



**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)

**Carlisle Syntec, Inc.
1285 Ritner Highway
Carlisle, PA 17013**

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 Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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: Carlisle Sure-Weld Single Ply TPO Roof Systems over Wood 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 and revises NOA # 00-0725.06 and consists of pages 1 through 8.
The submitted documentation was reviewed by Frank Zuloaga, RRC



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Expiration Date: 08/31/08
Approval Date: 10/08/03
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ROOFING SYSTEM APPROVAL

| | |
|--------------------------------|---------------------------|
| <u>Category:</u> | Roofing |
| <u>Sub-Category:</u> | Single Ply |
| <u>Material:</u> | TPO |
| <u>Deck Type:</u> | Wood |
| <u>Maximum Design Pressure</u> | -45 psf |
| <u>Fire Classification:</u> | See General Limitation #1 |

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product Name</u> | <u>Dimensions</u> | <u>Test Specifications</u> | <u>Product Description</u> |
|---|-------------------|----------------------------|---|
| Sure-Weld, Sure-Weld EXTRA | various | TAS 131 | Reinforced white or colored TPO membrane. |
| Sure-Weld GSD, Sure-Weld HS | various | TAS 131 | Reinforced white or colored FR TPO membrane. |
| Carlisle Foamular Durapink Insulation | various | TAS 110 | Extruded Polystyrene for white or black mechanically fastened roof systems. |
| Carlisle Foamular ½" Board | various | TAS 110 | Extruded Polystyrene recovery board. |
| Carlisle Foamular 150, 250, 400, 404, 600 | various | TAS 110 | Extruded Polystyrene insulation |
| CCW 702 Primer | various | TAS 110 | Solvent-Based Primer |
| CCW 702LT Primer | various | TAS 110 | Low-Temperature Solvent-Based Primer |
| CCW 714 Primer | various | TAS 110 | Water-Based Primer |
| CCW 725 Vapor Barrier | various | TAS 110 | 40 mil Vapor Barrier |
| Fast 100 Adhesive | various | TAS 110 | Spray Polyurethane Adhesive |
| Fast 100-P Adhesive | various | TAS 110 | Spray Polyurethane Adhesive |
| Fast 102 Adhesive | various | TAS 110 | Spray Polyurethane Adhesive |
| Sure-Weld Bonding Adhesive | various | TAS 110 | Solvent-based bonding adhesive. |
| Sure-Seal Insulation Plates | 2 7/8" dia. | TAS 114 | Metal plates used for insulation securement. |

APPROVED INSULATIONS:

TABLE 2

| <u>Product Name</u> | <u>Product Description</u> | <u>Manufacturer (With Current NOA)</u> |
|---------------------|--|--|
| Pyrox, White Line | Isocyanurate Insulation | Apache Products Co. |
| ACFoam Composite | Isocyanurate Insulation with perlite facer | Atlas Roofing Corp. |
| ACFoam II | Isocyanurate Insulation | Atlas Roofing Corp. |



APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---------------------------------------|---|--|
| Polyisocyanurate HP, HP-N, HP-H, HP-W | Polyisocyanurate roof insulation. | Carlisle Syntec, Inc. |
| Sure-Seal HP Recovery Board | High Density Wood Fiberboard. | Carlisle Syntec, Inc. |
| Sure-Seal EPS/Fiberboard | High Density Wood Fiberboard bonded to EPS. | Carlisle Syntec, Inc. |
| Sure Seal EPS Insulation | Expanded Polystyrene. | Carlisle Syntec, Inc. |
| Styrofoam | Extruded polystyrene insulation | Dow |
| ISO 95+ GL, 95+ GW | Polyisocyanurate foam insulation | Firestone |
| Dens Deck | Silicon treated gypsum | G-P Products |
| Sturdi-Top | Wood fiber insulation board. | G-P Products |
| Ultra/M-II | Isocyanurate Insulation | Homasote Co. |
| ENRGY 2, ENERGY 3, PSI-25 | Isocyanurate Insulation | Johns Manville |
| Fesco Foam | Isocyanurate Insulation with perlite facer | Johns Manville |
| Retro-Fit | A high-density perlite roof insulation. | Johns Manville |
| Wood Fiberboard | Regular wood fiber insulation | Generic |
| High Density Wood Fiberboard | High Density Wood Fiber insulation board. | Generic |
| Perlite Insulation Board | Perlite Insulation | Generic |
| Type X Gypsum | Gypsum Wallboard | Generic |
| XPS | Extruded polystyrene | Generic |
| Multi-Max, FA | Polyisocyanurate foam insulation | Rmax, Inc. |
| Fiber Base | Asphalt coated wood fiber insulation | Temple Inland Forest Products Corp. |
| Structodeck | High Density Wood Fiber insulation board. | Wood Fiber Industries |

APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|---------------------------------------|---|-------------------|--|
| 1. | Sure-Seal HP, HP-X, HP-Xtra Fasteners | Insulation and membrane fastener | Various | Carlisle Syntec, Inc. |
| 2. | Sure-Seal Seam Fastening Plates | Metal plates used for membrane securement with Sure-Seal fasteners. | 2" dia | Carlisle Syntec, Inc. |



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APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|--------------------------------------|--|-------------------|--|
| 3. | Sure-Seal Polymer Seam Plates | Plastic plates used for membrane securement with Sure-Seal fasteners. | 2" dia | Carlisle Syntec, Inc. |
| 4. | Piranha, Piranha Xtra Plates | Metal plates used for membrane securement with Sure-Seal fasteners. | 2-3/8" dia | Carlisle Syntec, Inc. |
| 5. | Dekfast Fasteners #12, #14, #15 | Insulation and membrane fastener | Various | Construction Fasteners, Inc. |
| 6. | Dekfast Hex Plate | Insulation and membrane fastener | Various | Construction Fasteners, Inc. |
| 7. | #12 & #14 Roofgrip | Insulation and membrane fastener | Various | ITW Buildex |
| 8. | Metal Plate | Galvalume AZ50 stress plate | 3" square | ITW Buildex |
| 9. | Plastic Plate | Polyethylene stress plate | 3.2" round | ITW Buildex |
| 10. | Olympic Fasteners #12, #14 | Insulation and membrane fastener | Various | Olympic Mfg. Group |
| 11. | Olympic Stainless Fasteners #12, #14 | Stainless steel insulation and membrane fastener | Various | Olympic Mfg. Group |
| 12. | Olympic Standard | Galvalume AZ55 stress plate | 3" round | Olympic Mfg. Group |
| 13. | Olympic Plastic | Plastic plates for fasteners. | 3" round | Olympic Mfg. Group |
| 14. | Rawl Fasteners #12, #14 | Insulation fastener for steel and wood decks | Various | Powers Fasteners Inc. |
| 15. | Rawl Insulation Plate | 3" round Galvalume AZ55 stress plate | 3" round | Powers Fasteners Inc. |
| 16. | Insul-Fixx Fastener | Insulation fastener for steel and wood decks | Various | SFS Stadler, Inc. |
| 17. | Isofast Fasteners | Insulation fastener for steel and wood decks | Various | SFS Stadler, Inc. |
| 18. | Insul-Fixx S | 3" round Galvalume AZ55 stress plate | 3" round | SFS Stadler, Inc. |
| 19. | Insul-Fixx P | 3" round polyethylene stress plate | 3" round | SFS Stadler, Inc. |
| 20. | Isofast Plate | Square or oblong Galvalume steel plates for use with Isofast fasteners | | SFS Stadler, Inc. |
| 21. | Tru-Fast Fasteners | Insulation and membrane fastener | Various | The Tru-Fast Corp. |
| 22. | Tru-Fast Ultra Stainless Fasteners | Stainless steel insulation and membrane fastener | Various | The Tru-Fast Corp. |



APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|------------------------|--|-------------------|--|
| 23. | Tru-Fast MP-3 | 3.23" round Galvalume AZ50 steel plate | 3.23" round | The Tru-Fast Corp. |
| 24. | Tru-Fast Plastic Plate | Polyethylene stress plate | 3" round | The Tru-Fast Corp. |
| 25. | Insta-Lock Screw | Insulation and membrane fastener | Various | Versico, Inc. |
| 26. | Insta-Lock Plate | Galvalume AZ55 stress plate | 3" round | Versico, Inc. |

EVIDENCE SUBMITTED:

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|---------------------------------------|-------------------------------|-------------------------------------|--------------------|
| Architectural Testing Inc. | ATI-37490.01 | ASTM D 2137 | 7/7/00 |
| Factory Mutual Research Corp. | 3Z9A1.AM | FMRC Standard 4470 | 10/15/97 |
| Factory Mutual Research Corp. | Approval Guide Excerpt | Wind Uplift Classification Listings | 5/00 |
| Factory Mutual Research Corp. | Letter | Wind Uplift Classification | 5/2/00 |
| Factory Mutual Research Corp. | 3006110 | Class 4470 | 6/13/01 |
| Factory Mutual Research Corp. | 3011220 | ASTM E 108 | 8/16/01 |
| Celotex Corporation Testing Services | 520257 | PA 131-95 | 4/19/00 |
| SGS U.S. Testing Company Incorporated | 131248-R2 | ASTM D 1149 | 1/6/00 |



APPROVED ASSEMBLIES

- Membrane Type:** Single Ply, Thermoplastic, TPO, Reinforced
- Deck Type II:** Wood, Insulated
- Deck Description:** ¹⁹/₃₂" or greater plywood or wood plank
- System Type C:** All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|---|-----------------------------------|-------------------------------------|
| One of the following covered with the boards listed in Top Layer or Base or Top Layer. | | |
| Extruded Polystyrene, Energy-Lok, ACFoam-II | | |
| Minimum 1" thick | N/A | N/A |
| Perlite | | |
| Minimum 3/4" 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. Single and multiple layers of insulation can be attached to base layer with Carlisle Syntec FAST Adhesive.

| Base or Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|--|-----------------------------------|-------------------------------------|
| ENRGY-2, ENRGY-3, PSI-25, AC Foam II, Polyisocyanurate HP, HP-W, HP-H, HP-N | | |
| Minimum 1.5" thick | 1, 10, 11, 14 or 17 | 1:2 ft ² |
| Minimum 2" thick | 1, 16, 21, 22 or 25 | 1:4 ft ² |
| HP Recovery | | |
| Minimum 1" thick | 1, 5, 7, 10, 11, 14, 16, 21 or 22 | 1:2 ft ² |
| Multi-Max FA, WHITELINE, PYROX, AP, Ultra/M-II Iso/glas | | |
| Minimum 1.2" thick | 1, 5, 7, 16, 10, 11, 14, 21 or 22 | 1:2 ft ² |
| ACFoam Composite, Rhoflex Composite, Fesco Foam | | |
| Minimum 1.5" thick | 1, 5, 7, 16, 10, 11, 14, 21 or 22 | 1:3 ft ² |
| High Density Fiberboard | | |
| Minimum 3/4" thick | 5, 7, 10, 11, 14, 21 or 22 | 1:2.67 ft ² |
| ISO 95+GL, HF, Rhoflex GL, HF | | |
| Minimum 1.2" thick | 5, 7 or 16 | 1:2 ft ² |
| Minimum 1.4" thick | 7, 10, 11, 14, 17, 21 or 22 | 1:3 ft ² |
| Structodeck | | |
| Minimum 1/2" thick | 10, 11 or 14 | 1:2 ft ² |
| Wood Fiber | | |
| Minimum 1" thick | 1, 5, 7, 10, 11, 14, 16, 21 or 22 | 1:2 ft ² |



Fiber Base, Retro-Fit
Minimum 1/2" thick

1

1:2 ft²

Top Insulation Layer

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

Required over the insulations listed in Base Layer or optional over any of the insulations listed as Base or Top Layer:

HP Recovery (for use over all insulation. types) **Fiber Base** (for use over polyisocyanurate, gypsum or perlite)

Minimum 1/2" thick

1

1:2 ft²

Note: 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.

Vapor Retarder: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: 1/4", 3/8", 1/2", or 5/8" gypsum.

Membrane: Sure-Weld, Sure-Weld HS or Sure-Weld GSD, Reinforced, 45 or 60 mil membrane or Sure-Weld EXTRA, 72 or 80 mil membrane fully adhered to the insulation using Sure-Weld Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft.².

Maximum Design

Pressure: -45 psf (See General Limitation #7)



WOOD DECK SYSTEM LIMITATIONS:

- 1 A slip sheet is required with Ply 4 and Ply 6 when used as a mechanically fastened base or anchor sheet.

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 Engineer, 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. **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



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