

Evaluation Report Paradiene Mod Bit + Insulcel LWIC Roof Assembly

Manufacturer:

Siplast, Inc.

1111 Hwy 67 South
Arkadelphia, AR 71923
(870) 246-8094

for

Florida Product Approval

FL 40566.1 R1

Florida Building Code 8th Edition (2023)

Method: 1 - D

Category: Roofing

Sub - Category: Modified Bitumen Roof System

Product: Paradiene-Insulcel LWIC

Description: Modified Bitumen Roof System

Deck: Vented Steel Deck

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

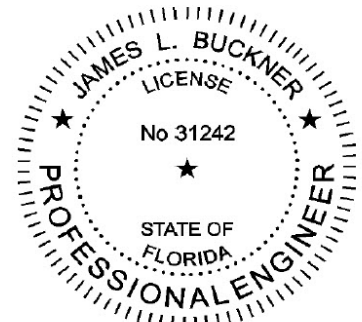
Prepared by:

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Florida Evaluation ANE ID: 1916
Report No. 23-609_Para-Insul_MB-ER
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Date: 12/26/2023

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Manufacturer:	Siplast, Inc 1111 Hwy 67 South Arkadelphia, AR 71923 (870) 246-8094 http://www.siplast.com
Product Name:	Paradiene Mod Bit + Insulcel LWIC
Product Category:	Roofing
Product Sub-Category	Modified Bitumen Roof System
Compliance Method:	State Product Approval Rule 61G20-3.005 (1) (d)
System Description:	Insulcel-RT is a system designed to allow direct adhesive attachment of a base ply to a lightweight insulating concrete surface while maintaining membrane venting. It is installed on a vented steel deck. Insulcel-RT consists of: Insulcel Lightweight Insulating Concrete, RT Surface Treatment, and Paradiene 20 TS. Paradiene 20 TS is a SBS-modified bitumen base ply with a series of factory-applied, heat-activated, modified asphalt, grooved adhesive stripes running parallel with the sheet on its back side. Its design provides a mechanism for membrane venting while allowing direct adhesive attachment of the Insulcel surface. When Paradiene 20 TS is torch-applied directly to a properly heat-activated Insulcel-RT surface, the membrane and pellets are heat welded, resulting in a system with a first ply that is not only adhered to the surface, but also mechanically locked to the concrete without penetration of the membrane. The top ply Paradiene 30 FR TG is torch applied to the Paradiene 20 ply.
Product Assembly as Evaluated:	Refer to Page 4 of this report for product assembly components/materials & assembly:
Support Description: (As Tested)	Steel Deck (Design of support system & attachment of support system is outside the scope of this evaluation) • Profile Type: 1.5" WR Type B • Material: Steel • Corrosion Resistance: Galvanized or other FBC coatings • Thickness: 22 Gauge

Slope Range:	Slope shall be in compliance with FBC, Chapter 15 based on the type of roof covering and in accordance with the manufacturer's recommendations.
Performance Results:	Wind Uplift Resistance: • Design Uplift Pressure*: - 275 PSF <i>* Allowable design pressures for allowable stress design (ASD).</i>
Performance Standards:	The product described herein has demonstrated compliance with: • FM 4474-11, Appendix "B" – <i>Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures</i>
Standards Equivalency:	The TAS 114, Appendix "D" standard version used to test the product meets the prescribed standards in FM 4474-11, Appendix "B" standard version adopted by the Florida Building Code 8th Edition (2023) for use as evaluated in this report.
Code Compliance:	The product(s) described herein have demonstrated compliance with the performance standards listed above as referenced in the: Florida Building Code 8th (2023) International Building Code 2021
Evaluation Report Scope:	This product has been evaluated in compliance with the building envelope requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.
General Limitations and Conditions of Use:	• <u>Scope of "Limitations and Conditions of Use" for this evaluation:</u> This evaluation report for "Optional Statewide Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "Optional Statewide Approval". • <u>Option for application outside "Limitations and Conditions of Use"</u> Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others. • This report is a building code product evaluation per FLPE rule (FAC) 61G15-36 to comply with Florida product approval rule (FAC) 61G20-3. This evaluation report is part of the Florida Building Commission approval for the listed code related criteria. This report by James Buckner, P.E. and CBUCK Engineering is not a design certification of code compliance construction submittal documentation, per FBC section 107, for any individual structure, site specific or permit design. • Design of support system is outside the scope of this report.

- Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.
- This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

Quality Assurance:

The manufacturer has demonstrated compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through UL LLC (FBC Organization ID# QUA 9625).

**Product Components
Materials & Assembly:**

Siplast Paradeiene 30 FR TG Modified Bitumen Roof Membrane Ply:
Torch to Siplast Paradeiene 20 TS

Siplast Paradeiene 20 TS Modified Bitumen Roof Membrane Ply:
Torch to Insulcel-PB Cellular Lightweight Insulating Concrete

TR Surface Treatment Pellets:
on LWIC, see below

Insulcel-PB Cellular Lightweight Insulating Concrete (LWIC):
The LWIC is poured over vented steel support deck (see page 2 for deck spec)
The LWIC surface is treated with TR Surface Treatment Pellets
at a rate of 4 pounds per Square of roof area

Installation:

Installation Instructions:

Insulcel-PB Cellular Lightweight Insulating Concrete

Thickness: 2 in minimum

Components:

Portland Cement ASTM C150

Foaming Agent ASTM C869

Water

EPS Board: Optional

Thicknerr: 1 in. minimum

Strength:

Fastener Withdrawl per TAS 105 MCRF => 78.06 LBF

Compressive Strength => 333 psi at 28 days

Installation shall comply with this report, applicable code sections of FBC 8th Edition (2023) (subject to the Limitations and Conditions of Use listed in this Evaluation Report) and manufacturer's installation instructions as a guide for attachment.

**Evaluation Reference
Data:**

1. TAS 114 (D) Uplift Resistance Test
By Atlantic & Caribbean Roof Consulting, LLC
(FBC Organization #TST ID: 4671)
Report #: MFM-027-02-01, Dated: 9 / 1 / 09
2. Quality Assurance
By UL LLC (FBC Organization #QUA ID:9625)
MFM Building Products Corp. Licensee # 335
3. Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)
4. Equivalency of Test Standard Certification
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)