



Underwriters Laboratories

Roofing Systems

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1/2 in. thick (min) gypsum board or 1/4 in. thick (min) G-P Gypsum Dens-Deck® may be used in any existing noncombustible deck Classification. When this is done, the resulting roofing system is acceptable for use over combustibles (15/32 in. min) roof decks. The joints in the gypsum board and overlayment board are offset 6 in. with the joints in the deck. Polystyrene insulation must be placed beneath the gypsum board and Dens-Deck®.

"DuraBoard (1/2 in.)" may be used in lieu of "Retrofit" in any applicable Classification. "DuraBoard (3/4 in.)" and "DuraBoard (1 in.)" may be used in lieu of "Fesco Board" in any applicable Classification, proper thicknesses must be maintained.

"DuraFoam" may be used in lieu of "Fesco-Foam" applicable Classifications.

"E'NRG'Y 3" may be used in lieu of "E'NRG'Y 2" in any applicable Classification except Class A Fully Adhered EPDM Classifications, unless otherwise noted.

"Urethane Insulation Adhesive" may be used to adhere insulation in any of the following Classifications.

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Unless otherwise specified, min insulation thicknesses shall be "Fesco" 3/4 in., "ISO 1" 1.4 in., "E'NRG'Y-2" 1.4 in., "Fesco-Foam" 1.5 in. min, "Fesco-Foam" 1.5 in. min placed foam side down over min 3/4 in. thick "Fesco", mechanically fastened to the 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 "E'NRG'Y-2" or "ISO-1": "PSI-25-2", "Nailboard", "E'NRG'Y-2 Plus", "ISO 1 Foil Faced", "E'NRG'Y-2 Gypsum Composite" or "Fesco-Foam".

"GlasBase Plus" is a suitable alternate to "GlasBase" or "DynaBase".

"Fiber Glass Roof Insulation" or "Laminator Board" may be used in any noncombustible deck roofing systems.

Fiberglas Canada "Base Cap Roof Insulation" may be used as an alternate to "Fiber Glass Roof

Insulation".

Vapor barriers or ply sheets are optional beneath roof insulation on all systems.

Taped joints are optional with "Fiber Glass Roof Insulation".

"PermaMop" modified asphalt is an acceptable alternate to hot roofing asphalt in the asphalt felt built-up roofing systems.

Red rosin paper must be used over combustible decks when "GlasPly IV" or "GlasPly Premier" are nailed as base sheets in asphalt membrane systems.

"PermaPly 28" or "Dibiglass Base Sheet" are suitable alternates to "GlasBase" fiber glass base sheet.

The Class A and B roof coverings are suitable for installation over min 3/4 in. thick "Fesco" or "Fiber Glass Roof Insulation". Min 3/4 in. thick wood fiber roof insulation is suitable any for assemblies over noncombustible decks unless otherwise specified.

"GlasTite Flexible" is a suitable alternate for "DynaBase", "GlasBase" or "PermaPly 28".

"DynaWeld Base Sheet" and "DynaWeld Cap FR" are suitable substitutes for "DynaBase" and "DynaGlass 30 FR".

Barrett "Ram-Tough KLB-100" modified asphalt may be used in lieu of standard hot mopping asphalt in all applicable Classifications.

"Roof Defender Fiber Glass Cap Sheet" is a suitable alternate to "PermaPly 28" in all applicable Classifications. "DynaGlas S" and "DynaLastic 250S" may be used in lieu of "DynaPly" in all applicable Classifications.

Class A

1. Deleted.

2. Deck: C-15/32

Incline: 1

Insulation (Optional): Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

Base Sheet: One ply Type G1 "GlasPly IV" or "GlasPly Premier", or Type G2 "Glas-Base" or "Ventsulaton", or "DynaBase" (modified bitumen), nailed or hot mopped.

Ply Sheet: Two or more plies Type G1 "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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" 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 "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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

Ply Sheet: Three or more plies Type G1 "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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" 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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

Ply Sheet: Two or more plies Type G1 "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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" or any UL Classified polyisocyanurate insulation, in combination (optional) with 1/2 in. "Retro-Fit" cover board, or 3/4 in. "Fesco" over polystyrene.

Base Sheet: One ply Type G1 "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 "GlasPly Premier", "GlasPly IV", hot mopped.

Surfacing: Type G3 "GlasKap", hot mopped.

8. Deck: C-15/32

Incline: 1

Insulation: Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof

Insulation", "ISO 1", "E'NRG'Y-2" 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" or "DynaBase", hot mopped.

Surfacing: Type G3 "GlasKap", hot mopped.

9. Deck: C-15/32

Incline: 1

Base Sheet: "PermaPly 28", "GlasBase", "Ventsulation" or "DynaBase", nailed.

Ply Sheet: "DynaPly" or "DynaBase", hot mopped.

Surfacing: Type G3 "GlasKap", hot mopped.

10. Deck: C-15/32

Incline: 3

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 "Fesco" (must be 1 in. min at 1 in. incline), "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

Ply Sheet: Two or more plies Type G1 "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 "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

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

Surfacing: Type G3 "GlasKap".

13. Deck: C 15/32

Incline: 1

Base Sheet: One ply "PermaPly 28", "Glasbase", "GlasBase Plus", "Ventsulation", nailed.

Ply Sheet: Two or more plies "GlasPly Premier", "GlasPly IV", "PermaPly 28", "GlasBase", hot mopped.

Surfacing: "GlasKap" hot mopped.

Class B

1. Deck: NC Incline: 3

Insulation (Optional): Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

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

Ply Sheet: One or more plies "GlasPly IV", "GlasPly Premier", hot mopped.

Surfacing: Type G3 "GlasKap", hot mopped.

2. Deck: NC Incline: 3

Insulation (Optional): Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

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

Surfacing: Type G3 "GlasKap", hot mopped.

3. Deck: C-15/32 Incline: No Limitation

Base Sheet (Optional): "Roof Defender Fiber Glass Cap Sheet", "GlasBase", "GlasPly IV", "GlasPly Premier", nailed or adhered with hot roofing asphalt.

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

Surfacing: Type G3 "GlasKap".

Class C

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

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

Insulation (Optional): Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

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

Surfacing: Type G3 "GlasKap".

2. Deck: C-15/32 Incline: 3

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

Insulation (Optional): Any thickness, one or more layers "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

Ply Sheet: One or more plies Type G1 "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, "TopGard A", applied at a rate of 1-3/4 - 2 gal/sq or "TopGard B", at the rate of 2-3 gal/sq in combination with "Fibrated Aluminum Roof Coating", applied at the rate of 2 gal/sq.

3. Deck: C-15/32

Incline: Unlimited

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

Insulation (Optional): "Fesco", "Fesco-Foam", "Fiber Glass Roof Insulation", "ISO 1", "E'NRG'Y-2" 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" over polystyrene.

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

Surfacing: Type G3 "GlasKap".