**

12. **Deleted.**

13. **Deleted.**

14. **Deleted.**

Class B - Mechanically Fastened

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

Incline: See Note

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", minimum 3/4" thick.

Slip Sheet: — Two layers of Elk "VersaShield FB-1S".

Membrane: — Any UL Classified membrane.

Note: Maximum incline is determined by any existing insulation/membrane Classification but cannot exceed 1/2:12.

MAINTENANCE AND REPAIR SYSTEMS

Class A

1. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, 1 in. max.

Slip Sheet: — Atlas Roofing "FR-10" or "FR-11".

Membrane: — HPG Roofing Systems "SR-50", "SR-60", "SR-80", mechanically fastened.

2. **Deck:** NC

Incline: 1/4

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, 1 in. max.

Slip Sheet: — Atlas Roofing "FR-10" or "FR-11".

Membrane: — Cooley "C3" (TPA) or Firestone "Ultraply 78+", mechanically fastened.

3. **Deck:** NC

Incline: 3

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, 1 in. max.

Slip Sheet: — Atlas Roofing "FR-10" or "FR-11".

Membrane: — JPS Elastomerics, "Hi-Tuff" (CSM), mechanically fastened.

4. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400 lb/sq.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness, 1 in. max.

Slip Sheet: — Atlas Roofing "FR-10" or "FR-11".

Membrane: — Sarnafil "G410", "G410 Felt" or "S327", "S327 Felt", mechanically fastened.

5. **Deck:** NC

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel may be removed.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", 1 in. thick maximum thickness.

Membrane: — Mechanically fastened, one of the following:

1. Conklin Co. "Hi-Crown" (CSPE).
2. Burke "358" (CSPE).
3. Deleted
4. Seaman "Fibertite" (EIP).
5. Duro-Last Inc. (PVC).

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up smooth surface, cap sheet or gravel surfaced, gravel may be removed.

Insulation: — "Atlas Molded Polystyrene", "ThermalStar", or "ThermalStar GPS", any thickness.

Membrane: — Loose laid, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diameter), 900-lbs./100-ft.²

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness, any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.

Membrane: — Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, maximum 60 mil., mechanically attached or adhered.

8. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, any thickness any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.

Membrane: — Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, maximum 60 mil., mechanically attached or adhered.

Class A, B or C

1. **Deck:** NC

Incline: 1/2

Existing Deck: — Class A, B or C built up system, smooth surface, cap sheet or gravel surfaced, gravel may be removed.

Barrier Board (if gravel is removed): — 1/2 in. gypsum board.

Insulation: — “ThermalStar LRI”, “ThermalStar”, “ThermalStar GPS”, or “Atlas Molded Polystyrene”, 1/2 in. thick maximum mechanically fastened.

Membrane: — Duro-Last(PVC), IB Roof "IB Single Ply", Sika Sarnafil "Sikaplan 45", "Sikaplan 60" or "Sikaplan 80" PVC, mechanically fastened.

2. **Deck:** NC

Incline: 1/2

Existing Roof System: — Class A, B or C built-up or modified bitumen system, (smooth surface, cap sheet or gravel surfaced with gravel maintained). Or Class A, B or C single-ply system (polystyrene in existing single-ply system must be below a coverboard or minimum 1 in. thickness of polyisocyanurate), to retain the existing Classification.

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, 1-in. thick maximum thickness.

Membrane: — Mechanically fastened, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — “Atlas Molded Polystyrene”, “ThermalStar”, or “ThermalStar GPS”, 1-in. thick maximum.

Membrane: — Any UL Classified CSPE, EIP, PVC, TPA, NBP, TPO or Reinforced FR EPDM, mechanically attached.

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Class A

1. **Deck:** NC

Incline: 3 (See note)

Insulation: — “ThermalStar” or “ThermalStar LRI” any thickness, field covered with minimum 1/2 in. thick perlite, minimum 1/2 in. thick wood fiber, or minimum 1/4 in. thick Georgia-Pacific Gypsum LLC “DensDeck® Roofboard” or “DensDeck Prime® Roofboard” or “DensDeck DuraGuard™ Roofboard”.

Ply Sheet: — Three to five plies Type 15, G1 or G2.

Surfacing: — Gravel or Type G3 mineral surfaced cap sheet.

Note: Incline is reduced to 1:12 when Type G3 mineral surfaced cap sheet is used as the surfacing.

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

Incline: 3 (See note)

Insulation: — “ThermalStar” or “ThermalStar LRI”, any thickness, field covered with 3/4 in. min perlite.

Ply Sheet: — Three to five plies Type 15, Type G1 or Type G2.

Surfacing: — Gravel or Type G3 mineral surfaced cap sheet.

Note: Incline is reduced to 1:12 when Type G3 mineral surfaced cap sheet is used as the surfacing.

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

Incline: 3 (See note)

Insulation: — “ThermalStar” or “ThermalStar LRI” any thickness, field covered with 3/4 in. min perlite.

Ply Sheet: — Two or more plies Type 15, Type G1 or Type G2 (glass plies required with Type G3 cap sheet).

Surfacing: — Gravel or Type G3 mineral surfaced cap sheet.

Note: Incline is reduced to 1:12 when Type G3 mineral surfaced cap sheet is used as surfacing.

SINGLE PLY MEMBRANE SYSTEMS

Class A - Ballasted

Unless otherwise indicated, insulation may be loose laid or mechanically fastened; membrane may be loose laid; mechanically fastened or adhered in place.

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

Incline: 2

Insulation: — “ThermalStar”, “ThermalStar LRI”, or “ThermalStar GPS”, any thickness, field covered with minimum 1/2 in. thick perlite.

Membrane: — Any UL Classified membrane system.

Surfacing: — River bottom stone (3/4 to 1-1/2 in. diameter), 1000-lbs/100-ft²

2. **Deck:** NC

Incline: 2

Insulation: — “ThermalStar”, “ThermalStar LRI”, or “ThermalStar GPS”, any thickness.

Membrane: — Any UL Classified membrane system.

Surfacing: — River bottom stone (3/4 to 1-1/2 in. diameter), 1000-lbs/100-ft²

3. **Deck:** NC

Incline: 2

Note: Deck must be one of the following: A.) Monolithic poured cementitious deck. B.) Steel covered with gypsum board or perlite board, 1/2 in. thick minimum. C.) Structural decks with all joints covered with Type 30 base sheet, extending minimum 6 in. on each side of joint. D.) Metal deck covered with cellular concrete, gypsum concrete, vermiculite concrete or perlite concrete.

Insulation: — “ThermalStar” or “ThermalStar LRI” any thickness.

Membrane: — Any UL Classified membrane system.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diameter), 1000-lbs/100-ft²

4. **Deck:** NC

Incline: 2

Insulation: — ThermalStar” or “ThermalStar LRI”, any thickness, mechanically attached.

Slip Sheet: — Atlas Roofing Corp. “FR 10” or “FR 11”.

Membrane: — Any UL Classified membrane.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diameter), 1000-lbs/100-ft²

Class A - Fully Adhered

1. **Deck:** NC

Incline: 2

Insulation: — “ThermalStar” or “ThermalStar LRI”, any thickness.

Base Sheet: — Soprema Inc. “EPS FLAM STICK”, self-adhered.

Cap Sheet: — Soprema Inc. “Sopralene Flam 180 FR+ Granular” or “Sopralene Flam 250 FR+ Granular”, heat welded.

2. **Deck:** NC

Incline: 2

Insulation: — “ThermalStar” or “ThermalStar LRI”, any thickness.

Base Sheet: — Soprema Inc. “EPS FLAM STICK FR”, self-adhered.

Cap Sheet: — Soprema Inc. “Sopralene Flam 180 FR+ Granular” or “Sopralene Flam 250 FR+ Granular”, heat welded.

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

Incline: 1

Barrier Board: — Minimum 1/4 in. thick Georgia-Pacific Gypsum LLC "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck DuraGuard™ Roofboard" or minimum 1/2 in. thick gypsum board with butt joints staggered a minimum of 6 in. offset to plywood roof deck joints.

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness.

Base Sheet: — "EPS FLAM STICK", self-adhered.

Cap Sheet: — Soprema Inc. "Sopralene Flam 180 FR + Granular " or "Sopralene Flam 250 FR + Granular ", heat welded.

4. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness.

Base Sheet: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Membrane: — Polyglass USA Inc., "Elastoflex SA V FR ", self-adhered.

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

Incline: 1/2

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness.

Base Sheet: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Membrane: — Polyglass USA Inc., "Elastoflex SA V FR ", self-adhered.

6. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness.

Base Sheet: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Ply Sheet (Optional): — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

Membrane: — Polyglass USA Inc. "Elastoflex SA V FR Base", self-adhered.

7. **Deck:** NC

Incline: 3/4

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness.

Base Sheet: — Ridglass Manufacturing "Roofgard HD" self-adhered.

Base/Ply Sheet: — Ridglass Manufacturing "Roofgard Base-Ply G" self-adhered.

Membrane: — Ridglass Manufacturing "Roofgard FR G" self-adhered.

8. **Deck:** NC

Incline: 1/2

Insulation: — "ThermalStar" any thickness, any density, mechanically attached.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — GAF "EverGuard Freedom TPO" or GenFlex Roofing Systems "GenFlex Peel & Stick TPO", maximum 60 mil, self-adhered.

Class A - Mechanically Fastened

1. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — GAF "VersaShield FB-1S."

Membrane: — Any UL Classified CPE, CSPE, PVC, NBP, TPA, or EIP.

2. **Deck:** NC

Incline: 1/2

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — GAF "VersaShield FB-1S."

Membrane: — Any UL Classified TPO or PIB.

3. **Deck:** NC

Incline: 1/4

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — GAF "VersaShield FB-1S."

Membrane: — Any UL Classified EPDM.

4. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — HPG Roofing Systems "SR 50", "SR 60" or "SR 80".

5. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Seal-Dry/USA System "3000", "5000" or "7000" (PVC).

6. **Deleted.**

7. **Deck:** NC

Incline: 2

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Sika-Sarnafil Inc. "S327" or "G410".

8. **Deck:** NC

Incline: 1/4

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Cooley Inc. "C3" (TPA).

9. **Deck:** NC

Incline: 3

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Duro-Last Inc. "Duro-Last" (PVC).

10. **Deleted.**

11. **Deck:** NC

Incline: See Note

Insulation: — "ThermalStar", any thickness.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Any UL Classified CPE, CSPE, PVC, NBP, TPA, or EIP.

12. **Deck:** NC

Incline: 1

Insulation: — "ThermalStar", any thickness.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Carlisle Syntec Systems "Sure Weld" TPO Membrane.

13. **Deck:** NC

Incline: 1/4

Insulation: — "ThermalStar", any thickness.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Firestone Building Products Co. LLC "FR-EPDM".

14. **Deck:** NC

Incline: 1/2

Insulation: — "ThermalStar", any thickness and density, mechanically attached.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — Any UL Classified PVC, CSPE or TPO, maximum 60 mil.

Class B - Mechanically Fastened

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

Incline: 1

Insulation: — "ThermalStar" or "ThermalStar LRI", minimum 3/4" thick

Slip Sheet: — Two layers of GAF "VersaShield FB-1S."

Membrane: — Any UL Classified membrane.

Class A, B or C (See note) - Fully Adhered

Incline is reduced to 1:12 when Type G3 mineral surfaced cap sheet is used as the surfacing.

Unless otherwise indicated, insulation is mechanically fastened in place.

1. **Deck:** NC **Incline:** See note

Insulation: — "ThermalStar" or "ThermalStar LRI" any thickness, field covered with perlite 3/4 in. minimum thick or 1/2 in. minimum USG Interiors "Micore MC 180," Huebert wood fiber, Georgia-Pacific "Sturdi-Top", Wood Fiber Industries "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1 in. minimum thickness)

Membrane: — Any UL Classified modified bitumen system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing covering system.

2. **Deck:** NC **Incline:** See note

Insulation: — EPS/perlite or EPS/wood fiber (perlite 3/4 in. minimum thick or 1/2 in. minimum thick USG Interiors' "Micore MC 180", Huebert wood fiber, Georgia-Pacific Corp. "Strudi-Top", Wood Fiber Industries' "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1 in. minimum thick), any combination, any thickness of the following: "ThermalStar, or "ThermalStar LRI", field covered with perlite or wood fiber, any thickness.

Membrane: — Any UL Classified EPDM, CPE, CSPE, PVE, CR, NBP or PIB membrane system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing covering system.

3. **Deleted**

4. **Deleted**

Class A, B or C (See note) - Mechanically Fastened

1. **Deck:** NC **Incline:** See note

Insulation: — "ThermalStar" or "ThermalStar LRI" any thickness, field covered with perlite 3/4 in. minimum thickness or 1/2 in. minimum USG Interiors "Micore MC 180," Huebert wood fiber, Georgia-Pacific "Sturdi-Top", Wood Fiber Industries "Structodeck", Celotex wood fiber, Temple-Inland "Fiber Base" or other wood fiber at 1 in. minimum thickness)

Membrane: — Any UL Classified single ply membrane system suitable for use with any roof insulation.

Surfacing: — See note.

Note: Classification (A, B or C) will be the same as that for the original insulation/membrane roofing system. Maximum incline, attachment of membrane, and surfacing of membrane shall be in accordance with Classification established for membrane/insulation roofing covering system.

2. **Deleted**

MAINTENANCE AND REPAIR SYSTEMS

Class A

1. **Deck:** NC

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel may be removed.

Insulation: — "ThermalStar" or "ThermalStar LRI", 1 in. thick maximum thickness.

Membrane: — Mechanically fastened, one of the following:

1. Conklin Co. "Hi-Crown" (CSPE).

2. Burke "358" (CSPE).

3. Deleted

4. Seaman "Fibertite" (EIP).

5. Duro-Last Inc. (PVC).

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up smooth surface, cap sheet or gravel surfaced, gravel may be removed.

Insulation: — ThermalStar" or "ThermalStar LRI", any thickness.

Membrane: — Loose laid, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diameter), 900-lbs./100-ft.²

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.

Membrane: — Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, maximum 60 mil., mechanically attached or adhered.

4. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400-lbs./100-ft.²

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness, 1 in. thick maximum.

Slip Sheet: — Atlas Roofing Corp. "FR 10" or "FR 11".

Membrane: — HPG Roofing Systems "SR-50", "SR-60", "SR-80", mechanically fastened.

5. **Deck:** NC

Incline: 1/4

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400-lbs./100-ft.²

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness, 1 in. thick maximum

Slip Sheet: — Atlas Roofing Corp."FR 10" or "FR 11".

Membrane: — Cooley Inc."C3" (TPA) or Firestone Building Product Co. LLC "Ultraply 78+", mechanically fastened.

6. Deleted.

7. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced, gravel to be maintained at 400-lbs./100-ft.²

Insulation: — "ThermalStar" or "ThermalStar LRI", any thickness, 1 in. thick maximum

Slip Sheet: — Atlas Roofing Corp."FR 10" or "FR 11".

Membrane: — Sika-Sarnafil Inc. "G410", "G410 Felt" or "S327", "S327 Felt", mechanically fastened.

8. **Deck:** NC

Incline: 1

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — "ThermalStar", or "ThermalStar LRI", any thickness, any density, covered by minimum 2 in. thickness of polyisocyanurate, mechanically attached or adhered.

Membrane: — Any UL Classified PVC, EPDM, CSPE or TPO for use in an insulated non-ballasted application, maximum 60 mil., mechanically attached or adhered.

Class A, B or C

1. **Deck:** NC

Incline: 1/2

Existing Roof System: — Class A, B or C built-up or modified bitumen system, (smooth surface, cap sheet or gravel surfaced with gravel maintained). Or Class A, B or C single-ply system (polystyrene in existing single-ply system must be below a coverboard or minimum 1 in. thickness of polyisocyanurate), to retain the existing Classification.

Insulation: — ThermalStar" or "ThermalStar LRI", 1-in. thick maximum thickness.

Membrane: — Mechanically fastened, one of the following: CSPE, EIP, PVC, EPDM, TPO or CPA.

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

Incline: 1/2

Existing Roof System: — Class A, B or C built-up system, smooth surface, cap sheet or gravel surfaced (gravel maintained) to retain the existing Classification.

Insulation: — "ThermalStar" or "ThermalStar LRI", 1-in. thick maximum.

Membrane: — Any UL Classified CSPE, EIP, PVC, TPA, NBP, TPO or Reinforced FR EPDM, mechanically attached.

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