



398 E DANIA BEACH BLVD. SUITE 338, DANIA BEACH, FL 33004

Product Evaluation Report

of

Nudo Products, Inc.

**Endurex 557 Insulated Glazing and Curtain Wall Panel
(HVHZ) (Impact)**

for

Florida Product Approval

FL# FL42001

Report No. 8407

Current Florida Building Code

Method: 1 – D (Engineering Evaluation)
Category: Windows
Sub – Category: Fixed

Product: Endurex 557 Insulated Glazing and Curtain Wall Panel
Material: Aluminum 6063-T5
Product Dimensions: See Installation Instructions, NDO003

Prepared for:

Nudo Products, Inc.
1500 Taylor Avenue
Springfield, IL 62703

Prepared by:

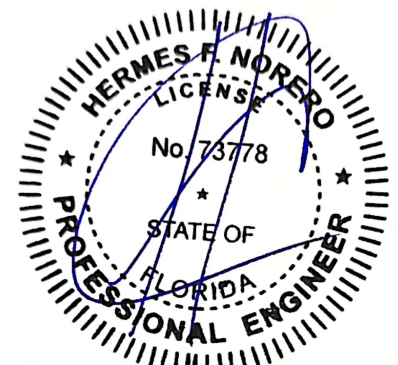
Hermes F. Norero, P.E.

Florida Professional Engineer # 73778

Date: 03/07/2023

Contents:

Evaluation Report Pages 1 – 4



Hermes F. Norero, PE

Florida PE No. 73778

Page 1 of 4



398 E DANIA BEACH BLVD. SUITE 338, DANIA BEACH, FL 33004

FL#: FL42001
Date: 03/07/2023
Report No: 8407

Manufacturer: Nudo Products, Inc.
Product Category: Windows
Product Sub-Category: Fixed
Compliance Method: State Product Approval Method 1(d)
Product Name: **Endurex 557 Insulated Glazing and Curtain Wall Panel (HVHZ) (Impact)**

Scope: This is a Product Evaluation Report issued by Hermes F. Norero, P.E. (FL # 73778) for **Nudo Products, Inc.** based on Method 1d of the State of Florida Product Approval, Department of Business and Professional Regulation - Florida Building Commission.

Hermes F. Norero, P.E. does not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

This product has been evaluated for use in locations adhering to the Florida Building Code.

See Installation Instructions **NDO003**, signed and sealed by Hermes F. Norero, P.E. (FL # 73778) for specific use parameters.

Limits of Use:

1. This product has been evaluated and is in compliance with the Current Florida Building Code, **including** the “High Velocity Hurricane Zone” (HVHZ).
2. Product attachment shall be as shown on details within **NDO003**.
3. When used in areas requiring wind borne debris protection this product complies with Chapter 16 of the Florida Building Code and **does not require** an impact resistant covering in areas requiring Impact Resistance.
4. Site conditions that deviate from the details of drawing **NDO003**, require further engineering analysis by a licensed engineer or registered architect.
5. See Installation Instructions **NDO003**, for size and design pressure limitations.



398 E DANIA BEACH BLVD. SUITE 338, DANIA BEACH, FL 33004

FL#: FL42001
Date: 03/07/2023
Report No: 8407

Quality Assurance: The manufacturer has demonstrated compliance of products in accordance with the Florida Building Code for manufacturing under a quality assurance program audited by an approved quality assurance entity through **National Accreditation and Management Institute** (FBC Organization #: QUA1789).

Performance Standards: The product described herein has been tested per:

- TAS 201-94
- TAS 202-94
- TAS 203-94

Referenced Data:

1. Product Testing performed by **Blackwater Technical Services Inc.** (FBC Organization # TST10394)
Report #: BT-NDO-22-001 Report Date: 02/20/23
TAS Reports Signed and Sealed by Mike Caldwell, FL PE No. 49979
2. Material Testing performed by **Intertek – York (ATI)** (FBC Organization # TST1558)
LP-S6-8-GRAY-FR-KAL, Fiber Reinforced Plastic, for NUDO Products
Report #: E0226.01-106-18 Report Date: 08/28/14

Results:

- 1) ASTM D638-03, *Standard Test Method for Tensile Properties of Plastics*
 - a. Result Min Tensile Strength: 20,087 PSF
- 2) ASTM D1929-96(01), *Standard Test Method for Determining Ignition Temperature of Plastics*
 - a. Result: Self Ignition = 770 ° F (410 ° C)
 - b. Requirement: Self Ignition \geq 650 ° F
 - c. **PASS**
- 3) ASTM D2843-99(04), *Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics*
 - a. Result: Smoke Density Rating = 56.0
 - b. Requirement: Smoke Density Rating \leq 75
 - c. **PASS**
- 4) ASTM D635-03, *Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position*

 954.399.8478

 954.744.4738



398 E DANIA BEACH BLVD. SUITE 338, DANIA BEACH, FL 33004

FL#: FL42001
Date: 03/07/2023
Report No: 8407

- a. Result: Class CC1
 - b. Requirement: CC1 or CC2
 - c. **PASS**
3. Material Data
- Manufacturer Provided Data from DOW for STYROFOAM XPS Insulation**
- a. Flame Spread Index per ASTM E84 = 5 < 75, **PASS**
 - b. Smoke Density Index per ASTM E84 = 165 < 450, **PASS**

Installation: Refer to Installation Instructions (**NDO003**) for more details of the installation details.

Design Pressure: Refer to installation instructions, **NDO003**, for design pressures dependent on size options.

Equivalence of Test Standards:

Various test standards have been evaluated for differences in test methodology, if any, between tested editions of the test standards listed below and those editions referenced in the current Florida Building Code. The manufacturer has tested their products to the following test standard edition(s):

- 1) ASTM D1929-96(01)
- 2) ASTM D2843-99(04)
- 3) ASTM D635-03

Chapter 35 of the current Florida Building Code references the following editions of the above mentioned test standards:

- 1) ASTM D1929-16
- 2) ASTM D2843-16
- 3) ASTM D635-14

After review of the above mentioned referenced standards and editions, it has been found that no significant technical changes have been made to the test standards that would affect the results. All referenced standards have been found to be equivalent.