



BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

U.S. Intec, Inc.
1361 Alps Road
Wayne, N.J. 07470

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The BCCO (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BCCO reserves the right to revoke this acceptance, if it is determined by BCCO that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: US Intec Modified Bitumen Roofing Systems Over Steel Decks

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA 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 NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA # 02-1028.04 and consists of pages 1 through 36.
The submitted documentation was reviewed by Frank Zuloaga, RRC



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ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: BUR Modified, APP/SBS
Deck Type: Steel
Maximum Design Pressure -67.5 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product</u> | <u>Dimensions*</u> | <u>Test Specification</u> | <u>Product Description</u> |
|--|--------------------|----------------------------|--|
| WorkHorse® Ultra Base Sheet | 67 lb. roll | ASTM D 4601 | Type II asphalt impregnated and coated glass fiber base sheet. |
| Brai® Supreme™ APP Smooth (SP-4) | 88 lb. roll | ASTM D 6222 | Smooth surface, polyester reinforced, APP modified asphalt membrane. |
| Brai Supreme APP Granule (GBSP-4) | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, APP modified asphalt membrane. |
| Brai Supreme APP Granule FR (GBSP-4FR) | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, fire resistant, APP modified asphalt membrane. |
| Brai Supreme Plus APP Granule FR | 90 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, fire resistant, APP modified asphalt membrane. |
| WorkHorse™ APP 160 Smooth | 88 lb. roll | ASTM D 6222 | Smooth surface, polyester reinforced, APP modified asphalt membrane. |
| WorkHorse APP 160 Granule | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, APP modified asphalt membrane. |
| WorkHorse APP Smooth | 88 lb. roll | ASTM D 6222 | Smooth surface, polyester reinforced, APP modified asphalt membrane. |
| WorkHorse APP Granule | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, APP modified asphalt membrane. |
| Brai Supreme APP Poly Smooth | 88 lb. roll | ASTM D 6222 | Smooth surface, polyester reinforced, APP modified asphalt membrane. |
| Brai Supreme APP Poly Granule | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, APP modified asphalt membrane. |
| Brai Supreme APP Poly Granule FR | 105 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, fire resistant, APP modified asphalt membrane. |
| Intec WorkHorse SBS 160 Granule | 97 lb. roll | ASTM D 6222 | Granule surface, polyester reinforced, SBS modified asphalt membrane. |
| Supreme Eliminator Nailable Base Sheet | 72 lb. roll | ASTM D 4897 Type II | Fiber glass base sheet impregnated and coated on both sides. |
| Supreme Eliminator Perforated Venting Base Sheet | 67 lb. roll | ASTM D 4601 Type I | Type I asphalt impregnated and coated glass fiber base sheet with kraft paper backing. |
| Brai Supreme SBS Glass Base | 90 lb. roll | ASTM D 6163 Type I Grade S | Fiberglass base sheet coated with SBS modified asphalt. |



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| <u>Product</u> | <u>Dimensions*</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|--------------------|-----------------------------|--|
| Brai Flex ModBase Plus Supreme Modified | 90 lb. roll | ASTM D 6163 | Smooth surface, fiber glass mat and scrim reinforced, SBS modified asphalt membrane. |
| Brai Supreme Ply 4 | 38 lb. roll | ASTM D 2178 Type IV | Type IV asphalt impregnated glass felt. |
| Brai Supreme Ply 6 | 38 lb. roll | ASTM D 2178 Type VI | Type VI asphalt impregnated glass felt. |
| WorkHorse Ultra Cap Sheet | 72 lb. roll | ASTM D 3909 | Asphalt impregnated and coated felt surfaced with mineral granules. |
| WorkHorse Ultra Cap 730 Premier | 72 lb. roll | ASTM D 3909 | Asphalt impregnated and coated felt surfaced with mineral granules. |
| Brai Supreme SBS Poly Smooth (Flex Smooth) | 88 lb. roll | ASTM D 6164 | Smooth surface, polyester reinforced, SBS modified asphalt membrane. |
| Brai Supreme SBS Poly Granule (Flex 190) | 97 lb. roll | ASTM D 6164 | Granule surface, polyester reinforced, SBS modified asphalt membrane. |
| Brai Supreme SBS Poly Granule FR (Flex 190 FR) | 105 lb. roll | ASTM D 6164 | Granule surface, polyester reinforced, fire resistant, SBS modified asphalt membrane. |
| Brai Supreme Plus SBS Poly Granule FR (Flex 250 FR) | 105 lb. roll | ASTM D 6164 | Granule surface, polyester reinforced, fire resistant, SBS modified asphalt membrane. |
| Brai Supreme SBS Glass Granule FR (Brai FR 4.5) | 105 lb. roll | ASTM D 6163 | Granule surface, fiberglass reinforced, fire retardant, SBS modified asphalt membrane. |
| Brai Supreme SBS Dual FR (Intec Flex Dual FR) | 69 lb. roll | ASTM D 6164 Type II Grade G | Granule surface, polyester/fiberglass reinforced, fire resistant, SBS modified asphalt membrane. |
| Intec Flex G4 (Smooth) | 90 lb. roll | ASTM D 6163 | Smooth surface, fiberglass reinforced, SBS modified asphalt membrane. |
| Brai Supreme Flex Aluminum | | ASTM D 5147 | Aluminum surface, reinforced membrane for flashing use only. |
| Brai Supreme APP Walk Board | 3' x 3' | Proprietary | Granule surface, APP modified asphalt membrane walkboard. |
| Brai Supreme SBS Walk Board | 3' x 3' | Proprietary | Granule surface, SBS modified asphalt membrane walkboard. |
| Flex Asphalt. Asphalt Plus, Asphalt Lite | various | ASTM D 312 | SEBS modified mopping asphalt. |
| Brai Supreme/Permaglas Roofing Asphalt | various | ASTM D 312 | Mopping Asphalt |
| Fireshield | 6 gal. drum | proprietary | A liquid, temporary fire retardant treatment for brush, roll or spray application. |
| M-Weld® Gravel Guard MB | various | proprietary | Metal edge gravel guard with perforated flange. |
| M-Weld® MDrain | various | proprietary | Spun aluminum or copper roof drain. |
| M-Weld® MPan | various | proprietary | A prefabricated pitch pan and modified bitumen flashing assembly. |
| M-Weld® MScupper | various | proprietary | Prefabricated scupper. |
| M-Weld® Preflashed Lead Jack | various | proprietary | Preflashed vent pipe waterproofing assembly. |
| M-Weld® Standard, Adjustable, One Way MVent | various | proprietary | Prefabricated stack cover for use in soil pipe waterproofing. |



| <u>Product</u> | <u>Dimensions*</u> | <u>Test Specification</u> | <u>Product Description</u> |
|--|--------------------|---------------------------|---|
| Intec Tape | roll | proprietary | Unreinforced APP asphalt used as sealer or filler. |
| Matrix 101 System Pro SBS Adhesive | various | ASTM D3019 | Cold Applied Modified SEBS Asphalt Adhesive |
| Matrix 102 Select SBS Adhesive | various | ASTM D3019 | Cold Applied Modified SEBS Asphalt Adhesive. |
| Matrix 103 Cold Adhesive | various | ASTM D3019 | Cold Applied Asphalt Adhesive. |
| Matrix 201 System Pro SBS Flashing | various | ASTM D3019 | Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade. |
| Matrix 202 Select SBS Flashing | various | ASTM D4586 | Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade. |
| Matrix 203 Standard Plastic Cement | various | ASTM D4586 | Standard Plastic Asphalt Roofing Cement |
| Matrix 204 Standard Wet/Dry Cement | various | proprietary | Asphalt Based Roof Cement |
| Matrix 205 System Pro | various | ASTM D3409 | SBS Modified Roof Cement |
| Matrix™ 301 System Pro Fibered Aluminum Roof Coating | various | ASTM D2824, Type I | Fibered. Aluminum pigmented, asphalt roof coating |
| Matrix™ 302 System Pro Non-Fibered Aluminum Roof Coating | various | ASTM D2824, Type I | Non-fibered. Aluminum pigmented, asphalt roof coating |
| Matrix 303 Select Fibered Aluminum | various | ASTM D2824, Type III | Fibered aluminum coating. |
| Matrix 304 Select Non-Fibered | various | ASTM D2824, Type I | Non-fibered. Aluminum pigmented, asphalt roof coating. |
| Matrix™ Fibered 305 Emulsion | various | ASTM 1227 | Asphalt based clay emulsion roof coating. |
| Matrix™ 307 Primer | various | ASTM D 41 | Asphalt based primer. |
| Matrix™ 322 White Elastomeric Roof Coating | various | ASTM D 2824, Type I | Styrene, acrylic based roof coating. |
| Matrix 602 SB Coating | various | | Surface coating for smooth surfaced and mineral surfaced roofs. |
| Matrix 715 MB Coating | various | | Surface coating for smooth surfaced and mineral surfaced roofs. |

APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|--|--|
| BMCA EnergyGuard High Density Wood Fiberboard | High density wood fiberboard insulation. | BMCA |
| BMCA EnergyGuard Recover Board | Perlite recover board | BMCA |
| BMCA EnergyGuard Permalite | Perlite board | BMCA |
| BMCA EnergyGuard (USIso) Iso | Polyisocynurate foam insulation | BMCA |



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APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|--|
| BMCA EnergyGuard (USIso/Perlite) Composite | Polyisocyanurate/wood fiberboard composite | BMCA |
| PYROX | Polyisocyanurate foam insulation | Apache Products Co. |
| White Line | Polyisocyanurate foam insulation | Apache Products Co. |
| ACFoam II | Polyisocyanurate foam insulation | Atlas Energy Products |
| Wood Fiber | Wood fiber insulation board | Generic |
| High Density Wood Fiberboard | Wood fiber insulation board | Generic |
| Pelite/Urethane Composite | Perlite / urethane composite board insulation | Generic |
| Perlite Insulation | Perlite insulation board | Generic |
| Type X Gypsum | Fire resistant rated gypsum. | Generic |
| Dens Deck | Water resistant gypsum board | G-P Gypsum Corp. |
| ENRGY-2 | Polyisocyanurate foam insulation | Johns Manville |
| Multi-Max & FA | Polyisocyanurate roof insulation | RMax, Inc. |

APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|---|---|-------------------|--|
| 1. | Drill-Tec® #12 Standard & #14 Heavy Duty Roofing Fastener | Insulation fastener for steel, wood & concrete decks. | | US Intec, Inc. |
| 2. | Drill-Tec® ASAP | Pre-assembled GAFTITE Fasteners and metal and plastic plates. | | US Intec, Inc. |
| 3. | Drill-Tec® Base Sheet Fastener and Plate | Base sheet fastening assembly. | | US Intec, Inc. |
| 4. | Drill-Tec® Metal | Round galvalume stress plates. | 3" and 3 ½" | US Intec, Inc. |
| 5. | Drill-Tec® Plastic | Round polypropylene stress plates. | 3" and 3 ½" | US Intec, Inc. |
| 6. | Dekfast Fasteners #12, #14 & #15 | Insulation fastener for wood, steel and concrete decks | | Construction Fasteners Inc. |
| 7. | Dekfast Hex Plate | Galvalume hex stress plate. | 2 7/8" x 3 1/4" | Construction Fasteners Inc. |
| 8. | Dekfast Lock Plate | Polypropylene locking plate. | 3" x 3 1/4" | Construction Fasteners Inc. |



APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|----------------------------|--|-------------------|--|
| 9. | Olympic Fastener #12 & #14 | Insulation fastener | | Olympic Mfg.Group, Inc. |
| 10. | Olympic Fastener ASAP | Pre-assembled Insulation fastener and plate | | Olympic Mfg.Group, Inc. |
| 11. | Olympic Polypropylene | Polypropylene plastic plate | 3.25" round | Olympic Mfg.Group, Inc. |
| 12. | Olympic Standard | 3" round galvalume AZ50 steel plate | 3" round | Olympic Mfg.Group, Inc. |
| 13. | Olympic G-2 | 3.5" round galvalume AZ55 steel plate | 3.5" round | Olympic Mfg.Group, Inc. |
| 14. | Tru-Fast | Insulation fastener for steel and wood decks | | The Tru-Fast Corp. |
| 15. | Tru-Fast Plates | 3" round galvalume AZ55 steel plate | 3" round | The Tru-Fast Corp. |
| 16. | Tru-Fast Plates | Polyethylene plastic plate | 3" round | The Tru-Fast Corp. |

EVIDENCE SUBMITTED:

| <u>Test Agency/Identifier</u> | <u>Name</u> | <u>Report</u> | <u>Date</u> |
|--------------------------------------|--------------------------------|-----------------------------------|----------------------|
| Factory Mutual Research Corp. | J.I. 1B7A6.AM | FMRC 4470 | 05/27/97 |
| Factory Mutual Research Corp. | J.I. 0D3A3.AM J.I. 3B0A0.AM | FMRC 4470/4454 | 04/04/97 04/30/97 |
| Factory Mutual Research Corp. | J.I. 0D1A8.AM | FMRC 4470 | 04/01/98 |
| Factory Mutual Research Corp. | 3001276 | FMRC 4470 | 01/28/99 |
| Underwriters Laboratories, Inc. | 1997 UL Guide | Fire Classification Compliance | 01/01/97 |
| Underwriters Laboratories, Inc. | 96NK11547 96NK26146 | UL 790 | 05/28/96 11/04/96 |
| Exterior Research & Design, LLC. | #3955.09.96-2 #3955.05.97-1 | Wind Uplift PA 114, Appendix J | 09/10/96 05/22/97 |
| Factory Mutual Research Corp. | 3012280 | FMRC 4470 | 09/16/02 |



APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| USIso, E'NRG'Y-2, AC Foam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.5" thick | 1, 2 or 14 | 1:2.67 ft ² |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | 1, 2 or 14 | 1:2.67 ft ² |
| BMCA EnergyGuard Permalite Minimum ¾" thick | 1, 2 or 14 | 1:2.67 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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). US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |
| BMCA EnergyGuard Permalite Minimum ¾" thick | N/A | N/A |
| BMCA EnergyGuard Recover Board Minimum ½" thick | N/A | N/A |

Note: Optional top layer of insulation shall be adhered with 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. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.



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Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture's application instructions to a mopped base sheet.

Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

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



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso, E'NRG'Y-2, AC Foam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.5" thick | 1, 2 or 14 | 1:2.67 ft² |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | 1, 2 or 14 | 1:2.67 ft² |
| BMCA EnergyGuard Permalite Minimum 3/4" thick | 1, 2 or 14 | 1:2.67 ft² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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). US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |
| BMCA EnergyGuard Permalite Minimum 3/4" thick | N/A | N/A |
| BMCA EnergyGuard Recover Board Minimum 1/2" thick | N/A | N/A |

Note: Optional top layer of insulation shall be adhered with 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. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.



- Ply Sheet:** (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.
Or
One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
- Membrane:** One or more plies Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Brai Supreme SBS Poly Smooth, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
- Surfacing:** (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:
1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
 2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
 3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.
- Maximum Design Pressure:** -45 psf (See General Limitation #9.)



- Membrane Type:** APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. type B steel decking over ¼" thick steel supports spaced min. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.
- System Type B(2):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| USIso, BMCA EnergyGuard Iso Minimum 1.5" thick | 1 or 2 | 1:1.5 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| BMCA EnergyGuard Permalite Minimum ¾" thick | N/A | N/A |

Note: Apply top layer of insulation in a full mopping of any approved mopping 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. US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth, Supreme Eliminator Nailable Base Sheet or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture's application instructions to a mopped base sheet.



Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

Maximum Design Pressure:

-52.5 psf (See General Limitation #9.)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. type B steel decking over 1/4" thick steel supports spaced min. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.

System Type B(2): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso, BMCA EnergyGuard Iso Minimum 1.5" thick | 1 or 2 | 1:1.5 ft² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| BMCA EnergyGuard Permalite Minimum 3/4" thick | N/A | N/A |

Note: Apply top layer of insulation in a full mopping of any approved mopping 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. US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth, Supreme Eliminator Nailable Base Sheet or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.



Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Or

One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Membrane: Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Surfacing: (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

Maximum Design Pressure: -52.5 psf (See General Limitation #9.)



- Membrane Type:** APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. type B steel decking over ¼" thick steel supports spaced min. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.
- System Type B(3):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| USIso, BMCA EnergyGuard Iso Minimum 1.5" thick | 1 or 2 | 1:1.5 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| BMCA EnergyGuard Recover Board Minimum ½" thick | N/A | N/A |

Note: Apply top layer of insulation in a full mopping of any approved mopping 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. US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture's application instructions to a mopped base sheet.



Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

Maximum Design Pressure: -67.5 psf (See General Limitation #9.)



- Membrane Type:** SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. type B steel decking over ¼" thick steel supports spaced min. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.
- System Type B(3):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| USIso, BMCA EnergyGuard Iso Minimum 1.5" thick | 1 or 2 | 1:1.5 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| BMCA EnergyGuard Recover Board Minimum ½" thick | N/A | N/A |

Note: Apply top layer of insulation in a full mopping of any approved mopping 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. US INTEC requires either a ply of Supreme Eliminator Perforated Venting laid dry or a layer of BMCA EnergyGuard Permalite or wood fiber overlay board on all isocyanurate applications.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.



- Ply Sheet:** (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.
Or
One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
- Membrane:** Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
- Surfacing:** (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:
1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
 2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
 3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.
- Maximum Design Pressure:** -67.5 psf (See General Limitation #9.)



Membrane Type APP & SBS
Deck Type 2I: Steel Insulated
Deck Description: 18-22 ga. steel
System Type B(4): One or more layers of insulation is mechanically attached, perforated base sheet loose laid over the insulation.

All General and System limitations apply.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| USIso, ACFoam II, BMCA EnergyGuard Iso Minimum 2" thick | 1 or 2 | 1:1.5 ft² |

Base Sheet: One ply of Supreme Eliminator Perforated Venting loose laid with 2" side laps.

Ply Sheet: (Optional, required for torch applied WorkHorse and Brai Supreme membranes)
 One or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.
 Or
 One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Membrane: One or more plies of Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule, Workhorse APP Granule, Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme SBS Poly Smooth, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
 Or
 One or more plies of Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional, required over Smooth membranes) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

Maximum Design Pressure: -60 psf; (See General Limitation #7)



Membrane Type SBS

Deck Type 2I: Steel Insulated

Deck Description: 18-22 ga. Steel, type B steel decking over ¼" thick steel supports spaced max. 6 ft. o.c. attached 6" o.c. using Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.

System Type B(5): One or more layers of insulation is mechanically attached, perforated base sheet loose laid over the insulation.

All General and System limitations apply.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| USIso, Isotherm R, Isotherm RA, Isother RN, BMCA EnergyGuard Iso Minimum 2" thick | 1 or 2 | 1:1.45 ft² |

Base Sheet: One ply of Supreme Eliminator Perforated Venting loose laid with 2" side laps.

Ply Sheet: One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the base sheet with adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Membrane: One or more plies of Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule applied according to manufacturer's application instruction or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Surfacing: (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

Maximum Design Pressure: -67.5 psf; (See General Limitation #7)



Membrane Type: APP
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C: All layers of insulation simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| USIso, E'NRG'Y-2, ACFoam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.5" thick | N/A | N/A |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |

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

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso/Perlite Composite, , BMCA EnergyGuard Composite Minimum 1.5" thick | 1, 2 or 14 | 2.67 ft ² |
| BMCA EnergyGuard Permalite Minimum ¾" thick | 1, 2 or 14 | 2.67 ft ² |

Note: 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture's application instructions to a mopped base sheet.



Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

Maximum Design Pressure:

-45 psf (See General Limitation #9.)



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Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C: All layers of insulation simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| USIso, E'NRG'Y-2, ACFoam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.5" thick | N/A | N/A |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |

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

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | 1, 2 or 14 | 2.67 ft ² |
| BMCA EnergyGuard Permalite Minimum 3/4" thick | 1, 2 or 14 | 2.67 ft ² |

Note: 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional if ply sheet is used) WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulated substrate with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Ply Sheet: (Optional) One (base sheet required), two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the insulation or base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Or

One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.



Membrane: Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule , Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Surfacing: (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

Maximum Design Pressure:

-45 psf (See General Limitation #9.)



Membrane Type APP & SBS

Deck Type 2I: Steel Insulated

Deck Description: 18-22 ga. Steel, type B steel decking over ¼” thick steel supports spaced min. 6 ft. o.c. attached 6” o.c. using Traxx/5 fasteners. Deck side laps are attached 18” o.c. using Traxx/1 fasteners.

System Type C(2): All layers of insulation simultaneously fastened, perforated base sheet loose laid over the insulation.

All General and System limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| USIso, ACfoam II, BMCA EnergyGuard Iso Minimum 1.5” thick | N/A | N/A |
| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| Dens Deck, BMCA Dens Deck Minimum ¼” thick | 1, 2, 6, 9 or 10 | 1:1 ft ² |

Note: 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of Supreme Eliminator Perforated Venting loose laid with 2" side laps.

Ply Sheet: (Optional, required for torch applied WorkHorse and Brai Supreme membranes)
One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS or Brai Supreme SBS Poly Smooth adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth Torch applied in accordance with manufacture’s application intructions.

Or

One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.



Membrane:

One or more plies of Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule, Workhorse APP Granule, Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme SBS Poly Smooth, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Or

One or more plies of Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP Granule FR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing:

(Optional, required over Smooth membranes) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal./sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

**Maximum Design
Pressure:**

-82.5 psf; (See General Limitation #7)



Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): All layers of insulation and base sheet simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso, ACFoam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.3" thick | N/A | N/A |
| E'NRG'Y-2 Minimum 1.4" thick | N/A | N/A |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |
| BMCA EnergyGuard Permalite Minimum 3/4" thick | N/A | N/A |
| BMCA EnergyGuard Recover (Top Layer Only) Minimum 1/2" thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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.

Base Sheet: WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth fastened to deck as described below:

Fastening: Fasten base sheet with Drill-Tec fasteners and Drill-Tec Metal Plates at a 2" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

Ply Sheet: (Optional) One or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base Sheet, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture's application instructions to a mopped base sheet.



Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP GranuleFR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture's application instructions to substrate.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

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



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type D(1): All layers of insulation and base sheet simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| USIso, ACFoam II, Multi-Max, Multi-Max FA, BMCA EnergyGuard Iso Minimum 1.3" thick | N/A | N/A |
| E'NRG'Y-2 Minimum 1.4" thick | N/A | N/A |
| USIso/Perlite Composite, BMCA EnergyGuard Composite Minimum 1.5" thick | N/A | N/A |
| BMCA EnergyGuard Permalite Minimum ¾" thick | N/A | N/A |
| BMCA EnergyGuard Recover (Top Layer Only) Minimum ½" thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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.

Base Sheet: WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth fastened to deck as described below:

Fastening: Fasten base sheet with Drill-Tec fasteners and Drill-Tec Metal Plates at a 2" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

Ply Sheet: (Optional) One or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Or

One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.



Membrane: Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule , Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.

Surfacing: (Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

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



Membrane Type: APP

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel, type B steel decking over ¼” thick steel supports spaced min. 5 ft. o.c. attached 6” o.c. using min. 5/8” diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18” o.c. using Traxx/1 fasteners.

System Type D(2): All layers of insulation and base sheet simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|--|---|--|
| Any approved polyisocyanurate insulation Minimum 1.5” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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.

Base Sheet: One ply of WorkHorse Ultra Base Sheet, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS or Brai Supreme SBS Base fastened to deck as described below:

Fastening: Fasten to the steel deck using Drill-Tec Fasteners and Drill-Tec Metal Plates spaced 12” o.c. in the 4” lap and two staggered rows in the center of the sheet 12” o.c.

Ply Sheet: One or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq., or one or more plies of Brai Supreme APP Smooth or Workhorse APP Smooth torch applied in accordance with manufacture’s application instructions to a mopped base sheet.

Membrane: Brai Supreme APP Smooth, Workhorse APP Smooth, Brai Supreme APP GranuleFR, Brai Supreme Plus APP Granule FR, Brai Supreme APP Granule or Workhorse APP Granule torch applied in accordance with manufacture’s application instructions to substrate.



Surfacing:

(Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq. (Brai Supreme APP Smooth or WorkHorse APP Smooth)
3. Matrix 715 MB Coating applied at rate of 1-1.5 gal./sq.

Maximum Design
Pressure:

-45 psf; (See General Limitation #9.)



- Membrane Type:** SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. Steel, type B steel decking over 1/4" thick steel supports spaced min. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.
- System Type D(2):** All layers of insulation and base sheet simultaneously fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| Any approved polyisocyanurate insulation Minimum 1.5" thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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.

- Base Sheet:** One ply of WorkHorse Ultra Base Sheet, Supreme Eliminator Nailable, Brai Supreme SBS Glass Base, Brai Supreme SBS Glass Base HS or Brai Supreme SBS Base fastened to deck as described below:
- Fastening:** Fasten to the steel deck using Drill-Tec Fasteners and Drill-Tec Metal Plates spaced 12" o.c. in the 4" lap and two staggered rows in the center of the sheet 12" o.c.
- Ply Sheet:** (Optional) One or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 or one ply of WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Base, Brai Supreme SBS Poly Smooth or Intec Flex G4 Smooth adhered to the base sheet with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.
Or
One or more plies of Brai Supreme Ply 4, Brai Supreme Ply 6, WorkHorse Ultra Base, Brai Supreme SBS Glass Base, Brai Flex ModBase Plus Supreme HS, Brai Supreme SBS Poly Smooth adhered to the insulation or base sheet with Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.
- Membrane:** Intec Flex FR 3HS, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Brai Supreme SBS Glass Granule FR, Brai Supreme SBS Dual FR, Brai Supreme SBS Poly Granule, Permaglas SBS, Permaglas SBS FR or Intec WorkHorse SBS Granule adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. or Matrix 102 Select SBS Adhesive at an application rate of 1-2 gal./sq.



Surfacing:

(Optional, required if Brai Supreme SBS Poly Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. Matrix 301 System Pro Fibered Aluminum Roof Coating, at 1.5 gal. /sq.
3. Matrix 715 MB Coating applied at a rate of 1-1.5 gal./sq.

**Maximum Design
Pressure:**

-45 psf; (See General Limitation #9.)



STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.



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.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 03-0507.02
Expiration Date: 08/01/08
Approval Date: 09/11/03
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