



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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The Garland Company, Inc.
3800 East 91st Street
Cleveland, OH 44105-2197

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section 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 Miami-Dade County Product Control Section (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. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section 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 Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Garland KEE Hybrid 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 revises NOA No. 24-0411.03 and consists of pages 1 through 11.
The submitted documentation was reviewed by Alex Tigera.

09/25/25



NOA No.: 25-0515.02
Expiration Date: 09/05/29
Approval Date: 09/25/25
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: KEE Hybrid Roofing
Material: KEE/Fiberglass
Deck Type: Steel
Maximum Design Pressure: -135 psf.

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>
KEE-Stone HP	8" x 50' or 8" x 100'	ASTM D6754	KEE, polyester reinforced, single ply membrane.
FlexBase Plus 80	36" x 34'8"	ASTM D6162	SBS membrane with fiberglass/polyester reinforcement.
FlexBase 80	39" x 34'8"	ASTM D6163	SBS membrane with fiberglass reinforcement.
StressPly IV Plus	39" x 26'2"	ASTM D6162	SBS-modified bitumen cap ply, or ply, with fiberglass reinforcement.
HPR Torch Base Sheet	39" x 34'8"	ASTM D6163	SBS-modified bitumen anchor/base sheet, or base ply, with fiberglass reinforcement and underside surfaced with torchable film.
HPR Glasfelt	36" x 180'	ASTM D2178	SBS-modified bitumen base sheet with fiberglass reinforcement, surfaced with mineral granules.
VaporSmart SA	39" x 75'	TAS 110	SBS-modified base ply, with fiberglass reinforcement, surfaced with adhesive and removable release film.



APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
ENRGY 3	Polyisocyanurate foam insulation	Johns Manville Corp.
Dexcell FA Glass Mat Roof Board	Coated glass mat faced gypsum cover board	National Gypsum Company a dba of New NGC, Inc.
ACFoam-II	Isocyanurate Insulation	Atlas Roofing Corporation
ISO 95+ GL (flat or tapered)	Polyisocyanurate foam insulation	Holcim Solutions and Products US, LLC.
ISOGARD GL (flat or tapered)	Polyisocyanurate foam insulation	Holcim Solutions and Products US, LLC.
EnergyGuard RA	Polyisocyanurate foam insulation	GAF
ENRGY 3 (flat or tapered)	Isocyanurate Insulation	Johns Manville
ENRGY 3 25 PSI CGF (flat or tapered)	Isocyanurate Insulation	Johns Manville
ENRGY 3 CGF (flat or tapered)	Isocyanurate Insulation	Johns Manville
H-Shield (flat or tapered)	Polyisocyanurate foam insulation	Hunter Panels, a division of Carlisle Construction Materials, LLC.
H-Shield NH (flat or tapered)	Polyisocyanurate foam insulation	Hunter Panels, a division of Carlisle Construction Materials, LLC.
Multi-Max FA-3	Polyisocyanurate foam insulation	RMax A Business Unit of Siko Corporation, LLC
Multi-Max FA-3 HW	Polyisocyanurate foam insulation	RMax A Business Unit of Siko Corporation, LLC
DensDeck	Water resistant gypsum board	Georgia Pacific Gypsum LLC
DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum LLC
SECUROCK Gypsum-Fiber Roof Board	Gypsum Coverboard	United States Gypsum Corporation
SECUROCK Cement Roof Board	A cement based board stock for use as a cover board, parapet, fire barrier or thermal barrier roof board	United States Gypsum Corporation
Structodek High Density Fiberboard Roof Insulation	High-density fiberboard	Blue Ridge FiberBoard, Inc



APPROVED FASTENERS/ADHESIVES:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	TRUFAST #14 EHD Fastener	#14 Fastener	12" max. length	Altenloh, Brinck and Co. US, Inc.
2.	TRUFAST #15 EHD Fastener	#15 Fastener	24" max. length	Altenloh, Brinck and Co. US, Inc.
3.	TRUFAST 3" Metal Insulation Plates	Galvalume steel stress plate	3" round	Altenloh, Brinck and Co. US, Inc.
4.	Insul-Lock HR	Polyurethane two component high rise insulation adhesive.	1.5 liters	The Garland Company, inc.
5.	Green-Lock Plus Membrane Adhesive	Cold process roof coating and adhesive.	5 gallon	The Garland Company, inc.
6.	KEE-Lock Spatter Spray	Solvent-Free polyurethane foamable adhesive	Various	The Garland Company, inc.



EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
FM Approvals	PR465665	FM 4470	10/08/24
NEMO ETC, LLC	4r-GRL-22-SSTHP-01.A.R1	ASTM D6754	10/25/22
	4q-GRL-21-SSMBB-01.K	ASTM D6162	07/18/22
	4p-GRL-21-SSLAP-01.A	Physical Properties	07/23/21
	4i-GRL-23-SSCRT-01.A	FM 4470	05/22/23
	4a-GRL-23-LSWUS-01.A	TAS 114(D)	07/24/23
		TAS 114(J)	
	4r-GRL-SSTHP-002.A	ASTM D4434	06/13/25
		IBC 1504.7	
		FBC 1504.6	
		ASTM D1876	04/04/25
	4i-GRL-SSCRT-001.A	ANSI/FM 4474	05/29/25
	4a-GRL-LSWUS-003.A	TAS 114	

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies</u>	<u>Date</u>
FM Approvals	RoofNav Listings	B(2), B(3), B(4)	Various
Robert Nieminen, P.E.	Signed/Sealed Calculations	B(1)	12/19/23
	Signed/Sealed Calculations	B(5)	06/18/25



APPROVED ASSEMBLIES:

- Membrane Type:** Hybrid, KEE
Deck Type 3I: Steel, Insulated
Deck Description: 22 ga., Type B, Grade 40 steel deck secured to ¼" structural supports spaced 6' o.c. with #12 HWH Tek 5 fasteners spaced 6" o.c. along the center of the supports. Deck side laps are secured 24" o.c. with #10 HWH Tek 1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
System Type B(1): Base layer of insulation mechanically fastened, top layer adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ENRGY 3 Minimum 1.5" thick	2 & 3	1:1.3 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).

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DEXcell FA Glass Mat Roof Board, Securock Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A

Note: Top layer of insulation shall be adhered to the substrate in Insul-Lock HR, ribbon-applied 12-inc o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Ply:** FlexBase Plus 80 adhered directly over the coverboard with Green-Lock Plus Membrane Adhesive applied at 2 to 2.25 gal./square.
Cap Ply: KEE-Stone HP, adhered with spatter-applied KEE-Lock Spatter Spray.
Maximum Design Pressure: -60 psf. (See General Limitation #7)



Membrane Type: Hybrid, KEE
Deck Type 3I: Steel, Insulated
Deck Description: 22 ga., Type B, Grade 33 steel deck secured to the purlins 72 in. o.c. with two #12 HWH Tekes 5, 6 in. o.c., using a 0.065 in. thick 0.75 in. diameter washer with each fastener. Side laps are fastened with #10 HWH Tekes 1, 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

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

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam-II Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" thick	1 & 3	1:1 ft ²

Base Ply: FlexBase 80 fully adhered directly over the coverboard with hot asphalt at a rate of 20-25 lbs/square.

Cap Ply: KEE-Stone HP fully adhered with KEE-Lock Spatter Spray applied in a spatter pattern at a rate of 0.25 to 0.3 gal/square, 4 in. wide lap with a 2 inch wide inside hot air weld.

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



Membrane Type: Hybrid, KEE
Deck Type 3I: Steel, Insulated
Deck Description: 22 ga., Type B, Grade 33 steel deck secured to the purlins 72 in. o.c. with two #12 HWH Tekes 5, 6 in. o.c., using a 0.065 in. thick 0.75 in. diameter washer with each fastener. Side laps are fastened with #10 HWH Tekes 1, 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(3): Base layer of insulation mechanically fastened, top layer adhered.

All General and System Limitations apply.

Vapor Barrier: HPR Torch Base Sheet, or UltraShield Torch Base, torch-applied.
 Or
 2 plies of HPR Glasfelt, hot-asphalt applied.
 Or
 VaporSmart SA, self-adhered.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam-II, ISO 95+ GL (flat or tapered), ISOGARD GL (flat or tapered), EnergyGuard RA, ENRGY 3 (flat or tapered), ENRGY 3 25 PSI CGF (flat or tapered), ENRGY 3 CGF (flat or tapered), GenFlex ISO Insulation, H-Shield (flat or tapered), H-Shield NH (flat or tapered), Multi-Max FA-3, Multi-Max FA-3 HW		
Minimum 1.5" thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Cement Roof Board, Structodek High Density Fiberboard Roof Insulation		
Minimum 0.5" thick	1 & 3	1:1 ft ²

Base Ply: FlexBase 80 adhered directly over the coverboard with hot asphalt at a rate of 20-25 lbs/square, Garlastic KM Plus at a rate of 20-25 lbs/square, HPR All-Temp Asphalt at a rate of 20-25 lbs/square, Green-Lock Plus Membrane Adhesive at a rate of 2.0-2.5 gal/square.
 Or
 HPR Torch Base Sheet adhered directly over the coverboard, torch applied.

Cap Ply: KEE-Stone HP fully adhered with hot asphalt at a rate of 20-25 lbs/square, 4 in. wide lap with a 2 in. wide hot air weld.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7)



Membrane Type: Hybrid, KEE
Deck Type 3I: Steel, Insulated
Deck Description: 22 ga., Type B, Grade 80 steel deck secured to the purlins 72 in. o.c. with two #12 HWH Tekes 5, 6 in. o.c., using a 0.065 in. thick 0.75 in. diameter washer with each fastener. Side laps are fastened with #10 HWH Tekes 1, 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type B(4): Base layer of insulation mechanically fastened, top layer adhered.

All General and System Limitations apply.

Vapor Barrier: HPR Torch Base Sheet, or UltraShield Torch Base, torch-applied.
 Or
 2 plies of HPR Glasfelt, hot-asphalt applied.
 Or
 VaporSmart SA, self-adhered.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam-II, ISO 95+ GL (flat or tapered), ISOGARD GL (flat or tapered), EnergyGuard RA, ENRGY 3 (flat or tapered), ENRGY 3 25 PSI CGF (flat or tapered), ENRGY 3 CGF (flat or tapered), GenFlex ISO Insulation, H-Shield (flat or tapered), H-Shield NH (flat or tapered), Multi-Max FA-3, Multi-Max FA-3 HW Minimum 1.5" thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Cement Roof Board, Structodek High Density Fiberboard Roof Insulation Minimum 0.5" thick	1 & 3	1:1 ft ²

Base Ply: FlexBase 80 adhered directly over Structodek High Density Fiber Roof Board with hot asphalt, Garlastic KM Plus or HPR All-Temp Asphalt at 20-25 lbs./square
 Or
 FlexBase 80 adhered directly over the top insulation layer with Green-Lock Plus Membrane Adhesive at a rate of 2.0-2.5 gal./sq.
 Or
 HPR Torch Base Sheet torch-applied directly over DensDeck, DensDeck Prime, Securock Gypsum-Fiber Roof Board or Securock Cement Roof Board.

Cap Ply: KEE-Stone HP fully adhered with hot asphalt at a rate of 20-25 lbs/square, 4 in. wide lap with a 2 in. wide hot air weld.

Maximum Design Pressure: -135 psf. (See General Limitation #7)



Membrane Type: Hybrid, KEE
Deck Type 3I: Steel, Insulated
Deck Description: 22 ga., Type B, Grade 40 steel deck spaced 6' o.c. with #12 HWH Tekes 5 fasteners spaced 6" o.c. along the center of the supports. Deck side laps are secured 24" o.c. with #10 HWH Tekes 1 fasteners.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
System Type B(5): Base layer of insulation mechanically fastened, top layer adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ENRGY 3 Minimum 1.5" thick	2 & 3	1:1.3 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).

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DEXcell FA Glass Mat Roof Board, Securock Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A

Note: Top layer of insulation shall be adhered to the substrate in Insul-Lock HR, ribbon-applied 6-inc o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Ply: FlexBase Plus 80 adhered directly over the coverboard with Green-Lock Plus Membrane Adhesive
Cap Ply: KEE-Stone HP adhered with KEE-Lock Spatter Spray at 75-80% coverage.
Maximum Design Pressure: -82.5 psf. (See General Limitation #7)



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 equivalent or enhanced 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 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



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