

PRODUCT & EQUIVALENCY EVALUATION REPORT	
Project No. ACE-2024-204	Report No. PEER-ACE-1104 & 1005, Rev. 0

Product Description:

- Series 76 MD Fixed Window, Impact, HVHZ (Installation Drawing No. SCS-0024)
- Series 88 Fixed Window, Non-Impact, Non-HVHZ (Installation Drawing No. SCS-0023)

Product Manufacturer: ES Windows, Inc., 3550 NW 49th Street, Miami, Florida 33142

Code Compliance Statement: This report evaluates the fenestration product(s) listed above to the requirements of FAC Product Approval Rule 61G20-3 for PVC Framing Plastic (PVC) Components per Chapter 26 of the 8th Edition (2023) Florida Building Code.

Compliance Methods:

- Product Approval Rule 61G20-3.005(1)(a) – Certification Mark or Listing
- Product Approval Rule 61G20-3.015(4)(d) – Equivalency of Standards

Documentation/References:

1. Installation Drawing No. SCS-0024, dated 7/12/24, signed and sealed by Robert J. Amoruso, P.E.
 - a. National Certified Testing Laboratories, 8350 Parkline Blvd., Orlando, FL 32809
 - i. NCTL-210-4097-01, dated 01/02/18, signed and sealed by Douglas J. McDougall, FL PE No. 28392.
 1. Test Standards
 - a. TAS 201-94
 - b. TAS 202-94
 - c. TAS 203-94
 - b. Certification – Keystone Certification, Inc.
 - c. Calculations in support of installation requirements for SCS-0024, signed and sealed by Robert J. Amoruso, PE.
 - d. Glazing meets the requirements of ASTM E1300-16.
 - e. See Report No. PER-ACE-1104 for Product Evaluation Report and Limitations & Conditions of Use for this product.
2. Installation Drawing No. SCS-0023, dated 7/12/24, signed and sealed by Robert J. Amoruso, P.E.
 - a. PRI Construction Materials Technologies, LLC
 - i. Test Report No. 2569T0002, dated 06/13/23 to AAMA/WDMA/CSA 101/I.S.2/A440-17
 - b. Certification – Keystone Certification, Inc.
 - c. Calculations in support of installation requirements for SCS-0023, signed and sealed by Robert J. Amoruso, PE.
 - d. Glazing meets the requirements of ASTM E1300-16.
 - e. See Report No. PER-ACE-1105 for Product Evaluation Report and Limitations & Conditions of Use for this product

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3. Test report on Rate of Burning, Ignition Temperature, Density of Smoke, Surface Burning Characteristics, Accelerated Weathering and Tensile Properties Test of “PVC Extrusions from 5 different manufacturer” selected by AAMA”, prepared by ETC Laboratories, Test Report No. ETC 97-264-40910, dated 04/21/1998, signed and sealed by J. L. Doldan, P.E.

PVC Framing Component and Code Conformance Product Evaluation:

Test Report No. ETC 97-264-40910 (Reference No. 3 above) documents plastics testing per Chapter 26 of the 8th Edition (2023) Florida Building Code. Those results are as follows.

Test Report ASTM & Revision Level Used in Testing	Description	FBC Code Requirement	Testing Result
D1929-96	Self-ignition temperature	> 650°F	737°F
D635-96	Combustibility classifications	Class CC1 or CC2	CC1
D2843-93	Maximum average smoke density rating	< 75 (or ASTM E84)	32.84
G26-95	Exposure weathering	4500 hours	4500 hours
D638-96	Tensile testing - post weathering	<10% change	0.68%
E84 (date not recorded)	smoke-developed index	< 75	26.2

As shown above, the test results meet or exceed the requirements of Chapter 26 of the 8th Edition (2023) Florida Building Code.

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PVC Framing ASTM Testing Equivalency Evaluation:

The table below shows the ASTM revision levels used in testing per Test Report No. ETC 97-264-40910 (Reference No. 3 above).

Based upon the undersigned’s review, any changes to the ASTM standards would not result in changes to the overall results of Test Report No. ETC 97-264-40910 (Reference No. 3 above). Therefore, testing results documented in Test Report No. ETC 97-264-40910 (Reference No. 3 above) meet the requirements of Chapter 26 of the 8th Edition (2023) Florida Building Code.

Test Report ASTM Revision Level Used	Test Report ASTM Revision Level Used	Test Report ASTM Revision Level Used
D1929	96	16
D635	96	14
D2843	93	16
G26 (replaced by G155)	96	G155-13
D638	96	03
E84	not recorded	18b

**Certificate of Independence per Product
Approval Rule 61G20-3.009**

Robert J. Amoruso, P.E. does not have, nor will acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

Robert J. Amoruso, P.E. does not have, nor will acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.



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Robert J
Amoruso
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Evaluated by:
Robert J. Amoruso, P.E.
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