Evaluation Report

QUICK-SHIELD 155-2.5

Spray Applied Polyurethane Foam Roof System- HVHZ

Manufacturer:

SWD Urethanes
540 S Drew St
Mesa, AZ 85210
800-828-1394

for

Florida Product Approval

FL 47082.7

Florida Building Code 8th Edition (2023)
Per Rule 61G20-3
Method: 1 - D
Category: Roofing
Sub - Category: Spray Applied Polyurethane Roof System

Spray Foam Product: **QUICK-SHIELD 155-2.5**
Description: Spray Polyurethane Foam Roof System
Recover Application over BUR-Gravel Roof System
Support: Concrete 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:
James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 24-700.07-BUR-G-CONC-ER7
Date: 10/16/2024

JAMES L. BUCKNER LICENSE No 31242 STATE OF FLORIDA PROFESSIONAL ENGINEER

James L. Buckner, P.E.
FL31242
2024.10.16 18:56:55 -04'00'

Contents:
Evaluation Report Pages 1 – 5

Manufacturer: **SWD Urethane**

Product Name: **QUICK-SHIELD 155-2.5**

Product Category: Roofing

Product Sub-Category: Spray Applied Polyurethane Roof System

Compliance Method: State Product Approval Rule 61G20-3.005 (1) (d)

Spray Foam Description: The Spray Polyurethane Foam is a two-component, closed-cell, spray applied polyurethane foam system. It is designed for use as a self-adhering, self-flashing, seamless roofing system providing wind uplift resistance for construction applications such as commercial, industrial and institutional projects.

Evaluated Models: **QUICK-SHIELD 155-2.5**

Evaluated Use: Recover Roof Applications

Product Assembly as Evaluated: Refer to Page 4 of this report for product assembly components/materials & standards:

Layers from Top to Bottom
- Liquid-Applied Coating (Self-adhered)
- Spray Polyurethane Foam (Spray Applied & Self Adhered)
- Generic Insulated Built-Up (BUR) Gravel Roof system
- (Mechanically Attached to Deck)

Support:

Type:
Concrete Deck

Description:

Material:	Structural Concrete
Compressive Strength:	2,500 psi. Minimum

(Design of support is outside the scope of this evaluation.)

Slope: Minimum slope shall be in compliance with FBC Chapter 15 based on the type of roof covering, applicable code sections and in accordance with manufacturer's recommendations.

Performance:

Wind Uplift Resistance
* Design Uplift Pressure: **- 300 PSF**

** Allowable design pressure(s) for allowable stress design (ASD) with a margin of safety of 2 to 1.*

Performance Standards:

The product described herein has been tested in compliance with:

- TAS 114-05 "J"

Test Equivalency:

The TAS 114-05 "J" standard version used to test the evaluated product assembly is equivalent with the prescribed standards in TAS 114-11, Appendix D adopted by the Florida Building Code 8th Edition (2023).

Code Compliance:

The product described herein has demonstrated compliance with the performance standards listed above as referenced in the
Florida Building Code 8th Edition (2023)
For use: in HVHZ and outside HVHZ

Evaluation Report Scope:

This product evaluation is limited to compliance with the structural requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.

Limitations and Conditions of Use:

QUICK-SHIELD 155-2.5 Spray Polyurethane Foam shall be installed by a **SWD Urethane**

- Roof Foam and Coatings Authorized spray foam applicator trained in the processing and application of SPF systems as well as the plural component polyurethane dispensing equipment.
- The Recovering requirements **"Section 1511 Existing Roofing"** FBC 8th (2023) shall be complied with as a condition of this evaluation
- Compliance with the requirements of section 1511 is site specific and therefore is outside the scope of this evaluation.
- <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".

RECOVER SYSTEM LIMITATIONS:

- The moisture content of an existing roof system shall be in compliance with applicable Building Code.
- Existing low slope roof systems shall be tested for uplift resistance in compliance with Testing Application Standard TAS 124 to the calculated design pressures of the fie ld, perimeter and comer areas, determined in compliance with applicable Building Code.
- Lightning rods shall be masked prior to foaming. Lightning rod cables shall not be embedded in the polyurethane foam and should be removed prior to foaming. Electrical and mechanical conduits should be relocated or raised above the finished roof surface.

GENERAL LIMITATIONS:

- All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
- Spray polyurethane foam shall not be sprayed when ambient temperature is within 5 degrees of the dew point. Ambient humidity applications limits shall be as listed in Table 1 herein. Contractor shall monitor and record environmental conditions in the Job Log in compliance with RAS 109. Job Log shall be maintained at the job site and accessible to the Building Official.
- 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 comers and corners).
- Flashings and waterproof coverings for expansion joints shall be of compatible materials and in accordance with SWD Urethanes published literature.
- Miscellaneous materials such as adhesives, elastomeric caulking compounds, metal, vents and drains shall be a composite part of the roof system and shall be compatible with the foam and coating.
- Material Labeling: SWD Urethanes products listed herein shall be identified, on products and/or containers/packaging, with the Florida product approval number and the manufacturer's name or logo, per the intent of code section 1523.5 and Rule 61G20-3.
- 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.
- Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.

- <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.

- The Scope of this evaluation is limited to structural uplift properties.
- Design of support system is outside the scope of this report. Deck shall be in compliance with applicable building code.
- This evaluation report does 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 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **s, UL LLC.** (FBC Organization ID# QUA 9625).

Components/Materials (As Evaluated):

Spray Applied Polyurethane Roof System
Per manufacturer's guidelines in compliance with FBC Section 1507.14.3.

QUICK-SHIELD 155-2.5 Spray Polyurethane Foam - Typical Values

Material:	Polyurethane	
Core Density:	2.5 pcf	(per ASTM D1622)
Compressive Strength:	45 psi	(per ASTM D1621)
Tensile Strength:	70 psi	(per ASTM D1623)

Installation:

Installation Method:

- Surface Preparation:
  The surface intended to be sprayed with the **QUICK-SHIELD 155-2.5** Spray Polyurethane Foam must be clean, dry and free of all dirt and contaminants.
- Foam Application:
  Apply a minimum of 2" thick of **QUICK-SHIELD 155-2.5** Spray Polyurethane Foam over the base sheet.
- Protective Coating Application:
  Apply protective coating per manufacturer's installation guideline.

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 supplemental guide for attachment.

Referenced Data:

1. TAS 114-05 (J) Uplift Resistance Test
   By Atlantic Caribbean Roof Consulting, LLC.
   (FBC Organization #TST ID: 4671)
   Report #: ACRC 21-027, Date: 12 / 08 /21

2. Equivalency of Test Standard Certification
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)

3. Quality Assurance
   UL LLC. (FBC Organization ID# QUA 9625

4. Certification of Independence
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)