



**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 South Florida Building Code, 1994 Edition for Miami-Dade County or Florida Building Code.

DESCRIPTION: US Intec Modified Bitumen Roofing Systems Over Cementitious Wood Fiber Decks

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 consists of pages 1 through 24.
The submitted documentation was reviewed by Frank Zuloaga, RRC



**NOA No.: 01-0816.19
Expiration Date: 08/01/03
Approval Date: 01/17/02
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ROOFING SYSTEM APPROVAL

<u>Category:</u>	Roofing
<u>Sub-Category:</u>	Modified Bitumen, APP/SBS
<u>Deck Type:</u>	CWF
<u>Maximum Design Pressure</u>	-90 psf
<u>Fire Classification:</u>	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 SP-4 Supreme APP Smooth	88 lb. roll	ASTM D 6222	Smooth surface, polyester reinforced, APP modified asphalt membrane.
Brai GSSP-4 Supreme APP Smooth	105 lb. roll	ASTM D 6222	Granule surface, polyester reinforced, APP modified asphalt membrane.
Brai GSSP-4 FR Supreme APP Smooth	105 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 Smooth	88 lb. roll	ASTM D 6222	Smooth surface, polyester reinforced, APP modified asphalt membrane.
Brai Supreme APP Granule	105 lb. roll	ASTM D 6222	Granule surface, polyester reinforced, APP modified asphalt membrane.
Brai Supreme APP Granule FR	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.
Intec WorkHorse 160 SBS Granule	97 lb. roll	ASTM D 6222	Granule surface, polyester reinforced, SBS modified asphalt membrane.
Brai Supreme SBS Base	87 lb. roll	ASTM D 6222	Smooth surface SBS modified asphalt membrane, polyester reinforcement.
Brai Supreme Eliminator Nailable Base Sheet	72 lb. roll	ASTM D 4897 Type II	Fiber glass base sheet impregnated and coated on both sides.
Brai 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.
Brai Flex ModBase Plus Supreme Modified HS	90 lb. roll	ASTM D 6222	Smooth surface, fiber glass mat and scrim reinforced, SBS modified asphalt membrane.
Brai Sumpreme Ply 4	38 lb. roll	ASTM D 2178 Type IV	Type IV asphalt impregnated glass felt.



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<u>Product</u>	<u>Dimensions*</u>	<u>Test Specification</u>	<u>Product Description</u>
Brai Sumpreme Ply 4	38 lb. roll	ASTM D 2178 Type VI	Type VI asphalt impregnated glass felt.
Brai Sumpreme Cap Sheet	72 lb. roll	ASTM D 3909	Asphalt impregnated and coated felt surfaced with mineral granules.
Intec WorkHorse Ultra Cap 730 Premier	72 lb. roll	ASTM D 3909	Asphalt impregnated and coated felt surfaced with mineral granules.
Brai Flex Smooth Supreme SBS Poly	88 lb. roll	ASTM D 5147	Smooth surface, polyester reinforced, SBS modified asphalt membrane.
Brai Flex 190 Supreme SBS Poly Granule	97 lb. roll	ASTM D 5147	Granule surface, polyester reinforced, SBS modified asphalt membrane.
Brai Flex 190 FR Supreme SBS Poly Granule	105 lb. roll	ASTM D 5147	Granule surface, polyester reinforced, fire resistant, SBS modified asphalt membrane.
Brai Flex 250 FR Supreme Plus SBS Poly Granule	105 lb. roll	ASTM D 5147	Granule surface, polyester reinforced, fire resistant, SBS modified asphalt membrane.
Brai Flex FR 4.5 Supreme SBS Glass Granule	105 lb. roll	ASTM D 5147	Granule surface, fiberglass reinforced, fire retardant, SBS modified asphalt membrane.
Brai Supreme SBS 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 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 5147	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	various	ASTM D 312	SEBS modified mopping asphalt.
Flex Asphalt Plus	various	ASTM D 312	SEBS modified mopping asphalt.
Flex Asphalt Lite	various	ASTM D 312	SEBS modified mopping asphalt.
Brai Supreme/Permaglas Roofing Asphalt	various	ASTM D 312	Mopping Asphalt
Matrix SBS Adhesive	various	proprietary	Asphalt based, SBS modified cold adhesive.
Matrix SBS Plus	various	proprietary	Asphalt based, SBS modified cold adhesive.
Matrix SBS Plus Trowel Grade	various	proprietary	SBS modified roof cement.
Fireshield	6 gal. drum	proprietary	A liquid, temporary fire retardant treatment for brush, roll or spray application.
Gravel Guard MB	various	proprietary	Metal edge gravel guard with perforated flange.
MDrain	various	proprietary	Spun aluminum or copper roof drain.
Brai Supreme Mini APP Smooth	various	proprietary	Pre-cut widths of polyester reinforced, APP modified membrane for flashing and repairs.
MPan	various	proprietary	A prefabricated pitch pan and modified bitumen flashing assembly.
MScupper	various	proprietary	Prefabricated scupper.
Preflashed Lead Jack	various	proprietary	Preflashed vent pipe waterproofing assembly.
Standard, Adjustable, One Way MVent	various	proprietary	Prefabricated stack cover for use in soil pipe waterproofing.
Intec Tape	roll	proprietary	Unreinforced APP asphalt used as sealer or filler.
USIso Roof Insulation	various	PA 110	Polyisocyanurate foam insulation.
USIso Tapered Roof Insulation	various	PA 110	Tapered polyisocyanurate insulation.



<u>Product</u>	<u>Dimensions*</u>	<u>Test Specification</u>	<u>Product Description</u>
UISo/Perlite Composite	various	PA 110	Polyisocyanurate foam /perlite composite insulation board.
BMCA Permalite	min. ¾" thick	PA 110	Perlite and tapered perlite insulation
BMCA Recover	min. ½" thick	PA 110	Perlite recover board

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:
TABLE 2

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Pyrox	min. 4' x 4'	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current NOA)
White Line	min. 4' x 4'	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current NOA)
ACFoam II	min. 4' x 4'	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products (with current NOA)
E'NRG'Y-2	min. 4' x 4'	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current NOA)
Multi-Max Multi-Max FA Type X Gypsum	min. 4' x 4' various	PA 110	Polyisocyanurate foam insulation Fire resistant rated gypsum.	Rmax, Inc. (with current NOA) Generic (with current NOA)
DensDeck	min. ¼" thick		Fire resistant gypsum.	Georgia Pacific (with current NOA)
Asphalt	various	ASTM D 312	Type III or IV Hot asphalt bitumen adhesive	Generic (with current NOA)
Asphalt Primer	various	ASTM D 41	Asphalt Primer	Generic (with current NOA)
Acrylic Roof Coating	various	PA 121	Acrylic roof coating	Gibson Homans (with current NOA)
Aluminum Roof Coating	various	PA 121	Aluminum roof coating	Gibson Homans (with current NOA)
Alum-A-Gard	various	PA 121	Aluminum roof coating.	ALCO (Nat'l Varnish) (with current NOA)
Karnak 97	various	PA 121	Roof coating	Karnak (with current NOA)
Endure	various	PA 121	Asphalt emulsion	Monsey Products (with current NOA)
Pro-Grade Aluminum	various	PA 121	Aluminum roof coating	Monsey Products (with current NOA)
Thermo Super Prep II	various	PA 121	Liquid acrylic coating.	Thermo Materials Corp. (with current NOA)
Thermo Solar Shield	various	PA 121	Liquid acrylic coating.	Thermo Materials Corp. (with current NOA)
TRS Top Coat	various	PA 121	Liquid acrylic coating.	Thermo Materials Corp. (with current NOA)



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Lite Deck Fastener	Insulation fastener for CWF and Gypsum decks.		US Intec, Inc.
2.	Lite Deck Metal	Round galvalume stress plates.	3"	US Intec, Inc.
3.	Powerlite	Insulation fastener for CWF and Gypsum decks.		Powers Fasteners, Inc.
4.	Powerlite Plates	3" round galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
5.	Powerlite Lap Plates	2" round galvalume AZ55 steel plate	2" round	Powers Fasteners, Inc.

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corporation	J.I. 3X0A9.AM	FMRC 4470	04/12/94
Factory Mutual Research Corporation	Letter	Approval Extension	04/13/94
Factory Mutual Research Corporation	J.I. 1B7A6.AM	FMRC 4470	05/27/97
Factory Mutual Research Corporation	J.I. 3B0A0.AM	FMRC 4470/4454	04/30/97
Factory Mutual Research Corporation	J.I. 0D3A3.AM	FMRC 4470/4454	04/04/97
Underwriters Laboratories, Inc.	1997 UL Guide	Fire Classification Compliance	01/01/97
Underwriters Laboratories, Inc.	96NK11547	UL 790	05/28/96
Underwriters Laboratories, Inc.	96NK26146		11/04/96
Warnock Hersey - ITS	484-733400	Physical Properties	07/26/94
Exterior Research & Design, LLC.	#3955.05.97-1	Wind Uplift PA 114, Appendix J	05/22/97



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TYPICAL PROPERTIES:

DYNAMIC PULL-THROUGH PERFORMANCE

Stress Plate	Base Sheet	Dynamic Pull-Through Value (lbf.)
Intec Drill-Tec	Supreme Eliminator Nailable Venting	67
	WorkHorse Ultra Base	76
	Brai Supreme SBS Glass Base	119
	Brai Supreme SBS Glass Base HS	140
	Brai Supreme SBS Base	126
	Brai Supreme APP Smooth	165
SFS Stadler Insul-Fixx S	Supreme Eliminator Nailable Venting	69
	WorkHorse Ultra Base	73
	Brai Supreme SBS Glass Base	109
	Brai Supreme SBS Glass Base HS	185
	Brai Supreme SBS Base	118
	Brai Supreme APP Smooth	173
SFS Stadler Isofast IF/IG	Supreme Eliminator Nailable Venting	105
	WorkHorse Ultra Base	88
	Brai Supreme SBS Glass Base	120
	Brai Supreme SBS Glass Base HS	188
	Brai Supreme SBS Base	218
	Brai Supreme APP Smooth	199
Olympic Standard Metal	Supreme Eliminator Nailable Venting	59
	WorkHorse Ultra Base	74
	Brai Supreme SBS Glass Base	148
	Brai Supreme SBS Glass Base HS	180
	Brai Supreme SBS Base	105
	Brai Supreme APP Smooth	170
ITW Buildex Premium Metal	Supreme Eliminator Nailable Venting	54
	WorkHorse Ultra Base	92
	Brai Supreme SBS Glass Base	124
	Brai Supreme SBS Glass Base HS	204
	Brai Supreme SBS Base	124
	Brai Supreme APP Smooth	158
CF Dekfast Hex Plate	Supreme Eliminator Nailable Venting	54
	WorkHorse Ultra Base	92
	Brai Supreme SBS Glass Base	124
	Brai Supreme SBS Glass Base HS	222
	Brai Supreme SBS Base	112
	Brai Supreme APP Smooth	187

1) Dynamic Pull-Through Values determined in compliance with Miami-Dade County Roofing Protocol PA 117(B) using listed base sheet followed by one ply of type IV ply sheet applied in hot asphalt.

2) A 2 to 1 margin of safety has been applied to actual test results resulting in the above noted design values.



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APPROVED ASSEMBLIES

- Membrane Type:** APP
- Deck Type 5I:** Cementitious Wood Fiber, Insulated, New Construction
- Deck Description:** Cementitious Wood Fiber
- System Type A:** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.5" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of 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. 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.

- Anchor Sheet:** WorkHorse Ultra Base to the deck as described below:
- Fasteners:** Fasten anchor sheet with Powerlite 3" Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet 18" o.c.
- 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 welded 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 welded to substrate.

Surfacing: Install liquid roof coating if using Brai Supreme APP Smooth or Workhorse App Smooth as membrane. See General Limitations #1.

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



Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

System Type A: Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

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 Minimum 1.5" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of 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. 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 Permalite or wood fiber overlay board on all isocyanurate applications.

Anchor Sheet: WorkHorse Ultra Base to the deck as described below:

Fasteners: Fasten anchor sheet with Powerlite 3" Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet 18" o.c.

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.

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.

Surfacing: (Optional, in place of membrane) One or more plies of WorkHorse Ultra Base, Brai Supreme SBS Glass Base or Brai Supreme SBS Poly Smooth adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. and surfaced with a flood coat of asphalt at a minimum rate of 60 lbs./sq. and 400 lbs. of aggregate.

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



Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

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

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, ACFoam II, Multi-Max, Multi-Max FA Minimum 1.3" thick	1 or 3	1:2 ft²
E'NRG'Y-2 Minimum 1.4" thick	1 or 3	1:2 ft²
USIso/Perlite Composite Minimum 1.5" thick	1 or 3	1:2 ft²
BMCA Permalite Minimum ¾" thick	1 or 3	1:2 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. 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 Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" thick	N/A	N/A
BMCA Permalite Recover 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.



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 welded 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 welded to substrate.

Surfacing: Install liquid roof coating if using Brai Supreme APP Smooth or WorkHorse APP Smooth as membrane. See General Limitations #1.

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



Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

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

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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.3" thick	1 or 3	1:2 ft²
E'NRG'Y-2 Minimum 1.4" thick	1 or 3	1:2 ft²
USIso/Perlite Composite Minimum 1.5" thick	1 or 3	1:2 ft²
BMCA Permalite Minimum ¾" thick	1 or 3	1:2 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. 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 Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" thick	N/A	N/A
BMCA Permalite Recover 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.



- 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.
- 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.
- Surfacing: (Optional, in place of membrane) One or more plies of WorkHorse Ultra Base, Brai Supreme SBS Glass Base or Brai Supreme SBS Poly Smooth adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. and surfaced with a flood coat of asphalt at a minimum rate of 60 lbs./sq. and 400 lbs. of aggregate.
- Maximum Design Pressure: -45 psf (See General Limitation #9.)



Membran Type: APP
Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type C: All layers of insulation simultaneously attached.

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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.5" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. 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 or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	1 or 3	2 ft²
BMCA Permalite Minimum ¾" thick	1 or 3	2 ft²

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 welded 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 welded to substrate.

Surfacing: Install liquid roof coating if using Brai Supreme APP Smooth or WorkHorse APP Smooth as membrane. See General Limitations #1.

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



Membran Type: SBS
Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type C: All layers of insulation simultaneously attached.

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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.5" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. 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 or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
USIso/Perlite Composite Minimum 1.5" thick	1 or 3	2 ft²
BMCA Permalite Minimum ¾" thick	1 or 3	2 ft²

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.

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.



Surfacing: (Optional, in place of membrane) One or more plies of WorkHorse Ultra Base, Brai Supreme SBS Glass Base or Brai Supreme SBS Poly Smooth adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. and surfaced with a flood coat of asphalt at a minimum rate of 60 lbs./sq. and 400 lbs. of aggregate.

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



Membrane Type: APP
Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type D: 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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.3" thick	N/A	N/A
E'NRG'Y-2 Minimum 1.4" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" 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 to deck as described below:

Fastening: Fasten anchor sheet with Powerlite 3" Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" 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 ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch welded 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 welded to substrate.

Surfacing: Install liquid roof coating if using Brai Supreme APP Smooth or WorkHorse APP Smooth as membrane. See General Limitations #1.

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



Membrane Type: SBS
Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type D: 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, AC Foam II, Multi-Max, Multi-Max FA Minimum 1.3" thick	N/A	N/A
E'NRG'Y-2 Minimum 1.4" thick	N/A	N/A
USIso/Perlite Composite Minimum 1.5" thick	N/A	N/A
BMCA Permalite Minimum ¾" 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 to deck as described below:

Fastening: Fasten anchor sheet with Powerlite 3" Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" 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.

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.



Surfacing: (Optional, in place of membrane) One or more plies of WorkHorse Ultra Base, Brai Supreme SBS Glass Base or Brai Supreme SBS Poly Smooth adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. and surfaced with a flood coat of asphalt at a minimum rate of 60 lbs./sq. and 400 lbs. of aggregate.

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



Membrane Type: APP
Deck Type 5: Cementitious Wood Fiber, Non-Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type E: Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: WorkHorse Ultra Base to deck as described below:

Fastening: Fasten anchor sheet with Powerlite 3” Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" 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 ply of Brai Supreme APP Smooth or Workhorse APP Smooth torch welded 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 welded to substrate.

Surfacing: Install liquid roof coating if using Brai Supreme APP Smooth or WorkHorse APP Smooth as membrane. See General Limitations #1.

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



Membrane Type: SBS
Deck Type 5: Cementitious Wood Fiber, Non-Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type E: Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: WorkHorse Ultra Base to deck as described below:

Fastening: Fasten anchor sheet with Powerlite 3” Insulation Plates and Powerlite fasteners or Drill-Tec Lite Deck at a 4" side lap 9" 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.

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.

Surfacing: (Optional, in place of membrane) One or more plies of WorkHorse Ultra Base, Brai Supreme SBS Glass Base or Brai Supreme SBS Poly Smooth adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq. and surfaced with a flood coat of asphalt at a minimum rate of 60 lbs./sq. and 400 lbs. of aggregate.

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



Membrane Type: SBS
Deck Type 5: Cementitious Wood Fiber, Non-Insulated, New Construction
Deck Description: Cementitious Wood Fiber
System Type E: Base sheet mechanically fastened.

All General and System limitations apply.

Deck: Martin Fireproofing "Fibroplank Tile", min. 2" thick, end joints may be tongue-and-groove or square edge. End joints not over supports shall be tongue-and-groove edge. Bulb Tee shall be min. 2" deep, 2" wide at bottom flange and 0.144" at thinnest section. Bulb Tees welded to structural steel beams or open-web steel joists spaced not more than 8 ft. o.c. with ¾" long weld on each side. A ¾" weld required on top and bottom flange where Bulb Tees are butted. Bulb Tees shall be grouted with min. 500 psi gypsum cement.

Base Sheet: One ply of Brai Supreme SBS Glass Base fastened to deck as described below:

Fastening: Fasten base sheet with Tri-Loc fasteners spaced 10" o.c. in the 4" lap and two staggered rows in the center of the sheet, 10" o.c..

Ply Sheet: Two or more plies of Brai Supreme Ply 4 or Brai Supreme Ply 6 sheet adhered in full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Cap Sheet: (Optional) One ply of Brai Supreme Cap Sheet, Brai Supreme Cap Sheet Premier 730, Brai Supreme SBS Poly Granule, Brai Supreme SBS Poly Granule FR, Brai Supreme Plus SBS Poly Granule FR, Inter G-4 Cap or Brai Supreme SBS Glass Granule FR adhered with a full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Karnak 97, Grundy AL MB, Henry's 520 Aluminum, Henry's No. 229 Asphalt Emulsion, Henry's No. 523 Fibered Aluminum, GEO Industries No. 929 Aluminum Emulsion, GEO Industries No. 923 Fibered Aluminum, Monsey Endure Aluminum Roof Coating, Monsey Weather Check, Monsey Pro-Grade Aluminum Roof Coating at 1.5 gal./sq..
2. Flood coat of hot asphalt with an application rate of 60 lbs./sq. ± 20%; plus gravel or slag with an application rate of 400 lbs./sq. & 300 lbs./sq., respectively.

Maximum Design Pressure: -90 psf; (See General Limitation #9.)



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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.)**

END OF THIS ACCEPTANCE



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