



**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)

**Siplast, Inc.
1111 Highway 67 South
Arkadelphia, AR 71923**

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 Florida Building Code, including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Siplast Liquid Applied Roofing Systems over Lightweight Concrete 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 consists of pages 1 through 16.

The submitted documentation was reviewed by Jorge L. Acebo



**NOA No.: 09-0630.05
Expiration Date: 12/30/10
Approval Date: 12/30/09
Page 1 of 16**

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Liquid Applied Roof Systems
Deck Type: Lightweight Concrete
Material: PMMA
Maximum Design Pressure -97.5 psf

TABLE 1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Parapro Liquid Applied Membrane	20-kg Drums	Proprietary	A liquid applied reinforced PMMA membrane system.
Parapro Roof Membrane Resin	20-kg Drums	Proprietary	Multi-component PMMA resin.
Pro Fleece	12"x 16.5' roll 12"x 82' roll 25"x 164' roll 41"x 164' roll	Proprietary	Non-woven, needle punched, polyester fabric reinforcement.
Pro Primer R Resin	5-kg & 10-kg Drums	Proprietary	PMMA primer component for use over BUR, modified bitumen or other soft substrates.
Pro Primer W Resin	5-kg & 10-kg Drums	Proprietary	PMMA primer component for use over wood, concrete or other hard substrates.
Pro Primer T Resin	5-kg & 10-kg Drums	Proprietary	PMMA primer component for use over wood, concrete or other hard substrates.
Pro Catalyst Powder	Box of 10 3.2oz bags	Proprietary	Reactive agent for use during priming and membrane application.
Pro Clear Finish Resin	5-kg & 10-kg Drums	Proprietary	Clear, multi-component, flexible PMMA resin.
Pro Color Finish Resin	5-kg & 10-kg Drums	Proprietary	Color pigmented, multi component, flexible PMMA.
Parabase	3' x 10'	ASTM D4601	Asphalt coated fiberglass base sheet for mechanically fastend applications.
Parabase Plus	3-28' x 102.3'; 28 lbs/sq.	ASTM D4601	Elastomeric asphalt coated base sheet.
Parabase FS	3' x 108'	ASTM D4601	Asphalt coated, fiberglass base sheet with a polyolefin film backing.
Paradiene 20	3.28' x 50'	ASTM D6163	Asphalt elastomer sheet with random fiberglass mat reinforcement for use as a base ply.



NOA No.: 09-0630.05
 Expiration Date: 12/30/10
 Approval Date: 12/30/09
 Page 2 of 16

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Paradiene 20 HT	3.28' x 50'	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply.
Paradiene 20 TS	3.28' x 33.5'	ASTM D6163	High performance, semi-adhered SBS modified bitumen with random fiberglass mat reinforcement used as a base ply.
Paradiene 20 EG	3.28' x 33.5'	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply.
Paradiene 20 HV	3.28' x 33.5'	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement for use as a base ply.
Paradiene 20 P	3.28' x 50'	ASTM D6163	Modified bitumen base ply for use in Parapro roof membrane systems.
Paradiene 20 TS P	3.28' x 33.5'	ASTM D 6163	Semi-adhered modified bitumen base ply for use in Parapro systems with heat-activated adhesive strips on the underside.
Paradiene 20 TG	3.28' x 33.5'	ASTM D 6163	Asphalt elastomer sheet with random fiberglass reinforcement for use as a base ply.
Paradiene 20 HT TG	3.28' x 33.5'	ASTM D 6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply.
Paradiene 20 EG TG	3.28' x 33.5';	ASTM D 6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforced for use as a base ply.
Paradiene 20 TG P	3.28' x 50'	ASTM D6163	Asphalt elastomer sheet with random fiberglass mat reinforcement for use as a base ply in torch.
Paradiene 20 PR	3.28' x 33.5'	ASTM D6164	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply.
Paradiene 20 SA	3.28' x 33.5'	ASTM D6163	High performance, self adhering SBS modified bitumen with random fiberglass mat reinforcement for use as a base sheet.
Paradiene 20 TS SA	3.28' x 33.5'	ASTM D6163	High performance, self-adhering SBS modified bitumen with random fiberglass mat reinforcement used as a base ply.
Paradiene 20 SA P	3.28' x 33.5'	ASTM D6163	High performance, self adhering SBS modified bitumen with random fiberglass mat reinforcement for use as a base sheet.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Paradiene 20 TS SA P	3.28' x 33.5'	ASTM D6163	High performance, self-adhering SBS modified bitumen with random fiberglass mat reinforcement used as a base ply.
Siplast PA-1125 Primer	5 or 55 gal.	ASTM D 41	Asphaltic primer.
PA-311,311M,311LS Adhesive	5 or 55 gallon	ASTM D4479	Blend of adhesives asphalts and quick drying solvents.
Para-Stik Insulation Adhesive	30 lb pressurized cylinders	N/A	A single component moisture curing urethane foam adhesive.

TABLE 2

APPROVED INSULATIONS:

<u>Product</u>	<u>Description</u>	<u>Manufacturer (With Current NOA)</u>
N/A	N/A	N/A

TABLE 3

APPROVED FASTENERS:

<u>Fastener Number</u>	<u>Product</u>	<u>Description</u>	<u>Dimension</u>	<u>Manufacturer</u>
1.	NVS Fasteners	Coated galvanized steel fastener and plate	1" long; 2.7" diameter plate	Siplast
2.	FM-60	Urethane coated, galvanized fastener	1.7" long; 1.2" diameter plate	ES Products
3.	FM-90	Pre-assembled fastener/plate	1.2" long; 2.7" diameter plate	ES Products
4.	FM-75	Pre-assembled fastener/plate	1.2" long; 2.7" diameter plate	ES Products
5.	Parafast XHD	CR-10 coated, high performance screw	Various	Siplast
6.	Parafast Metal Plates	Round fastening plate	3" diameter	Siplast
7.	Trusfast HD	Self-drilling, coated fastener	Various	Trufast
8.	MP-3 Plates	Round fastening plate	3" diameter	Trufast
9.	Zono-tite Fasteners	Slit-wedged, coated galvanized steel fastener with plate	1.7" long; 2.7" diameter plate	Siplast
10.	FM-30 plates	Round fastening plate	3" diameter	ES Products
11.	ES 1.7" FP Base Sheet Fastener	Galvanized steel fastener with urethane coating	1.7" long; 1.2" diameter	ES Products
12.	1.75" C-R Base Felt Fasteners	CR-10 coated, galvanized steel fastener with plate	1.7" long; 2.7" diameter plate	OMG
13.	Simplex Base-Lok fasteners	Capron coated, fiberglass reinforced nylon fastener	1.7" long; 2.7" diameter	Simplex Nails and Fasteners



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual	3029275	FM 4470	03/24/08
	3027962	FM 4470	10/03/06
Trinity ERD	C8500SC.11.07	TAS 117-B / ASTM D6862	11/30/07
	S9000.03.09-R1	Physical Properties G155/D638 ASTM D1929/D2843/D635 TAS 114-D/ TAS 114-J	05/06/09
Momentum Technologies, Inc.	TX31G6A	Physical Properties	08/19/09



APPROVED ASSEMBLIES:

- Deck Type 4:** Lightweight Concrete, Non-Insulated
- Deck Description:** Lightweight Insulating Concrete
- System Type E(1):** Base sheet mechanically fastened.
- Deck :** Structural Concrete. Minimum 1” thick Insulperm-1,3 or 5 Insulation shall be placed in a minimum 1/8” slurry-coat of NVS and followed by a minimum 1” topcoat cast of NVS concrete.

All General and System limitations apply.

- Base Sheet:** One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:
- Fastening:** Fasten base sheet with NVS Base Sheet Fasteners with discs or ES FM-75 Base Ply Fasteners, spaced 7” o.c. in the 3” wide laps and 10” o.c. in three equally spaced rows in the field of the sheet.
- Ply Sheet:** Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².
- Membrane:** Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.
- Maximum Design Pressure:** -75.0 psf (See General Limitation #7)



- Deck Type 4:** Lightweight Concrete, Non-Insulated
- Deck Description:** Lightweight Insulating Concrete
- System Type E(2):** Base sheet mechanically fastened.
- Deck :** Structural Concrete. Minimum 1" thick Insulperm-1,3 or 5 Insulation shall be placed in a minimum 1/8" slurry-coat of NVS and followed by a minimum 1" topcoat cast of NVS concrete.

All General and System limitations apply.

- Base Sheet:** One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:
- Fastening #1:** Fasten base sheet with ES FM-75 Base Ply Fasteners spaced 7" o.c. in the 3" wide laps and 10" o.c. in two equally spaced staggered rows in the field of the sheet.
- Fastening #2:** Fasten base sheet with NVS Base Sheet Fasteners spaced 7.5" o.c. in the 3" wide laps and 10" o.c. in two equally spaced staggered rows in the field of the sheet.
- Ply Sheet:** (Optional) One or two plies of Type IV or Type VI felts fully adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Base or Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.
- Maximum Design Pressure:** -45.0 psf (See General Limitation #7)



Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Lightweight Insulating Concrete

System Type E(3): Base sheet mechanically fastened.

Deck : Min. 22 ga., 1.5" deep, Type B-Vented, ASTM A653 SS, grade 40 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib. Minimum $\frac{5}{8}$ " DensDeck mechanically fastened with 2" Siplast Parafast XHD and Parafast Metal Plates or Trusfast HD fasteners and MP-3 plates at 1.6 ft². Followed by two pies of approved Type IV felt (18" o.c. coverage area), fully adhered with hot asphalt. A $\frac{1}{8}$ " to $\frac{1}{4}$ " slurry-coat of NVS concrete, minimum wet cast density of 75 lbs/ft³, is placed over the glass flets followed by a minimum 1" thick Insulperm-1,3 or 5 Insulation. The following day a minimum 1" topcoat of NVS concrete, wet cast density of 60 lbs/ft³, is applied over insulation.

All General and System limitations apply.

Base Sheet: One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:

Fastening: Fasten base sheet with NVS Base Sheet Fasteners with discs or ES FM-75 Base Ply Fasteners, spaced 7" o.c. in the 3" wide laps and 10" o.c. in two equally spaced rows in the field of the sheet.

Ply Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².

Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.

Maximum Design Pressure: -75.0 psf (See General Limitation #7)



Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Lightweight Insulating Concrete

System Type E(4): Base sheet mechanically fastened.

Deck : Min. 22 ga., 1.5" deep, Type B-Vented, ASTM A653 SS, grade 40 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.

Or

Min. 24 ga., Tensilvent 125 steel decking attached to steel supports spaced maximum 5 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.

Followed by a minimum $\frac{1}{8}$ " thick slurry-coat of Insulcel Lightweight Insulating Concrete, minimum wet cast density of 44 lbs/ft³, followed by a minimum 1" thick Insulperm-1,3 or 5 Insulation. The following day a minimum 2" topcoat of Insulcel Lightweight Insulating Concrete, wet cast density of 44 lbs/ft³, or a minimum 2" topcoat of ZIC (1:4 mix), wet cast density of 61 lbs/ft³, is applied over insulation.

All General and System limitations apply.

Base Sheet: One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:

Fastening #1: Fasten base sheet with Zono-tite fasteners or FM-60 Base Ply fasteners with FM-30 disks or FM-90 Base Ply fasteners, spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.

Fastening #2: Fasten base sheet with Zono-tite fasteners or ES Products FM-90 Base Ply fasteners or $1\frac{3}{4}$ " C-R Base Felt fasteners spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.

Ply Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².

Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.

Maximum Design

Pressure: -75 psf; with Min. 22 ga., Type B steel deck (See General Limitation #7)
-67.5 psf; with Min. 24 ga., Tensilvent 125 deck (See General Limitation #7)



Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Lightweight Insulating Concrete

System Type E(5): Base sheet mechanically fastened.

Deck : Min. 22 ga., 1.5" deep, Type B-Vented, ASTM A653 SS, grade 40 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.

Or

Min. 24 ga., Tensilvent 125 steel decking attached to steel supports spaced maximum 5 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.

Followed by a minimum $\frac{1}{8}$ " thick slurry-coat of ZIC (1:4 mix), wet cast density of 61 lbs/ft³, followed by a minimum 1" thick Insulperm-5 Insulation. The following day a minimum 2" topcoat of ZIC (1:4 mix), wet cast density of 61 lbs/ft³, is applied over insulation.

All General and System limitations apply.

Base Sheet: One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:

Fastening #1: Fasten base sheet with Zono-tite fasteners or FM-60 Base Ply fasteners with FM-30 disks or FM-90 Base Ply fasteners, spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.

Fastening #2: Fasten base sheet with Zono-tite fasteners or ES Products FM-90 Base Ply fasteners or $1\frac{3}{4}$ " C-R Base Felt fasteners spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.

Ply Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².

Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.

Maximum Design Pressure: -60.0 psf; (See General Limitation #7)



Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Lightweight Insulating Concrete
System Type E(6): Base sheet mechanically fastened.
Deck : Min. 26 ga., Tensilvent 75 or Tensilvent 125 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with 3/8" weld washers, at each bottom rib. A minimum 1/8" thick slurry-coat of Insulcel, Zonocel, ZIC 1:6 or ZIC 1:4 Concrete followed by a minimum 2" thick Insulperm-1,3 or 5 Insulation. The following day a minimum 2" topcoat of Insulcel, Zonocel, ZIC 1:6 or ZIC 1:4 Concrete is applied over insulation.

All General and System limitations apply.

Base Sheet: One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:
Fastening: Fasten base sheet using Simplex Base-Lok fasteners, spaced 10" o.c. in the 3" wide laps and 10" o.c. in two equally spaced rows in the field of the sheet.
Ply Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².
Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.
Maximum Design Pressure: -45.0 psf; (See General Limitation #7)



- Deck Type 4:** Lightweight Concrete, Non-Insulated
- Deck Description:** Lightweight Insulating Concrete
- System Type E(7):** Base sheet mechanically fastened.
- Deck :** Min. 22 ga., 1.5" deep, Type B-Vented, ASTM A653 SS, grade 40 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with $\frac{3}{8}$ " weld washers, at each bottom rib.
- Minimum $\frac{5}{8}$ " DensDeck mechanically fastened with 2" Siplast Parafast XHD and Parafast Metal Plates or Trusfast HD fasteners and MP-3 plates at 1.6 ft². Followed by two pies of Type IV felt (18" o.c. coverage area), fully adhered with hot asphalt. A $\frac{1}{8}$ " to $\frac{1}{4}$ " slurry-coat of Insulcel Lightweight Insulating Concrete is placed over the glass felts followed by a minimum 1" thick Insulperm-1,3 or 5 Insulation. The following day a minimum 2" topcoat of Insulcel Lightweight Insulating Concrete is applied over insulation.

All General and System limitations apply.

- Base Sheet:** One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:
- Fastening #1:** Fasten base sheet with Zono-tite fasteners or ES FM-90 Base Ply fasteners, spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.
(Maximum Design Pressure: -75.0 psf, See General Limitation #7)
- Fastening #2:** Fasten base sheet with Simplex Base-Lok fasteners, spaced 10" o.c. in the 3" wide laps and 10" o.c. in two equally spaced rows in the field of the sheet.
(Maximum Design Pressure: -45.0 psf, See General Limitation #7)
- Primer:** Fastener heads are primed with PA-1125 Primer prior to the application of Ply sheet (only when Zono-tite fasteners are used).
- Ply Sheet:** Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².
- Membrane:** Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.
- Maximum Design Pressure:** See Fastening Options Above.



Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Lightweight Insulating Concrete

System Type E(8): Base sheet mechanically fastened.

Deck : Structural Concrete. A minimum 1/8" slurry-coat of Insulcel Lightweight Insulating Concrete followed by an optional 1" thick Insulperm-1, 3 or 5 Insulation. The following day a minimum 2" topcoat of Insulcel Lightweight Insulating Concrete is applied over insulation.

All General and System limitations apply.

Base Sheet: One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:

Fastening #1: Fasten base sheet with Zono-tite fasteners or ES FM-90 Base Ply fasteners, spaced 7" o.c. in the 3" wide laps and 10" o.c. in three equally spaced rows in the field of the sheet.
(Maximum Design Pressure: -75.0 psf, See General Limitation #7)

Fastening #2: Fasten base sheet with Simplex Base-Lok fasteners, spaced 10" o.c. in the 3" wide laps and 10" o.c. in two equally spaced rows in the field of the sheet.
(Maximum Design Pressure: -45.0 psf, See General Limitation #7)

Fastening #3: Fasten base sheet with Zono-tite fasteners, FM-60 Base Ply fasteners, ES 1.7" FP Base Sheet fastener and FM-30 plates, ES FM-90 Base Ply fasteners, or 1.75" C-R Base Felt fasteners spaced 7.5" o.c. in the 3" wide laps and 10" o.c. in two equally spaced and staggered rows in the field of the sheet.
(Maximum Design Pressure: -45.0 psf, See General Limitation #7)

Primer: Fastener heads are primed with PA-1125 Primer prior to the application of Ply sheet (only when Zono-tite fasteners are used).

Ply Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².

Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.

Maximum Design Pressure: See Fastening Options Above.



- Deck Type 4:** Lightweight Concrete, Non-Insulated
- Deck Description:** Lightweight Insulating Concrete
- System Type E(9):** Base sheet mechanically fastened.
- Deck :** Min. 22 ga., 1.5" deep, Type B-Vented, ASTM A653 SS, grade 40 steel decking attached to steel supports spaced maximum 6 ft. o.c. welded with 3/8" weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.
Or
Min. 24 ga., Tensilvent 125 steel decking attached to steel supports spaced maximum 5 ft. o.c. welded with 3/8" weld washers, at each bottom rib. Deck shall be rinsed with a vinegar and water solution.
- Followed by a minimum 1/8" thick slurry-coat of Insulcel Lightweight Insulating Concrete, minimum wet cast density of 44 lbs/ft³, followed by a minimum 1" thick Insulperm-1,3 or 5 Insulation. The following day a minimum 2" topcoat of Insulcel Lightweight Insulating Concrete, wet cast density of 44 lbs/ft³, or a minimum 2" topcoat of ZIC (1:4 mix), wet cast density of 61 lbs/ft³, is applied over insulation.

All General and System limitations apply.

- Base Sheet:** One ply of Parabase, Parabase FS or Parabase Plus shall be fastened to the deck as described below:
- Fastening:** Fasten base sheet with FM-60 Base Ply fasteners, ES 1.7" FP Base Sheet fastener and FM-30 plates, ES FM-90 Base Ply fasteners, or 1.75" C-R Base Felt fasteners and disc spaced 7.5" o.c. in the 3" wide laps and 10" o.c. in two equally spaced and staggered rows in the field of the sheet.
- Ply Sheet:** Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered to the base sheet or Paradiene 20, Paradiene 20 HT, Paradiene 20 P, Paradiene 20 EG or Paradiene 20 HV applied to the base sheet in full mopping of approved asphalt within the EVT range and applied at a rate of 20-25 lbs/100 ft².
- Membrane:** Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Ply Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.
- Maximum Design Pressure:** -45.0 psf; (See General Limitation #7)



Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Lightweight Insulating Concrete

System Type F(1): Membrane fully adhered to deck.

Deck : Structural Concrete. A 1/8" to 1/4" slurry-coat of Insulcel Lightweight Insulating Concrete, minimum wet cast density of 44 lb/ft³, followed by 1" thick Insulperm-5 Insulation. The following day a minimum 2" topcoat of Insulcel Lightweight Insulating Concrete, minimum wet cast density of 44 lb/ft³, is applied over insulation. RT Pellets are spread over the surface of the wet concrete with an RT Applicator at a rate of 4 lbs/sq.

All General and System limitations apply.

Base Sheet: One ply of Paradine 20 TS Base shall be torch adhered to the deck. A propane torch is used to heat activate the RT Pellets prior to applying base sheet.

Membrane: Base coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.42 lb/ft² onto the Base Sheet; followed by one ply of Pro Fleece laid in the wet base coat; followed by a top coat of Parapro Roof Membrane Resin roller applied at a minimum rate of 0.27 lb/ft² onto the embedded Pro Fleece.

Maximum Design Pressure: -97.5 psf; (See General Limitation #9)



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 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 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered 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.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

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



NOA No.: 09-0630.05
Expiration Date: 12/30/10
Approval Date: 12/30/09
Page 16 of 16