



BUILDING CODE COMPLIANCE OFFICE
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CONTRACTOR ENFORCEMENT DIVISION
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PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Bitec, Inc.
P.O. Box 497
Morrilton, AR 72110

Your application for Notice of Acceptance (NOA) of:

Bitec Modified Bitumen Roof System over Concrete Deck

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

Raul Rodriguez
Chief Product Control Division

ACCEPTANCE NO.: 01-0111.05
EXPIRES: 05/31/2006

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL
CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 05/31/2001

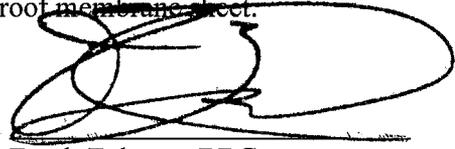
ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: APP/SBS Modified Bitumen
Deck Type: Wood
Maximum Design Pressure -567.5 psf
Fire Classification: See General Limitation #1

Approval Date: **May 31, 2001**
 Expiration Date: **May 31, 2006**

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
APM-4.5T	25.58 x 3.28'; roll weight: 92lbs.	ASTM D 5147	APP mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
APM-4T	32.8 x 3.28'; roll weight: 107 lbs.	ASTM D 5147	APP mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
MDA	32.8 x 3.28'; roll weight: 107 lbs.	ASTM D 5147	APP colored pattern mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
APS-4T	33.5 x 3.28'; roll weight: 90 lbs.	ASTM D 5147	APP modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
FA-2T	49.2 x 3.28'; roll weight: 70 lbs.	ASTM D 5147	APP modified bitumen membrane reinforced with fiberglass for use as a base sheet or interply membrane.
MAC 300		PA 121	Aluminum roof coating
MAC 200		PA 121	Aluminum roof coating.
SPM-3.5H	33.9 x 3.28'; roll weight: 100 lbs.	ASTM D 5147	SBS mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
SPM-4H	32.8 x 3.28'; roll weight: 100 lbs.	ASTM D 5147	SBS mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
MDS	32.8 x 3.28'; roll weight: 100 lbs.	ASTM D 5147	SBS colored pattern mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
SPM-4.5T	25.58 x 3.28'; roll weight: 90 lbs.	ASTM D 5147	SBS mineral surfaced modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.
SPS-3H	33.5 x 32.8'; roll weight: 73 lbs	ASTM D 5147	SBS modified bitumen membrane reinforced with polyester for use as a roof membrane sheet.



Frank Zuloaga, RRC
 Product Control Examiner

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
SFM-3.5H	33.9 x 3.28'; roll weight: 100 lbs.	ASTM D 5147	SBS modified bitumen membrane reinforced with fiberglass for use as a roof membrane.
SFM-3.5H-FR	33.9 x 3.28'; roll weight: 103 lbs.	ASTM D 5147	SBS modified bitumen membrane reinforced with fiberglass for use as a roof membrane sheet.
FS-2H	49.2 x 3.28'; roll weight: 70 lbs.	ASTM D 5147	SBS modified bitumen membrane reinforced with fiberglass for use as a base sheet or interply membrane

EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corporation	J.I. # 0B3A7.AM		12/30/97
Dynatech Engineering, Inc.	06.94.07	Wind Uplift Testing	06/07/94
Underwriters Laboratories, Inc.	R12321 (N)	Fire Classification Compliance	02/25/93



Frank Zuloaga, RRC
Product Control Examiner

APPROVED SYSTEMS:

- Membrane Type:** APP
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A:** One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): ACFoam II				
Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A

<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): **Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation**

Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): **Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board**

Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
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Approved Type(s): **Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber**

Minimum: 4' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): **Celotex High Density Wood Fiberboard**

Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
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Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.



- Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.
- Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.
- Surfacing: (Optional) Install one of the following as required for fire rating:
1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..
- Maximum Design Pressure: -45 psf (See General Limitations # 9)
- Maximum Fire Classification: See General Limitation #1.



Frank Zuloaga, RRC
Product Control Examiner

Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type A: One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): ACFoam II Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
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Approved Type(s): Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber Minimum: 4' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotex High Density Wood Fiberboard Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
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Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.



Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: (Optional) Install one of the following as required for fire rating:

1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf (See General Limitations # 9)

Maximum Fire Classification: See General Limitation #1.



- Membrane Type:** APP
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type B:** Base layer of insulation mechanically fastened, top layer of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): AC Foam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso

Minimum: 4' x 4' x 1.4"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 1.4"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 1.4"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²

Approved Type(s): AC Foam II

Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	6	1:2.67 ft. ²

Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite

Minimum: 4' x 4' x 2"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²

Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation

Minimum: 4' x 4' x 15/16"	#14, #15 Dekfast	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	Olympic HD	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	#14, #15 Roofgrip	[3]	6	1:2.67 ft. ²

Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation

Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board



Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
Approved Type(s): Celotex High Density Wood Fiberboard				
Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
Approved Type(s): ACFoam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite				
Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A

Apply optional top layer of insulation in a full mopping of any approved mopping hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

- Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.
- Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.
- Surfacing: (Optional) Install one of the following as required for fire rating:
 1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 1/2 gal./sq.
 2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..
- Maximum Design Pressure: -45 psf (See General Limitations #9.)
- Maximum Fire Classification: See General Limitation #1.



- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type B:** Base layer of insulation mechanically fastened, top layer of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): ACFoam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso

Minimum: 4' x 4' x 1.4"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 1.4"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 1.4"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²

Approved Type(s): ACFoam II

Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	6	1:2.67 ft. ²

Approved Type(s): ACFoam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite

Minimum: 4' x 4' x 2"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²

Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation

Minimum: 4' x 4' x 15/16"	#14, #15 Dekfast	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	Olympic HD	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	#14, #15 Roofgrip	[3]	6	1:2.67 ft. ²

Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation

Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board



Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
Approved Type(s): Celotex High Density Wood Fiberboard				
Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
Approved Type(s): ACFoam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite				
Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A

Apply optional top layer of insulation in a full mopping of any approved mopping hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: (Optional) Install one of the following as required for fire rating:
 1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 1/2 gal./sq.
 2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf (See General Limitations #9.)

Maximum Fire Classification: See General Limitation #1.



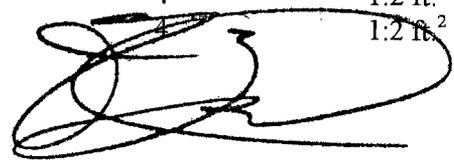
Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type C: All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC Foam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso				
Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation				
Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board				
Minimum: 2' x 4' x 1"	N/A	N/A	N/A	N/A
Approved Type(s): Type X Gypsum				
Minimum: 4' x 8' x 5/8"	N/A	N/A	N/A	N/A

Note: All layers shall be simultaneously attached; see top layer below for fasteners and density.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite				
Minimum: 4' x 4' x 2"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²
Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation				
Minimum: 4' x 4' x 15/16"	#14, #15 Dekfast	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	Olympic HD	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	#14, #15 Roofgrip	[3]	6	1:2.67 ft. ²
Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board				
Minimum: 2' x 4' x 3/4"	#14, #15 Dekfast	[1]	4	1:2 ft. ²
Minimum: 2' x 4' x 3/4"	Olympic HD	[1]	4	1:2 ft. ²
Minimum: 2' x 4' x 3/4"	#14, #15 Roofgrip	[1]	4	1:2 ft. ²



Approved Type(s): Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber

Minimum: 4' x 4' x 1"	#14, #15 Dekfast	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1"	Olympic HD	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1"	#14, #15 Roofgrip	[3]	8	1:2 ft. ²

All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.

Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.

Surfacing: (Optional) Install one of the following as required for fire rating:
1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf. (See General Limitations # 9)

Maximum Fire Classification: See General Limitation #1.



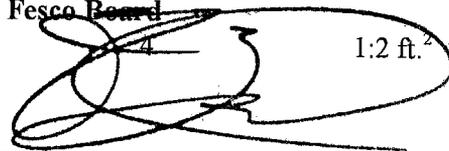
Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type C: All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC Foam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso				
Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation				
Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board				
Minimum: 2' x 4' x 1"	N/A	N/A	N/A	N/A
Approved Type(s): Type X Gypsum				
Minimum: 4' x 8' x 5/8"	N/A	N/A	N/A	N/A
Approved Type(s): Dens Deck				
Minimum: 4' x 8' x 1/4"	N/A	N/A	N/A	N/A

Note: All layers shall be simultaneously attached; see top layer below for fasteners and density.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite				
Minimum: 4' x 4' x 2"	#14, #15 Dekfast	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	Olympic HD	[3]	4	1:4 ft. ²
Minimum: 4' x 4' x 2"	#14, #15 Roofgrip	[3]	4	1:4 ft. ²
Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation				
Minimum: 4' x 4' x 15/16"	#14, #15 Dekfast	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	Olympic HD	[3]	6	1:2.67 ft. ²
Minimum: 4' x 4' x 15/16"	#14, #15 Roofgrip	[3]	6	1:2.67 ft. ²
Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board				
Minimum: 2' x 4' x 3/4"	#14, #15 Dekfast	[1]	4	1:2 ft. ²



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Minimum: 2' x 4' x 3/4"	Olympic HD	[1]	4	1:2 ft. ²
Minimum: 2' x 4' x 3/4"	#14, #15 Roofgrip	[1]	4	1:2 ft. ²

Approved Type(s): **Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber**

Minimum: 4' x 4' x 1"	#14, #15 Dekfast	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1"	Olympic HD	[3]	8	1:2 ft. ²
Minimum: 4' x 4' x 1"	#14, #15 Roofgrip	[3]	8	1:2 ft. ²

All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: (Optional) Install one of the following as required for fire rating:
 1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 1/2 gal./sq.
 2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf. (See General Limitations # 9)

Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP
Deck Type 3: Concrete Decks, Non-insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type E: Base sheet mechanically attached.

All General and System Limitations apply.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, or GAFGLAS #75 fastened to the deck through the insulation as described below:

Fastening #1: Fasten base sheet with #14, #15 Dekfast with Hex Plate, #14, #15 Roofgrip with Recessed or Flat Bottom Plate, Olympic Heavy Duty with Standard or G2 Plate or Rawl #14 with Rawl 3 in. Insulation Plate spaced 12" o.c. in a 4" side lap and 12" o.c. in one row in the center of the sheet.

Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.

Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.

Surfacing: (Optional) Install one of the following as required for fire rating:
1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf. (See General Limitation #9)

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS
Deck Type 3: Concrete Decks, Non-insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type E: Base sheet mechanically attached.

All General and System Limitations apply.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, or GAFGLAS #75 fastened to the deck through the insulation as described below:

Fastening #1: Fasten base sheet with #14, #15 Dekfast with Hex Plate, #14, #15 Roofgrip with Recessed or Flat Bottom Plate, Olympic Heavy Duty with Standard or G2 Plate or Rawl #14 with Rawl 3 in. Insulation Plate spaced 12" o.c. in a 4" side lap and 12" o.c. in one row in the center of the sheet.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: (Optional) Install one of the following as required for fire rating:
1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -45 psf (See General Limitation # 9)

Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type D: All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): **ACFoam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso**

Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
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Approved Type(s): **ACFoam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite**

Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation**

Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): **Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board**

Minimum: 2' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): **Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber**

Minimum: 4' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): **Type X Gypsum**

Minimum: 4' x 8' x 5/8"	N/A	N/A	N/A	N/A
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Approved Type(s): **Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board**

Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
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Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, or GAFGLAS #75 fastened to the deck through the insulation as described below:



- Fastening #1: Fasten base sheet with #14, #15 Dekfast with Hex Plate, #14, #15 Roofgrip with Recessed or Flat Bottom Plate, Olympic Heavy Duty with Standard or G2 Plate or Rawl #14 with Rawl 3 in. Insulation Plate spaced 12" o.c. in a 4" side lap and 12" o.c. in one row in the center of the sheet. *(meets -45.0 psf, See General Limitation #9.)*
- Fastening #2: Fasten GAFGLAS #75 with SFS HD Insulfixx with Insulfixx S plates spaced 12" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet. *(meets -67.5 psf, See General Limitation #7.)*
- Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.
- Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.
- Surfacing: (Optional) Install one of the following as required for fire rating:
1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..
- Maximum Design Pressure: See Fastening Requirements above.
- Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type D: All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): AC Foam II, Armor R Plus, Dow Iso, GAFTEMP Isotherm RA, Kop-R(WII), UltraGard, USIso

Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
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Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite

Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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Approved Type(s): Standard or Wide Flute Fiberglass Roof Insulation, Standard or Wide Flute Fiber Glass Roof Insulation

Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board

Minimum: 2' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): Armor Board Regular, Esgard, Celotex Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber

Minimum: 4' x 4' x 1"	N/A	N/A	N/A	N/A
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Approved Type(s): Type X Gypsum

Minimum: 4' x 8' x 5/8"	N/A	N/A	N/A	N/A
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Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board

Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A
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Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, or GAFGLAS #75 fastened to the deck through the insulation as described below:



- Fastening #1: Fasten base sheet with #14, #15 Dekfast with Hex Plate, #14, #15 Roofgrip with Recessed or Flat Bottom Plate, Olympic Heavy Duty with Standard or G2 Plate or Rawl #14 with Rawl 3 in. Insulation Plate spaced 12" o.c. in a 4" side lap and 12" o.c. in one row in the center of the sheet. *(meets -45.0 psf, See General Limitation #9.)*
- Fastening #2: Fasten GAFGLAS #75 with SFS HD Insulfixx with Insulfixx S plates spaced 12" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet. *(meets -67.5 psf, See General Limitation #7.)*
- Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.
- Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Surfacing: (Optional) Install one of the following as required for fire rating:
1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..
- Maximum Design Pressure: See Fastening Requirements above.
- Maximum Fire Classification: See General Limitation #1.



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- Membrane Type:** APP
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type B:** Base layer of insulation mechanically fastened, top layer of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): AC Foam II				
Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	8	1:2 ft. ²

Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): Celotex High Density Wood Fiberboard				
Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A

Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite				
Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A

Optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

- Base Sheet:** One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet:** (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.
- Membrane:** One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.
- Surfacing:** (Optional) Install one of the following as required for fire rating:



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1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design
Pressure:

-52.5 psf (See General Limitations #7.)

Maximum Fire
Classification:

See General Limitation #1.



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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type B: Base layer of insulation mechanically fastened, top layer of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): AC Foam II Minimum: 4' x 4' x 1.5"	Olympic HD	[3]	8	1:2 ft. ²
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Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): Celotex High Density Wood Fiberboard Minimum: 4' x 4' x ½"	N/A	N/A	N/A	N/A
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Approved Type(s): AC Foam Composite, Kop-R(WC), Fesco Foam, USIso/Perlite Composite Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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Optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.



Surfacing: (Optional) Install one of the following as required for fire rating:

1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -52.5 psf (See General Limitations #7.)

Maximum Fire Classification: See General Limitation #1.



- Membrane Type: APP
- Deck Type 3I: Concrete Decks, Insulated, New Construction
- Deck Description: 2500 psi structural concrete or concrete plank
- System Type A: One or more layers of insulation fully adhered with approved asphalt.

The following assembly is approved to a maximum design pressure of -410 psf. No substitutions shall be made. All General and System Limitations shall apply.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): ACFoam II

Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): Celotex High Density Wood Fiberboard

Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
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Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

- Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.
- Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.
- Surfacing: (Optional) Install one of the following as required for fire rating:

1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 1/2 gal./sq.

2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design
Pressure:

-410 psf (See General Limitations # 9)

Maximum Fire
Classification:

See General Limitation #1.



- Membrane Type: SBS
- Deck Type 3I: Concrete Decks, Insulated, New Construction
- Deck Description: 2500 psi structural concrete or concrete plank
- System Type A: One or more layers of insulation fully adhered with approved asphalt.

The following assembly is approved to a maximum design pressure of -410 psf. No substitutions shall be made. All General and System Limitations shall apply.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): AC Foam II

Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
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<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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One or more layers of any of the following insulations:

Approved Type(s): Celotex High Density Wood Fiberboard

Minimum: 4' x 4' x 1/2"	N/A	N/A	N/A	N/A
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Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the insulated substrate with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.



Surfacing:

(Optional) Install one of the following as required for fire rating:

1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design
Pressure:

-410 psf (See General Limitations # 9)

Maximum Fire
Classification:

See General Limitation #1.



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Membrane Type: APP
Deck Type 3: Concrete Decks, Non-insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type F: Base sheet fully adhered to primed deck.

All General and System Limitations apply.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the primed concrete deck with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FA-2T or APS-4T torch applied one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of asphalt at an application rate of 25 lb./sq. ± 15%.

Membrane: One ply of MDA, APS-4T, APM-4T, or APM-4.5T torch applied.

Surfacing: (Optional) Install one of the following as required for fire rating:
1. APOC 212, Henry 520, Karnak 97 or 97AF, MAC 200, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. Install 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -567.5 psf. (See General Limitations # 9)

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS
Deck Type 3: Concrete Decks, Non-insulated, New Construction
Deck Description: 2500 psi structural concrete or concrete plank
System Type F: Base sheet fully adhered to primed deck

All General and System Limitations apply.

Base Sheet: One or more plies of PermaPly No. 28, Glas Base, VaporBar, GAFGLAS #75 adhered to the primed concrete deck with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional or as specified) One ply of FS-2H or SPS-3H or one or more plies of GlasPly IV or GlasPly Premier adhered with a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of SPM-4.5T torch welded, or one ply of MDS, SPM-3.5H, SFM-3.5H, SFM-3.5H-FR or SPS-3H adhered with a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: (Optional) Install one of the following as required for fire rating:
1. Karnak 97 or 97AF, MAC 200, MAC 300, Monsey ProGrade Aluminum or Grundy al MB applied at a rate of 1 ½ gal./sq.
2. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved asphalt at an application rate of 60 lb./sq..

Maximum Design Pressure: -567.5 psf. (See General Limitations # 9)

Maximum Fire Classification: See General Limitation #1.



GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**



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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

- 1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
- 2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
- 3 Renewals of Acceptance will not be considered if:
 - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
 - b) The product is no longer the same product (identical) as the one originally approved;
 - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
 - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.
- 4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
- 5 Any of the following shall also be grounds for removal of this Acceptance:
 - a) Unsatisfactory performance of this product or process;
 - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
- 6 The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
- 7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.
- 8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
- 9 This Acceptance contains pages 1 through 33.

END OF THIS ACCEPTANCE



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