

EQUIVALENCY EVALUATION REPORT

Project No.: ACE-2024-212 & ACE-2026-202

Report No.: EER-ACE-1115, Rev. 1

Product Description: Series ES-V150 Fixed Windows

Product Manufacturer: ES Windows, 3550 NW 49th St., Miami, FL 33142

Code Compliance Statement: This report evaluates the fenestration product(s) listed above to the requirements of FAC Product Approval Rule 61G20-3.005. This product complies with the requirements of the 8th Edition (2023) Florida Building Code including and excluding the High Velocity Hurricane Zone (HVHZ) per the product testing standards listed below.

Compliance Method: Product Approval Rule 61G20-3.015(4)(d) – Equivalency of Standards

Documentation/References:

1. Installation Drawings. These drawings are in conformance with the 8th Edition (2023) Florida Building Code including the High Velocity Hurricane Zone (HVHZ) where applicable.
 - a. Installation Drawing No. SCS-0028, Rev. A, signed and sealed by Robert J. Amoruso, PE., Series ES-V150 Fixed Window, Vinyl, Large Missile Impact, HVHZ, 96" x 63".
 - b. Installation Drawing No. SCS-0029, Rev. A, signed and sealed by Robert J. Amoruso, PE., Series ES-V150 Fixed Window, Vinyl, Non- Impact, HVHZ, 60" x 55" and 48" x 36".
 - c. Installation Drawing No. SCS-0042, Rev. A, signed and sealed by Robert J. Amoruso, PE., Series ES-V150 Fixed Window, Vinyl, Non- Impact, Non-HVHZ, 84" x 72", 60" x 55" and 48" x 36".
 - d. Installation Drawing No. SCS-0055, Rev. 0, signed and sealed by Robert J. Amoruso, PE., Series ES-V150 Fixed Window, Vinyl, Large Missile Impact, Non-HVHZ, 48" x 96".
2. Test Report by PRI Construction Materials Technologies LLC, 6412 Badger Drive, Tampa, FL 33610
 - a. Test Report No. 2836T0004, dated 08/11/2025, Series ES-V150 Fixed Window, signed and sealed by Zachary Priest, FL PE No. 74021.
 - i. Shown on Installation Drawing No. SCS-0028.
 - ii. Test Standards
 1. HVHZ
 - a. TAS 201-1994
 - b. TAS 202-1994
 - c. TAS 203-1994
 2. Non-HVHZ
 - a. AAMA/WDMA/CSA 101/I.S.2/A440-17
 - b. ASTM E1996-20
 - c. ASTM E1886-19
 - d. ASTM E283/283M-19
 - e. ASTM E547-00(2024)
 - f. ASTM E330/E330M-14(2021)
 - g. ASTM F588-17(2023)

- iii. Specimen
 - 1. 96" x 63"
- iv. Design Pressure
 - 1. +/- 65 psf for all specimens
- v. Large Missile Impact and Missile Level D, Wind Zone 4
- b. Test Report No. 2836T0006, dated 08/11/2025, Series ES-V150 Fixed Window, signed and sealed by Zachary Priest, FL PE No. 74021.
 - i. Shown on Installation Drawing No. SCS-0029 and SCS-0042.
 - ii. Test Standards
 - 1. HVHZ
 - a. TAS 202-1994
 - 2. Non-HVHZ
 - a. AAMA/WDMA/CSA 101/I.S.2/A440-17
 - b. ASTM E283/283M-19
 - c. ASTM E547-00(2024)
 - d. ASTM E330/E330M-14(2021)
 - e. ASTM F588-17(2023)
 - iii. Specimen
 - 1. 84" x 72" (AAMA/WDMA/CSA 101/I.S.2/A440-17)
 - 2. 60" x 55" (AAMA/WDMA/CSA 101/I.S.2/A440-17 and TAS 202-94)
 - 3. 48" x 36" (AAMA/WDMA/CSA 101/I.S.2/A440-17 and TAS 202-94)
 - iv. Design Pressure
 - 1. +/- 65 psf for all specimens
- c. Test Report No. 2836T0017, dated 08/11/2025, Series ES-V150 Fixed Window.
 - i. Shown on Installation Drawing No. SCS-0055.
 - ii. Test Standards
 - 1. Non-HVHZ
 - a. AAMA/WDMA/CSA 101/I.S.2/A440-17
 - b. ASTM E1996-20
 - c. ASTM E1886-19
 - d. ASTM E283/283M-19
 - e. ASTM E547-00(2024)
 - f. ASTM E330/E330M-14(2021)
 - g. ASTM F588-17(2023)
 - iii. Specimen
 - 1. 48" x 96"
 - iv. Design Pressure
 - 1. +/- 50 psf for all specimens
 - 2. Missile Level D, Wind Zone 4

Component Certification and Code Conformance:

- Kuraray America Inc. SentryGlas interlayer code conformance per the currently issued Miami-Dade Notice of Acceptance (NOA) component approval to the 8th Edition (2023) Florida Building Code. See Miami-Dade NOA listing [here](#).
- Eastman Chemical Co. (MA) Saflex interlayer code conformance per the currently issued Miami-Dade Notice of Acceptance (NOA) component approval to the 8th Edition (2023) Florida Building Code. See Miami-Dade NOA listing [here](#).

Performance Testing Standards (See Documentation section above for test report listings):

- TAS 201-1994
- TAS 202-1994
- TAS 203-1994
- AAMA/WDMA/CSA 101/I.S.2/A440-17
- ASTM E1996-20
- ASTM E1886-19
- ASTM E283/283M-19
- ASTM E547-00(2024)
- ASTM E330/E330M-14(2021)
- ASTM F588-17(2023)

Performance Testing Equivalency Evaluation per Product Approval Rule 61G20-3.015(4)(d):

HVHZ Testing

Test Report Ref. No.	Testing Standards Used		Testing Standards Required by 8 th Edition (2023) Edition of the Florida Building Code		Comments
	Designation	Year	FBC	FRC	
2.a and 2.b	TAS 201	1994 (circa 2025)	1994 (circa 2023)		Meets FBC Requirements See EVALUATION CONCLUSION below.
	TAS 202	1994 (circa 2025)	1994 (circa 2023)		
	TAS 203	1994 (circa 2025)	1994 (circa 2023)		

- TAS testing occurred in 2025 during the 8th Edition (2023) Florida Building Code.
- Therefore, Reference 2.a and 2.b meet current 8th Edition (2023) Florida Building Code requirements.

NON-HVHZ Testing

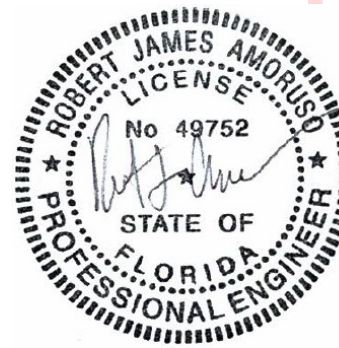
Test Report Ref. No.	Testing Standards Used		Testing Standards Required by 8 th Edition (2023) Edition of the Florida Building Code		Comments
	Designation	Year	FBC	FRC	
2.a and 2.b	AAMA/WDMA/CSA 101/I.S.2/A440	17	17		All test standards in 2023 FBC and FRC. Therefore, meets FBC Requirements.
	ASTM E1996	20	20		
	ASTM E1886	19	19		
	ASTM E283/283M	19	19		See EVALUATION CONCLUSION below.
	ASTM E547	00(2024)	Not in FBC/FRC		
	ASTM E330/E330M	14(2021)	14(2021)		
	ASTM F588	17(2023)	Not in FBC/FRC		

- Therefore, Test Report No. 2836T0004, 2836T0006 and 2836T0017 comply with the requirements of the 8th Edition (2023) Florida Building Code including the High Velocity Hurricane Zone (HVHZ) where applicable.

Certificate of Independence per Product Approval Rule 61G20-3.009

Robert J. Amoruso, P.E., does not have, nor will he 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 he 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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