MIAMI-DADE

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
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PRODUCT CONTROL DIVISION
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PRODUCT CONTROL NOTICE OF ACCEPTANCE

Seaman Corporation
1000 Venture Boulevard
Wooster ,OH 44691

Your application for Notice of Acceptance (NOA) of:
Fibertite Single Ply Roofing System for Lightweight Insulating Concrete Decks
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 00-1208.03
EXPIRES: 01/04/2006

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 01/04/2001

ROOFING SYSTEM APPROVAL

Category:	Roofing	Approval Date: **January 4, 2001**
Sub-Category:	Single Ply	
		Expiration Date: **January 4, 2006**
Material:	Thermoplastic	
Deck Type:	Lightweight Concrete	
Maximum Design Pressure	-302.5 psf	
Fire Classification:	See General Limitation #1	

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Product	Dimensions	Test Specification	Product Description
FiberTite (33 mil) FiberTite XT (45 mil)	56" x 100' 53" x 100' 29" x 100' 28" x 100' 6" x100' 20' x 64.5' Assorted Pre-Fabricated widths and lengths	PA 114	thermoplastic, single ply membrane
FiberTite FB (40 mil Fleece Back)	54" x 100'	PA 114	thermoplastic, fleece-backed, single ply membrane
FTR Non-Reinforced	0.060" x 54" x 24'	PA 114	thermoplastic flashing accessory
FTR Cones	1" to 8"	PA 114	premolded "thermoplastic" pipe flashing
FTR Corners	2' x 2'	PA 114	premolded "thermoplastic" corner flashing (4 per unit)
FTR 101		proprietary	one part urethane sealant
FTR 201		proprietary	elastomeric (mastic) sealant
FTR 190		proprietary	two side "contact" bonding adhesive
FTR 290		proprietary	one side "substrate only" fleece back solvent based adhesive
FTR 390		proprietary	one side "substrate only" fleece back water based adhesive
FTR SL1		proprietary	one part "pourable" urethane sealant
FiberClad	48" x 120"	n/a	polymeric coated G-90 galvanized steel or stainless steel
Tuff Trac	5/32" x 36" x 40' ¼" x 24" x 48"	n/a	vinyl walk way vinyl protection pads

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Product	Dimensions	Test Specification	Product Description
FTR Term. Bar	¼" x 1" x 10'	PA 114	aluminum "membrane" termination and/or retainer bar
FTR Term. Bar Fasteners	#14 x 1" SS-A ¼" x 1¼"	PA 114	stainless steel screws zinc expanions anchors
FTR Barbed Plate	2" diameter	PA 114	barbed round metal stress plate for membrane attachment
FTR XL Plate	2-3/8" diameter	PA 114	barbed round extra load metal stress plate for membrane attachment
FTR Plastic Insulation Plate	3" diameter	PA 114	locking plastic insulation stress plate
FTR Metal Insulation Plate	3" diameter	PA 114	round metal insulation stress plate
FTR #14 Fastener	various	PA 114	#14 membrane/insulation screws
FTR ESL Fastener	various	PA 114	pre- assembled seam plates and screws
FTR ESI Fastener	various	PA 114	pre- assembled insulation plates and screws
FTR XL Fastener	various	PA 114	extra load membrane / insulation screws
FTR Spike	various	PA 114	hammer in "non-threaded" membrane / insulation fastener for concrete decks

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

Product	Dimensions	Test Specification	Product Description	Manufacturer
Millox	various	PA 110	polyisocyanurate foam / wood fiber composite insulation	Apache Products Co. (with current NOA)
White Line	various	PA 110	polyisocyanurate foam insulation	Apache Products Co. (with current NOA)
ACFoam Composite	various	PA 110	polyisocyanurate foam / perlite composite insulation	Atlas Energy Products (with current NOA)
ACFoam II	various	PA 110	polyisocyanurate foam insulation	Atlas Energy Products (with current NOA)
HyTec	various	PA 110	polyisocyanurate foam insulation	Celotex Corp. (with current NOA)
HyTherm Composite	various	PA 110	polyisocyanurate foam / wood fiber composite insulation	Celotex Corp. (with current NOA)

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Product	Dimensions	Test Specification	Product Description	Manufacturer
E'NERG'Y-2	various	PA 110	polyisocyanurate foam insulation	Johns Manville (with current NOA)
E'NRG'Y-2 Composite	various	PA 110	polyisocyanurate foam / perlite composite insulation	Johns Manville (with current NOA)
Toprock	4' x 4'	PA 110	basalt wool insulation with glass fiber scrim facer.	Roxul (Rockwool Intl) (with current NOA)
Multi-Max Multi-Max FA	various	PA 110	polyisocyanurate foam insulation	R-Max, Inc. (with current NOA)
Thermaroof Composite	various	PA 110	polyisocyanurate foam / perlite composite insulation	R-Max, Inc. (with current NOA)
GAFTEMP Composite	various	PA 110	polyisocyanurate foam / perlite composite insulation	GAF (with current NOA)
FescoFoam, Fescore	various	PA 110	polyisocyanurate foam / perlite composite insulation	Johns Manville (with current NOA)
Celotherm	various	PA 110	perlite insulation	Celotex Corp. (with current NOA)
ConPerl	various	PA 110	perlite insulation	Conglas (with current NOA)
GAFTEMP Permalite	various	PA 110	perlite insulation	GAF Materials Corp. (with current NOA)
Fesco Board	various	PA 110	perlite insulation	Johns Manville (with current NOA)
Esgard	various	PA 110	wood fiberboard insulation	BPCO, Inc. (with current NOA)
Celotex Fiberboard	various	PA 110	wood fiberboard insulation	Celotex Corp. (with current NOA)
GAFTEMP Fiberboard	various	PA 110	wood fiberboard insulation	GAF Materials Corp. (with current NOA)
Huebert Fiberboard	various	PA 110	wood fiberboard insulation	Huebert, Inc. (with current NOA)
KopR Wood Fiber	various	PA 110	wood fiberboard insulation	Koppers Industries (with current NOA)
Olympic Fastener #14	various	PA 114	Insulation fastener	Olympic (with current NOA)

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Product	Dimensions	Test Specification	Product Description	Manufacturer
Olympic Standard	3" round	PA 114	Steel stress plate	Olympic (with current NOA)
HD Insul-Fixx Fastener	various	PA 114	Insulation fastener for use in steel and concrete decks	SFS Stadler (with current NOA)
Insul-Fixx S	3" round	PA 114	3" round galvalume AZ55 insulation stress plate	SFS Stadler (with current NOA)
Insul-Fixx P	3" round	PA 114	3" round polyethylene insulation stress plate	SFS Stadler (with current NOA)
TPR	various	PA 114	Aluminum fastener for lightweight, gypsum and cementitious woodfiber decks	SFS Stadler (with current NOA)
Type X Gypsum	various		Fire resistant rated gypsum	generic
Dens-Deck	4' x 8'	PA 110	Gypsum board	Georgia-Pacific (with current NOA)
Insta-Stik Adhesive		PA 110	Insulation adhesive	Insta-Foam Products (with current NOA)
Rocroof		PA 110	Rockwool fire barrier	Roctex Oy Ab (with current NOA)

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	Wind Resistance (Mechanically Attached)	J.I.# 0R8A9.AM (FMRC 4470 - PA 114)	03/12/94
Factory Mutual Research Corporation	Wind and Fire Resistance (Fully Adhered)	J.I.# 0Y7A2.AM (FMRC 4470 - PA 114)	11/28/94
Factory Mutual Research Corporation	Wind Resistance (Mechanically Attached)	J.I.#2Y0A4.AM (FMRC 4470 - PA 114)	11/01/94
Factory Mutual Research Corporation	Wind Resistance (Mechanically Attached)	J.I. #0X5A7.AM (FMRC 4470 - PA 114)	03/03/93
Factory Mutual Research Corporation	Wind Resistance (Mechanically Attached)	J.I. #1X5A8.AM (FMRC 4470 - PA 114)	0703/93
Factory Mutual Research Corporation	Wind Resistance (Mechanically Attached)	J.I. #2Z8A4.AM (FMRC 4470 - PA 114)	12/29/95

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Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	Fire Resistance (Mechanically Attached)	J.I. #2X2A2.AM (FMRC 4470 - PA 114)	06/17/94
Factory Mutual Research Corporation	Wind Resistance (Fully Adhered)	J.I. #1Y7A5.AM (FMRC 4470 - PA 114)	12/29/95
Factory Mutual Research Corporation	Pull-Through Testing	J.I. #1Z2A5.AM (FMRC 4470 - PA 114)	01/12/96
Factory Mutual Research Corporation	Insulation Attachment Requiremetns	FM Approval Guide	Published Annually
Factory Mutual Research Corporation	Wind/Fire Resistance (Fleece Backed)	J.I. 1Z3A8.AM (FMRC 4470 - PA 114)	08/13.97
Underwriters Laboratories	Fire Classifications	Listing R-10117	Published Annually
Underwriters Laboratories	Fire Resistance Testing	95NK20862	11/17/95
Underwriters Laboratories	Fire Resistance Testing	94NK40647	10/15/94
Warnock Hersey	Fire Resistance Tests	495-R-0735	Published Annually
Trinity Engineering, Inc.	Dynamic Pull-Through Testing, PA 117(B)	#4730.12.95-1	12/03/95
Exterior Research & Design, LLC.	Uplift Resistance PA 114(C) & PA 114(D)	#4015.10.96-1	10/02/96
Exterior Research & Design, LLC.	Uplift Resistance PA 114(J)	#4006.07.97-1	10/02/96

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TYPICAL PROPERTIES

WITHDRAWAL RESISTANCE PERFORMANCE - STATIC LOAD - PA 117A

Fastener	Deck Type	Static Withdrawal Resistance
FTR #14 Fastener	min. 15/32" plywood	138 lbf
FTR #14 Fastener	min. 22 ga. steel	152 lbf
FTR XL Fastener	min. 22 ga. steel	235 lbf
FTR XL Fastener	min. 3000 psi concrete	437 lbf
FTR Spike	min. 3000 psi concrete	533 lbf

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

WITHDRAWAL RESISTANCE PERFORMANCE - PULSATING LOAD - PA 117A

Fastener	Deck Type	Pulsating Withdrawal Resistance
FTR #14 Fastener	min. 15/32" plywood	133 lbf
FTR #14 Fastener	min. 22 ga. steel	137 lbf
FTR XL Fastener	min. 22 ga. steel	179 lbf
FTR XL Fastener	min. 3000 psi concrete	313 lbf
FTR Spike	min. 3000 psi concrete	410 lbf

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

DYNAMIC PULL-THROUGH PERFORMANCE - FIBERTITE SEAM ATTACHMENT - PA 117B

Stress Plate	Dynamic Pull-Through Value
FTR Barbed Plate	189.5 lbf
FiberTite XL	202.0 lbf
Olympic ASAP	187.5 lbf

1 Dynamic Pull-Through Values determined in compliance with Dade County Protocol PA 117(B) using FiberTite 33 mil membrane.
2 A 2 to 1 margin of safety has been applied actual test results providing the above noted design values.

DYNAMIC PULL-THROUGH PERFORMANCE - FIBERTITE MEMBRANE ATTACHMENT PA 117B

Stress Plate	Dynamic Pull-Through Value
FTR Barbed Plate	350.0 lbf
SFS Stadler 70 mm Round	317.5 lbf

1 Dynamic Pull-Through Values determined in compliance with Dade County Protocol PA 117(B) using FiberTite 33 mil membrane.
2 A 2 to 1 margin of safety has been applied actual test results providing the above noted design values.

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APPROVED ASSEMBLIES:

Deck Type 4: Lightweight Concrete, Non-insulated, New Construction or Reroof over min. 22 ga. steel deck

Deck Description: Cellular Lightweight Concrete over min. 22 ga. steel

System Type F: Membrane fully adhered to deck.

All General and System Limitations apply.

Steel Deck: Minimum 22 ga., type B, steel decking placed over minimum 0.25" thick structural supports having maximum 5 ft spans. Deck shall be anchored with min. 5/8" puddle welds or Traxx/4 or Traxx/5 fasteenrs spaced at maximum 6" o.c. at supports. Deck side laps shall be secured with ITW Buildex Traxx/1 fasteners spaced at a maximum 18" o.c.

Lightweight Concrete: Minimum 300 psi, Approved cellular lightweight concrete deck applied with a minimum 1/8" slurry coat followed by an optional minimum 1" thick Apache Corrugated EPS Board and a minimum 2" thick top coat.

Treatment: Polyvinyl Alcohol (PVA) applied to the deck top surface when walkable.

Membrane: FiberTite FB roof cover adhered to the insulation with approved asphalt at 20-25 lbs./sq., FTR-290 solvent adhesive at 1 gal. per 100 ft^2 or FTR-390 asphalt based adhesive at 1 gal. per 60 ft^2 .

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

Maximum Fire Classification: See General Limitation #1

Maximum Slope: See General Limitation #1

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LIGHTWEIGHT INSULATING CONCRETE SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

2 The following assembly is approved to a maximum design pressure of **-302.5 psf***. No substitutions shall be made.

a. Deck: Minimum 300 psi Approved cellular lightweight concrete poured over structural concrete deck to a minimum thickness of 2".

b. Treatment: Top surface of lightweight concrete shall be sealed with sodium silicate or PVA.

c. Membrane: FiberTite Fleece-Backed roof cover adhered to the sealed surface of the lightweight concrete in FTR-290 Adhesive at 1 gal./sq.

***Note:** The maximum design pressure limitation listed shall be applicable to all roof pressure zones (i.e., field, perimeters, corners). No rational analysis or extrapolation shall be permitted for enhanced fastening at elevated pressure zones (i.e., perimeters, extended corners, and corners).

3 The following assembly is approved to a maximum design pressure of **-272.5 psf***. No substitutions shall be made.

a. Deck: Minimum 300 psi Approved cellular lightweight concrete poured over structural concrete deck to a minimum thickness of 2".

b. Treatment: Top surface of lightweight concrete shall be sealed with sodium silicate or PVA.

c. Membrane: FiberTite Fleece-Backed roof cover adhered to the sealed surface of the lightweight concrete in FTR-390 Adhesive at 1 gal./sq.

***Note:** The maximum design pressure limitation listed shall be applicable to all roof pressure zones (i.e., field, perimeters, corners). No rational analysis or extrapolation shall be permitted for enhanced fastening at elevated pressure zones (i.e., perimeters, extended corners, and corners).

4 The following assembly is approved to a maximum design pressure of **-75 psf***. No substitutions shall be made.

a. Deck: Minimum 22 ga., type B, steel decking placed over minimum 0.25" thick structural supports having maximum 5 ft spans. Deck shall be anchored with min. 5/8" puddle welds or Traxx/4 or Traxx/5 fasteenrs spaced at maximum 6" o.c. at supports. Deck side laps shall be secured with ITW Buildex Traxx/1 fasteners spaced at a maximum 18" o.c.

b. Insulations: Minimum 200 psi Approved cellular lightweight concrete deck system.

c. Membrane: FiberTite or FiberTite XT roof cover attached through lightweight concrete to the steel deck using FTR XL fasteners and FTR XL plates 12" o.c. through the 3.5" head laps or fastening tabs spaced 51" o.c.

***Note:** The maximum design pressure limitation listed shall be applicable to the field area of the roof. Rational analysis or extrapolation in compliance with Roofing Application Standard RAS 137 is permitted for enhanced fastening ~~of the membrane at elevated~~ pressure zones (i.e., perimeters, extended corners, and ~~corners).~~

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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.)**

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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.

2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.

3 Renewals of Acceptance will not be considered if:
- a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
- b) The product is no longer the same product (identical) as the one originally approved;
- c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
- d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.

4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.

5 Any of the following shall also be grounds for removal of this Acceptance:
- a) Unsatisfactory performance of this product or process;
- b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.

6 The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.

7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.

8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.

9 This Acceptance contains pages 1 through 11.

END OF THIS ACCEPTANCE

Frank Zuloag, RRC
Roofing Product Control Examiner