



**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)

**Koppers, Inc.
436 Seventh Ave
Pittsburgh, PA 15219**

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: Koppers Built-Up-Roofing Products for Recover 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 No. 00-1108.03 and consists of pages 1 through 20.
The submitted documentation was reviewed by Jorge L. Acebo



**NOA No.: 05-1031.02
Expiration Date: 12/30/10
Approval Date: 04/13/06
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ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	Built-Up Roofing
Material:	Fiberglass
Deck Type:	Recover
Maximum Design Pressure	-317.5 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Coal Tar Bitumen	Available in 20 or 55 gallon drums or in bulk.	ASTM D 450 type III	Coal tar pitch used as a waterproof and adhesive material in conjunction with organic or inorganic felts.
Coal Tar Pitch	Available in 20 or 55 gallon drums or in bulk.	ASTM D 450 type I	Coal tar pitch used as a waterproof and adhesive material in conjunction with organic or inorganic felts.
Glass Fiber Base Sheet	Roll size: 36" x 108'	ASTM D-4601	Non-perforated, type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Kop-R (WC)	various	TAS 110	Polyisocyanurate and perlite composite insulation board.
Kop-R (WI)	various	TAS 110	Polyisocyanurate foam insulation.
Kop-R (WII)	various	TAS 110	Polyisocyanurate foam insulation board.
Kop-R High Density Wood Fiber	various	TAS 110	Wood fiber insulation board.
Koppers Polyester Roofing Felt	8 sq./roll	Proprietary	Spunbond polyester plysheet for use in conventional built-up roofing.
No. 15 Tarred Felt Ply Sheet	Roll size: 36" x 144'	ASTM D 227	Organic fiber based felt saturated with refined coal tar.
Organic Base Sheet	Roll size: 36" x 75'	ASTM D 2626	Non-perforated, organic fiber based felt saturated and coated with asphalt surfaced with a parting agent.
Tar-Glas Ply Sheet	Roll Size: 36"x 108'	ASTM D 4990	A coal tar impregnated and coated glass fiber ply sheet for use in conventional built-up roofing.
Tar-Glas Premium Ply Sheet	Roll size: 36" x 108'	ASTM D 4990	A coal tar impregnated and coated glass fiber ply sheet for use in conventional bitumen built-up roofing.



TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
ACFoam II	various	TAS 110	Polyisocyanurate foam insulation	Atlas (with current NOA)
E'NRG'Y-2, PSI-25	various	TAS 110	Polyisocyanurate foam insulation	Johns Manville (with current NOA)
HyTherm AP	various	TAS 110	Polyisocyanurate foam insulation	Celotex (with current NOA)
Pyrox	various	TAS 110	Polyisocyanurate foam insulation	Apache (with current NOA)
E'NRG'Y-2 Plus	various	TAS 110	Polyisocyanurate composite insulation	Johns Manville (with current NOA)
ACFoam Composite Fiberglass	Various various	TAS 110	Polyisocyanurate composite insulation Fiberglass roof insulation	Atlas (with current NOA) See Approved Systems Listings
Perlite Insulation	various	TAS 110	Perlite insulation board	See Approved Systems Listings
High Density Wood Fiberboard	various	TAS 110	Wood fiber insulation board	See Approved Systems Listings
DekFast Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	Construction Fasteners, Inc. (with current NOA)
Accutrac Fastener		TAS 114	Insulation fastener assembly	ITW Buildex (with current NOA)
Hextra Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	ITW Buildex (with current NOA)
Roofgrip Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	ITW Buildex (with current NOA)
Olympic Fasteners		TAS 114	Insulation fasteners and plates	Olympic (with current NOA)
Olympic HD		TAS 114	Insulation fastener	Olympic (with current NOA)
Olympic CD-10		TAS 114	Insulation fastener	Olympic (with current NOA)
Olympic Fluted Nail		TAS 114	Insulation fastener	Olympic (with current NOA)
ESI Fastening Systems		TAS 114	Insulation fastening assembly with interlocking plastic plate.	SFS Stadler (with current NOA)
Insulfixx Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	SFS Stadler (with current NOA)



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
HD Insulfixx Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	SFS Stadler (with current NOA)
Rawl Drive / Spike Fastener	3/16" and 1/4" diameter	TAS 114	Insulation fastening assembly with steel and plastic stress plate.	Rawlplug (with current NOA)
Rawlite Fastener		TAS 114	Insulation fastening assembly for lightweight decks	Rawlplug (with current NOA)
Tru-Fast Fastener		TAS 114	Insulation fastening assembly with steel and plastic stress plate.	Tru-Fast (with current NOA)
Roofing Nails		TAS 114	Corrosion resistant annular ring shank nails, FF-N-105-B Type 2.	generic
Tin Caps	Min. 32 ga. x 1 ⁵ / ₈ "	TAS 114	Corrosion resistant circular discs.	generic
Asphalt Primer		ASTM D 41	Asphalt Primer	generic
Coal Tar Priming Oil		ASTM D 43	Coal tar based primer	generic



EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corporation	J.I. 1W5A1.AM	I-90 Wind Classification	08/12/93
Factory Mutual Research Corporation	FM Approval Guide	Insulation attachment requirements	Published Annually
Underwriters Laboratories, Inc. Dynatech Engineering	UL Roofing Materials and Systems Directory 1.94.17	Fire Classifications Wind Uplift, Small Scale	Published Annually 01/17/94
Dynatech Engineering	4301-12.94-1	Wind Uplift	12/05/94
Dynatech Engineering	4301-12.94-2	Wind Uplift	12/05/94
Dynatech Engineering	4302-1.95-2	Wind Uplift	01/03/95
Dynatech Engineering	4302-1.95-4	Wind Uplift	01/04/95
Exterior Research & Design, LLC.	4302.02.97-1	TAS 114	02/15/97
Factory Mutual Research Corporation	3025991	4470	02/17/06



APPROVED ASSEMBLIES

Deck Type 7I: Recover

Deck Description: wood

System Type A(1): All layers of insulation adhered to anchor sheet with approved asphalt or coal tar pitch

All General and System Limitations shall apply.

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

Approved Type(s): **Kop-R(WII), AC-Foam II, Pyrox, HyTherm AP**

Minimum: 1.0" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2, PSI-25**

Minimum: 1.0" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Armor-R Glass, Fiberglas Roof Insulation or Fiber Glass Roof Insulation**

Minimum: 15/16" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**

Minimum: 1/2" x 2' x 4'	N/A	N/A	N/A	N/A
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<u>Insulation</u> <u>Top Layer</u>	<u>Fastener</u> <u>Type</u>	<u>Fastening</u> <u>Detail No.</u>	<u>Fasteners</u> <u>Per Board</u>	<u>Fastener</u> <u>Density</u>
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One or more layers of the following:

Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Armor-R Glass, Fiberglas Roof Insulation or Fiber Glass Roof Insulation**

Minimum: 15/16" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**



Minimum: 1/2" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board				
Minimum: 3/4" x 2' x 4'	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt or coal tar pitch 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: Koppers Glass Fiber or Organic base sheet applied to the deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap, 9" o.c. in two rows staggered along the center line of the of the sheet in the field.

Base Sheet: (Optional) Koppers organic or glass fiber base sheet adhered to the insulation substrate with approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Ply Sheet: Two, or more plies of Koppers Tarred Felt, Glass Felt, Tar-Glas, Premium Tar-Glas or Polyester Roofing Felt. Roof cover may be Glass Fiber Felt, Tar-Glas or Premium Tar-Glas Felt adhered in a full mopping of approved coal tar at an application rate of 25 lbs./sq. ± 15%.

Cap Sheet: None.

Surfacing: Flood coat of coal tar with an application rate of 70 lbs./sq.; plus gravel or slag at application rates of 400 and 300 lbs./sq., respectively.

Maximum Design Pressure: -60 psf



Deck Type 7I: Recover

Deck Description: wood/steel/concrete/lightweight concrete/cementitious wood fiber/gypsum

System Type A(2): Anchor sheet optional; all layers of insulation adhered to anchor sheet or existing roof with approved asphalt.

All General and System Limitations shall apply.

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

Approved Type(s): **Kop-R(WII), AC-Foam II, Pyrox, HyTherm AP**

Minimum: 1.0" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2, PSI-25**

Minimum: 1.0" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Armor-R Glass, Fiberglas Roof Insulation or Fiber Glass Roof Insulation**

Minimum: 15/16" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**

Minimum: 1/2" x 2' x 4'	N/A	N/A	N/A	N/A
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<u>Insulation</u> <u>Top Layer</u>	<u>Fastener</u> <u>Type</u>	<u>Fastening</u> <u>Detail No.</u>	<u>Fasteners</u> <u>Per Board</u>	<u>Fastener</u> <u>Density</u>
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One or more layers of the following:

Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Armor-R Glass, Fiberglas Roof Insulation or Fiber Glass Roof Insulation**

Minimum: 15/16" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**



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Minimum: 1/2" x 2' x 4' N/A N/A N/A N/A

Approved Type(s): Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board

Minimum: 3/4" x 2' x 4' N/A N/A N/A N/A

Note: Existing roof shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved hot asphalt or coal tar pitch within the EVT range and at a rate of 20-40 lbs/100 ft² Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Anchor Sheet: (Optional) One ply of Organic Base Sheet or Glass Fiber Base Sheet or one or two plies of Glass Fiber Felt, Tar-Glas, Tar-Glas Premium, No. 15 Tarred Felt or Polyester Roofing Felt applied in hot asphalt, coal tar pitch or coal tar bitumen at 25 lbs./sq. per ply.

Base Sheet: (Optional) Koppers organic or glass fiber base sheet adhered to the insulation substrate with approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Ply Sheet: Two or more plies of Koppers Tarred Felt, Glass Felt, Tar-Glas, Premium Tar-Glas or Polyester Roofing Felt. Roof cover may be Glass Fiber Felt, Tar-Glas or Premium Tar-Glas Felt adhered in a full mopping of approved coal tar at an application rate of 25 lbs./sq. ± 15%.

Cap Sheet: None.

Surfacing: Flood coat of coal tar with an application rate of 70 lbs./sq.; plus gravel or slag at application rates of 400 and 300 lbs./sq., respectively.

Maximum Design Pressure:

-317.5 psf (for min. 1.3" Approved polyisocyanurate with min. 1/2" Kop-R High Density Fiberboard coverboard in hot asphalt over concrete deck.)

-212.5 psf (for min. 1.3" Approved polyisocyanurate with min. 3/4" GAFTEMP Permalite in hot asphalt over concrete deck)

-140 psf (for min. 1.5" thick Approved composite board or min. 1.3" Approved polyisocyanurate with min. 1/2" Structodek coverboard in hot asphalt over concrete deck.)

-100 psf (for min. 1.3" Approved polyisocyanurate with min. 3/4" Johns Manville Fesco Board in hot asphalt over concrete deck.)

-45 psf (for all other applications and deck types)



Deck Type 7I: Recover

Deck Description: wood/steel/concrete/cementitious wood fiber/gypsum

System Type B: Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt or coal tar pitch

All General and System Limitations shall apply.

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

Approved Type(s): **Kop-R(WII), AC-Foam II, Pyrox**

Minimum: 1.3" x 4' x 4'	CF DekFast S/P	[3]	4	1:4 ft ²
	CF Omega	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	ITW Accutrac S/P	[3]	4	1:4 ft ²
	ITW Hextra S/P	[3]	4	1:4 ft ²
	ITW Roofgrip S/P	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Olympic Std. S/P	[3]	4	1:4 ft ²
	Olympic HD S/P	[3]	4	1:4 ft ²
	Olympic CD-10 S/P	[3]	4	1:4 ft ²
	Olympic Fluted Nail	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	SFS Insulfixx S/P	[3]	4	1:4 ft ²
	SFS Isofast IF/IG/IW	[3]	4	1:4 ft ²
	SFS System ES-1	[3]	4	1:4 ft ²
	SFS HD Insulfixx S/P	[3]	4	1:4 ft ²
1:4 ft ²				
Minimum: 1.3" x 4' x 4'	TruFast S/P	[3]	4	1:4 ft ²

Approved Type(s): **AC-Foam II**

Minimum: 1.5" x 4' x 4'	TruFast TL	[3]	4	1:4 ft ²
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Approved Type(s): **E'NRG'Y 2, PSI-25**

Minimum: 1.4" x 3' x 4'	CF DekFast S/P	[2]	4	1:3 ft ²
	CF Omega	[2]	4	1:3 ft ²
Minimum: 1.4" x 3' x 4'	ITW Accutrac S/P	[2]	4	1:3 ft ²
	ITW Hextra S/P	[2]	4	1:3 ft ²
	ITW Roofgrip S/P	[2]	4	1:3 ft ²
Minimum: 1.4" x 3' x 4'	Olympic Std. S/P	[2]	4	1:3 ft ²
	Olympic HD S/P	[2]	4	1:3 ft ²
	Olympic CD-10 S/P	[2]	4	1:3 ft ²
	Olympic Fluted Nail	[2]	4	1:3 ft ²
Minimum: 1.4" x 3' x 4'	SFS Insulfixx S/P	[2]	4	1:3 ft ²
	SFS Isofast IF/IG/IW	[2]	4	1:3 ft ²



	SFS System ES-1	[2]	4	1:3 ft ²
	SFS HD Insulfixx S/P		[2]	4
1:3 ft ²				
Minimum: 1.4" x 3' x 4'	TruFast S/P	[2]	4	1:3 ft ²
Minimum: 1.5" x 3' x 4'	Polymer Gyptec	[2]	4	1:3 ft ²
Minimum: 1.5" x 3' x 4'	Olympic NTB Mag.	[2]	4	1:3 ft ²
	Olympic LiteDeck	[2]	4	1:3 ft ²
Minimum: 1.5" x 3' x 4'	Rawlite	[2]	4	1:3 ft ²
Minimum: 1.5" x 3' x 4'	TruFast TL	[2]	4	1:3 ft ²
Minimum: 2.0" x 3' x 4'	CF DekFast S/P	[2]	3	1:4 ft ²
	CF Omega	[2]	3	1:4 ft ²
Minimum: 2.0" x 3' x 4'	ITW Accutrac S/P	[2]	3	1:4 ft ²
	ITW Hextra S/P	[2]	3	1:4 ft ²
	ITW Roofgrip S/P	[2]	3	1:4 ft ²
	Polymer Gyptec	[2]	3	1:4 ft ²
Minimum: 2.0" x 3' x 4'	Olympic Std. S/P	[2]	3	1:4 ft ²
	Olympic HD S/P	[2]	3	1:4 ft ²
	Olympic CD-10 S/P	[2]	3	1:4 ft ²
	Olympic Fluted Nail	[2]	3	1:4 ft ²
	Olympic NTB Mag.	[2]	3	1:4 ft ²
	Olympic LiteDeck	[2]	3	1:4 ft ²
Minimum: 2.0" x 3' x 4'	Rawlite	[2]	3	1:4 ft ²
Minimum: 2.0" x 3' x 4'	SFS Insulfixx S/P	[2]	3	1:4 ft ²
	SFS Isofast IF/IG/IW	[2]	3	1:4 ft ²
	SFS System ES-1	[2]	3	1:4 ft ²
	SFS HD Insulfixx S/P		[2]	3
1:4 ft ²				
Minimum: 2.0" x 3' x 4'	TruFast S/P	[2]	3	1:4 ft ²
	TruFast TL	[2]	3	1:4 ft ²
Approved Type(s): HyTherm AP				
Minimum: 1.5" x 4' x 4'	CF DekFast S/P	[3]	4	1:4 ft ²
	CF Omega	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	ITW Accutrac S/P	[3]	4	1:4 ft ²
	ITW Hextra S/P	[3]	4	1:4 ft ²
	ITW Roofgrip S/P	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	Olympic Std. S/P	[3]	4	1:4 ft ²
	Olympic HD S/P	[3]	4	1:4 ft ²
	Olympic CD-10 S/P	[3]	4	1:4 ft ²
	Olympic Fluted Nail	[2]	3	1:4 ft ²
Minimum: 1.5" x 4' x 4'	SFS Insulfixx S/P	[3]	4	1:4 ft ²
	SFS Isofast IF/IG/IW	[3]	4	1:4 ft ²
	SFS System ES-1	[3]	4	1:4 ft ²
	SFS HD Insulfixx S/P		[3]	4
1:4 ft ²				



Minimum: 1.5" x 4' x 4'	TruFast S/P	[3]	4	1:4 ft ²
Approved Type(s): E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite				
Minimum: 1.5" x 3' x 4'	CF DekFast S/P	[2]	3	1:4 ft ²
	CF Omega	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	ITW Accutrac S/P	[2]	4	1:3 ft ²
	ITW Hextra S/P	[2]	4	1:3 ft ²
	ITW Roofgrip S/P	[2]	4	1:3 ft ²
	Polymer Gyptec	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	Olympic Std. S/P	[2]	4	1:3 ft ²
	Olympic HD S/P	[2]	4	1:3 ft ²
	Olympic CD-10 S/P	[2]	4	1:3 ft ²
	Olympic Fluted Nail	[2]	4	1:3 ft ²
	Olympic NTB Mag.	[2]	3	1:4 ft ²
	Olympic LiteDeck	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	Rawlite	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	SFS Insulfixx S/P	[2]	4	1:3 ft ²
	SFS Isofast IF/IG/IW	[2]	4	1:3 ft ²
	SFS System ES-1	[2]	4	1:3 ft ²
	SFS HD Insulfixx S/P	[2]	4	1:3 ft ²
1:3 ft ²				
Minimum: 1.5" x 3' x 4'	TruFast S/P	[2]	4	1:3 ft ²
	TruFast TL	[2]	3	1:4 ft ²

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

Minimum: 2.0" x 4' x 4'	CF DekFast S/P	[3]	8	1:2 ft ²
	CF Omega	[3]	8	1:2 ft ²
Minimum: 2.0" x 4' x 4'	ITW Accutrac S/P	[3]	8	1:2 ft ²
	ITW Hextra S/P	[3]	8	1:2 ft ²
	ITW Roofgrip S/P	[3]	8	1:2 ft ²
Minimum: 2.0" x 4' x 4'	Olympic Std. S/P	[3]	6	1:2.67 ft ²
	Olympic HD S/P	[3]	6	1:2.67 ft ²
	Olympic CD-10 S/P	[3]	6	1:2.67 ft ²
	Olympic Fluted Nail	[3]	6	1:2.67 ft ²
Minimum: 2.0" x 4' x 4'	SFS Insulfixx S/P	[3]	8	1:2 ft ²
	SFS Isofast IF/IG/IW	[3]	8	1:2 ft ²
	SFS System ES-1	[3]	8	1:2 ft ²
	SFS HD Insulfixx S/P	[3]	8	1:2 ft ²
1:2 ft ²				
Minimum: 2.0" x 4' x 4'	TruFast S/P	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Polymer Gyptec	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Olympic NTB Mag.	[3]	6	1:2.67 ft ²
	Olympic LiteDeck	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Rawlite	[3]	6	1:2.67 ft ²



Minimum: 15/16" x 4' x 4' TruFast TL [3] 6 1:2.67 ft²

Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**

Minimum: 1.0" x 2' x 4'	CF DekFast S/P [1]	2	1:4 ft ²
	CF Omega [1]	2	1:4 ft ²
Minimum: 1.0" x 2' x 4'	ITW Accutrac S/P [1]	4	1:2 ft ²
	ITW Hextra S/P [1]	4	1:2 ft ²
	ITW Roofgrip S/P [1]	4	1:2 ft ²
	Polymer Gyptec [1]	4	1:2 ft ²
Minimum: 1.0" x 2' x 4'	Olympic Std. S/P [1]	2	1:4 ft ²
	Olympic HD S/P [1]	2	1:4 ft ²
	Olympic CD-10 S/P [1]	2	1:4 ft ²
	Olympic Fluted Nail [1]	2	1:4 ft ²
	Olympic NTB Mag. [1]	4	1:2 ft ²
	Olympic LiteDeck [1]	4	1:2 ft ²
Minimum: 1.0" x 2' x 4'	Rawlite [1]	2	1:4 ft ²
Minimum: 1.0" x 2' x 4'	SFS Insulfixx S/P [1]	4	1:2 ft ²
	SFS Isofast IF/IG/IW [1]	4	1:2 ft ²
	SFS System ES-1 [1]	4	1:2 ft ²
	SFS HD Insulfixx S/P [1]	4	1:2 ft ²
1:2 ft ²			
Minimum: 1.0" x 2' x 4'	TruFast S/P [1]	4	1:2 ft ²
	TruFast TL [1]	2	1:4 ft ²

Approved Type(s): **Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board**

Minimum: 3/4" x 2' x 4'	Polymer Gyptec [1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	Olympic NTB Mag. [1]	4	1:2 ft ²
	Olympic LiteDeck [1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	Rawlite [1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	TruFast TL [1]	4	1:2 ft ²

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

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

Approved Type(s): E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite				
Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A



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Deck Type 7I: Recover

Deck Description: wood/steel/concrete/cementitious wood fiber/gypsum

System Type C: All layers of insulation simultaneously mechanically fastened.

All General and System Limitations shall apply.

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

Approved Type(s): **Kop-R(WII), AC-Foam II, Pyrox, HyTherm AP**

Minimum: 1.0" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2, PSI-25**

Minimum: 1.0" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Standard or Wide Flute Armor-R Glass, Fiberglas Roof Insulation or Fiber Glass Roof Insulation**

Minimum: 15/16" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**

Minimum: 1/2" x 2' x 4'	N/A	N/A	N/A	N/A
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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.

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

Approved Type(s): **E'NRG'Y 2 Plus, Kop-R Composite, Kop-R(WC), ACFoam Composite**

Minimum: 1.5" x 3' x 4'	CF DekFast S/P	[2]	3	1:4 ft ²
	CF Omega	[2]	3	1:4 ft ²

Minimum: 1.5" x 3' x 4'	ITW Accutrak S/P	[2]	4	1:3 ft ²
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Minimum: 1.5" x 3' x 4'	ITW Hextra S/P	[2]	4	1:3 ft ²
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Minimum: 1.5" x 3' x 4'	ITW Roofgrip S/P	[2]	4	1:3 ft ²
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Minimum: 1.5" x 3' x 4'	Polymer Gyptec	[2]	3	1:4 ft ²
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Minimum: 1.5" x 3' x 4'	Olympic Std. S/P	[2]	4	1:3 ft ²
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	Olympic HD S/P	[2]	4	1:3 ft ²
	Olympic CD-10 S/P	[2]	4	1:3 ft ²
	Olympic Fluted Nail	[2]	4	1:3 ft ²
	Olympic NTB Mag.	[2]	3	1:4 ft ²
	Olympic LiteDeck	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	Rawlite	[2]	3	1:4 ft ²
Minimum: 1.5" x 3' x 4'	SFS Insulfixx S/P	[2]	4	1:3 ft ²
	SFS Isofast IF/IG/IW	[2]	4	1:3 ft ²
	SFS System ES-1	[2]	4	1:3 ft ²
	SFS HD Insulfixx S/P	[2]	4	
1:3 ft ²				
Minimum: 1.5" x 3' x 4'	TruFast S/P	[2]	4	1:3 ft ²
	TruFast TL	[2]	3	1:4 ft ²

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

Minimum: 2.0" x 4' x 4'	CF DekFast S/P	[3]	8	1:2 ft ²
	CF Omega	[3]	8	1:2 ft ²
Minimum: 2.0" x 4' x 4'	ITW Accutrac S/P	[3]	8	1:2 ft ²
	ITW Hextra S/P	[3]	8	1:2 ft ²
	ITW Roofgrip S/P	[3]	8	1:2 ft ²
Minimum: 2.0" x 4' x 4'	Olympic Std. S/P	[3]	6	1:2.67 ft ²
	Olympic HD S/P	[3]	6	1:2.67 ft ²
	Olympic CD-10 S/P	[3]	6	1:2.67 ft ²
	Olympic Fluted Nail	[3]	6	1:2.67 ft ²
Minimum: 2.0" x 4' x 4'	SFS Insulfixx S/P	[3]	8	1:2 ft ²
	SFS Isofast IF/IG/IW	[3]	8	1:2 ft ²
	SFS System ES-1	[3]	8	1:2 ft ²
	SFS HD Insulfixx S/P	[3]	8	
1:2 ft ²				
Minimum: 2.0" x 4' x 4'	TruFast S/P	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Polymer Gyptec	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Olympic NTB Mag.	[3]	6	1:2.67 ft ²
	Olympic LiteDeck	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	Rawlite	[3]	6	1:2.67 ft ²
Minimum: 15/16" x 4' x 4'	TruFast TL	[3]	6	1:2.67 ft ²

Approved Type(s): **Kop-R Wood Fiber, Armor Board Regular or High Density Fiberboard, Esgard Fiberboard, Celotex Regular or High Density Fiberboard, Traffic Top, High Density Roof Fiberboard, GAFTEMP Regular or High Density Fiberboard, Hubert Fiberboard**

Minimum: 1.0" x 2' x 4'	CF DekFast S/P	[1]	2	1:4 ft ²
	CF Omega	[1]	2	1:4 ft ²
Minimum: 1.0" x 2' x 4'	ITW Accutrac S/P	[1]	4	1:2 ft ²
	ITW Hextra S/P	[1]	4	1:2 ft ²
	ITW Roofgrip S/P	[1]	4	1:2 ft ²



	Polymer Gyptec	[1]	4	1:2 ft ²
Minimum: 1.0" x 2' x 4'	Olympic Std. S/P	[1]	2	1:4 ft ²
	Olympic HD S/P	[1]	2	1:4 ft ²
	Olympic CD-10 S/P	[1]	2	1:4 ft ²
	Olympic Fluted Nail	[1]	2	1:4 ft ²
	Olympic NTB Mag.	[1]	4	1:2 ft ²
	Olympic LiteDeck	[1]	4	1:2 ft ²
Minimum: 1.0" x 2' x 4'	Rawlite	[1]	2	1:4 ft ²
Minimum: 1.0" x 2' x 4'	SFS Insulfixx S/P	[1]	4	1:2 ft ²
	SFS Isofast IF/IG/IW	[1]	4	1:2 ft ²
	SFS System ES-1	[1]	4	1:2 ft ²
	SFS HD Insulfixx S/P	[1]	4	1:2 ft ²
1:2 ft ²				4
Minimum: 1.0" x 2' x 4'	TruFast S/P	[1]	4	1:2 ft ²
	TruFast TL	[1]	2	1:4 ft ²

Approved Type(s): **Celotherm, ConPerl, GAFTEMP Permalite, Fesco Board**

Minimum: 3/4" x 2' x 4'	Polymer Gyptec	[1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	Olympic NTB Mag.	[1]	4	1:2 ft ²
	Olympic LiteDeck	[1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	Rawlite	[1]	4	1:2 ft ²
Minimum: 3/4" x 2' x 4'	TruFast TL	[1]	4	1:2 ft ²

Anchor Sheet: (Required where first layer of insulation is regular or high density wood fiber) Koppers organic or glass fiber base sheet adhered to the insulation substrate with approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Base Sheet: (Optional) Koppers organic or glass fiber base sheet adhered to the insulation substrate with approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Ply Sheet: Two or more plies of Koppers Tarred Felt, Glass Felt, Tar-Glas, Premium Tar-Glas or Polyester Roofing Felt. Roof cover may be Glass Fiber Felt, Tar-Glas or Premium Tar-Glas Felt adhered in a full mopping of approved coal tar at an application rate of 25 lbs./sq. ± 15%.

Cap Sheet: None.

Surfacing: Flood coat of coal tar with an application rate of 70 lbs./sq.; plus gravel or slag at application rates of 400 and 300 lbs./sq., respectively.

Maximum Design Pressure: -45 psf



Deck Type 7: Recover

Deck Description: wood

System Type E: Base sheet mechanically fastened.

All General and System Limitations shall apply.

Base Sheet: Koppers Glass Fiber or Organic base sheet applied to the deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap, 9" o.c. in two rows staggered along the center line of the of the sheet in the field.

Ply Sheet: Two or more plies of Koppers Tarred Felt, Glass Felt, Tar-Glas, Premium Tar-Glas or Polyester Roofing Felt. Roof cover may be Glass Fiber Felt, Tar-Glas or Premium Tar-Glas Felt adhered in a full mopping of approved coal tar at an application rate of 25 lbs./sq. \pm 15%.

Cap Sheet: None.

Surfacing: Flood coat of coal tar with an application rate of 70 lbs./sq.; plus gravel or slag at application rates of 400 and 300 lbs./sq., respectively.

Maximum Design Pressure: -60 psf



Deck Type 7: Recover

Deck Description: wood/steel/concrete/lightweight concrete/cementitious wood fiber/gypsum

System Type F: Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: (Optional) One ply organic or glass base sheet adhered in a full mopping of approved hot asphalt at an application rate of 25 lbs./sq. \pm 15%.

Ply Sheet: Two or more plies of Koppers Tarred Felt, Glass Felt, Tar-Glas or Premium Tar-Glas ply sheet or two or more plies of Polyester Roofing Felt adhered in a full mopping of approved coal tar at an application rate of 25 lbs./sq. \pm 15%.

Cap Sheet: None.

Surfacing: Flood coat of coal tar with an application rate of 70 lbs./sq.; plus gravel or slag at application rates of 400 and 300 lbs./sq., respectively.

Maximum Design Pressure: -317.5 psf (for applications over concrete deck)
-45 psf (for all other deck types)



RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

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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Expiration Date: 12/30/10
Approval Date: 04/13/06
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