

Evaluation Report 1310-DS
June 20, 2024

Product Description: 1310 Direct Set Aluminum Clad Wood Window, Single O or Twin O-O

Manufacturer: Weather Shield Windows & Doors, Medford, WI

Statement of Compliance: This report evaluates the above-listed product per the requirements of FAC Product Approval Rule Chapter 61G20-3.005 (5) for listing under Certification method. This product complies with the requirements of the 8th Edition (2023) Florida Building Code including the High Velocity Hurricane Zone. The product testing standards performed are outlined below.

Technical Documentation:

- 1) This report, prepared by Lucas A. Turner, P.E., at 2428 Old Natchez Trc. Trl., Camden TN
- 2) Manufacturer's installation drawings 85-7849-14-Alt, signed and sealed by Lucas A. Turner, P.E. on 8/9/2018 based on engineered calculations for alternate substrates. As-tested manufacturer installation instructions 85-7430-36, 85-7849-13, and 85-7849-14 have been reviewed for compliance with the testing in the reports below. For installations showing attachment to 2x wood bucks, bucks may be installed by others over masonry.
- 3) Test Reports ESP017138P-1582/1582.1-A, ESP019206P-1690/1690.1, and ESP026677P-2220-B from Element Materials Technology, with testing performed: AAMA/WDMA/CSA 101/I.S.2/A440-08/11, ASTM E 1886-13a, ASTM E 1996-14a, TAS 201/202/203
- 4) Supplemental Calculations to support 85-7849-14-Alt, signed and sealed by Lucas A. Turner, P.E.

Installation: Units must be installed according to installation drawings referenced above based on wall construction substrate types.

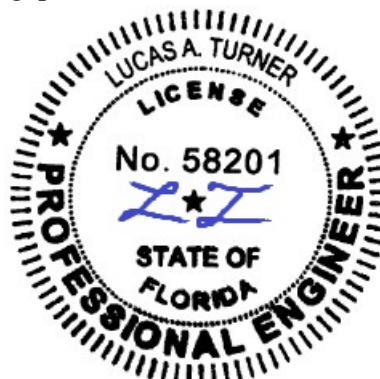
Limitations of Use: This product:

- May be used in the configurations and product sizes as indicated in installation drawings and in Design Pressure charts on the following pages. Design Pressure charts apply to all installation methods. Windows shall be manufactured in accordance with test reports referenced above.
- Requires glazing options as follows; Ann. = Annealed, HS = Heat Strengthened, Temp. = Fully Tempered, SGP = Kuraray Sentryglas Interlayer per current NOA, PVB = Kuraray Trosifol PVB Interlayer per current NOA:

Glass Type A I.G.: 1/4Ann. or Temp. - gap - 5/32Ann.-.090SGP-5/32Ann.

Glass Type B I.G.: 1/4Ann. or Temp. - gap - 1/4Ann.-.090SGP-1/4Ann.

Glass Type C I.G.: 1/4Ann. - gap - 1/4HS-.090SGP-1/4HS



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6/20/2024
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Glass Type D I.G.: 1/4Temp. - gap - 1/4HS-.090SGP-1/4HS

Glass Type E I.G.: 1/4Ann. or Temp. - gap - 5/16Ann-.090SGP-5/16Ann.

Glass Type F Mono: 3/16Ann-.090PVB-3/16Ann

Glass Type G Mono: 1/4Ann-.090SGP-1/4Ann

Glass Type H Mono: 5/16Ann-.090SGP-5/16Ann

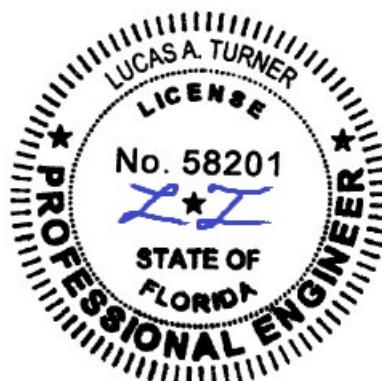
- As-tested wood anchorage is as indicated in manufacturer drawings with attachment to Southern Yellow Pine (G=0.55) min. wood
- Alternate substrates and anchorage for 85-7849-14-Alt are as follows:

ID	SUBSTRATE	ANCHOR	MIN. EMBED.	MIN. EDGE DIST.
A	CONCRETE (3.05 KSI MIN)	1/4" DEWALT ULTRACON+	1 3/4"	2 1/2"
B	GROUT-FILLED CMU (ASTM C-90)	1/4" DEWALT ULTRACON+	1 3/4"	2 1/2"
C	16 GAUGE (0.060") MIN. STEEL STUD 36 KSI YIELD MIN.	#10-16 HILTI KWIK-FLEX OR ITW TEKS SELF-DRILLING SCREW	SEE NOTE	1/2"
D	1/8" ALUM. 6063-T5 MIN.	#10-16 HILTI KWIK-FLEX OR ITW TEKS SELF-DRILLING SCREW	SEE NOTE	1/2"

Note: for attachment to metal, anchor shall be fully threaded through the metal wall thickness with min. 3 threads beyond. All anchors shall be min. 4" apart on-center. Shims required at all anchor points where gap of more than 1/16" exists between product frame and opening substrate. If 1x bucks are used over masonry, attachment shall be through 1x wood bucks with 1-3/4" min. embedment into masonry substrate. Embedment listed above shall be beyond wall dressing or stucco. Dissimilar materials including fasteners penetrating through pressure treated wood bucks, shall be protected, coated or corrosion resistant in accordance with the Florida Building Code to prevent galvanic reactions.

- Is large missile impact resistant and does not require the use of impact protective devices in windborne debris regions
- May be used in the High Velocity Hurricane Zone
- Requires aluminum-clad wood framing as indicated in the test reports listed above.

Certification of Independence: I do not have, nor do I intend to acquire, nor will I acquire, a financial interest in Weather Shield or in any company manufacturing or distributing products for which this report is being issued. I do not have, nor do I intend to acquire, nor will I acquire, a financial interest in any other entity involved in the testing or approval process of this product.



6/20/2024
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Design Pressure Chart, Twin O-O Direct Set Window

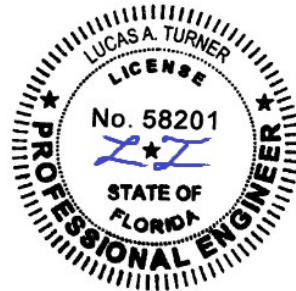
				Glass Type	Window Height, in.								
					36	42	48	54	60	66	72	77-1/4	83-1/2
Overall Twin Width, in.	96	Individual Window Width, in.	48	A,B,C,D,E F	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65	+55/-70 +50/-65
	108		54	A B,C,D,E F	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-66 +55/-70 +50/-64
	120		60	A B,C,D,E F	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +50/-65	+55/-67 +55/-70 +50/-64	+55/-62 +55/-70 +50/-60
	132		66	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-69 +55/-70 +55/-70 +50/-64	+55/-64 +55/-70 +55/-70 +50/-60	+55/-59 +55/-65 +55/-70 +50/-55
	143		71-1/2	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-66 +55/-70 +55/-70 +50/-61	+55/-61 +55/-67 +55/-70 +50/-57	+55/-55 +55/-62 +55/-70 +50/-52
	154-1/2		77-1/4	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-67 +55/-70 +55/-70 +50/-64	+55/-64 +55/-70 +55/-70 +50/-60	+55/-60 +55/-67 +55/-70 +50/-56	+55/-58 +55/-64 +55/-70 +50/-54	N/A N/A N/A N/A
	168		84	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-66 +55/-70 +55/-70 +50/-64	+55/-62 +55/-70 +55/-70 +50/-59	+55/-59 +55/-65 +55/-70 +50/-55	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
	180		90	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-70 +55/-70 +55/-70 +50/-65	+55/-64 +55/-70 +55/-70 +50/-64	+55/-61 +55/-70 +55/-70 +50/-59	+55/-59 +55/-66 +55/-70 +50/-55	+55/-55 +55/-61 +55/-70 +50/-51	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
	192		96	A B C,D,E F	+55/-70 +55/-70 +55/-70 +50/-65	+55/-65 +55/-70 +55/-70 +50/-65	+55/-59 +55/-70 +55/-70 +50/-58	+55/-56 +55/-66 +55/-70 +50/-53	+53/-53 +55/-61 +55/-70 +50/-51	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A



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Design Pressure Chart, Single O Direct Set Window

		Glass Type	Window Long Side Length, in.														
			73-7/16	78	84	90	92-15/16	96	102	108	114	120	126	132	138	144	
Window Short Side Length, in.	24	A,B,C,D,E,G,H F	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	+65/-85 +50/-65	
	30	A B,C,D,E,G,H F	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-84 +65/-85 +50/-65	+65/-82 +65/-85 +50/-65	
	36	A B,C,D,E,G,H F	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-85 +65/-85 +50/-65	+65/-79 +65/-85 +50/-65	+65/-77 +65/-85 +50/-65	+65/-75 +65/-85 +50/-65	+65/-72 +65/-85 +50/-65	+65/-70 +65/-85 +50/-65	+65/-68 +65/-85 +50/-65	+65/-66 +65/-85 +50/-65	+64/-64 +65/-85 +50/-65	+63/-63 +65/-85 +50/-65	+62/-62 +65/-85 +50/-65	+61/-61 +65/-85 +50/-65	
	42	A B C,D,E F G H	+65/-85 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-82 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-75 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-70 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-67 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-65 +65/-83 +65/-85 +50/-61 +65/-84 +65/-85	+61/-61 +65/-80 +65/-85 +50/-61 +65/-81 +65/-85	+57/-57 +65/-77 +65/-85 +50/-59 +65/-78 +65/-85	+55/-55 +65/-75 +65/-85 +50/-58 +65/-75 +65/-85	+52/-52 +65/-72 +65/-85 +50/-56 +65/-73 +65/-85	+51/-51 +65/-71 +65/-85 +50/-54 +65/-72 +65/-85	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	
	45	A B C,D,E F G H	+65/-85 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-78 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-72 +65/-85 +65/-85 +50/-65 +65/-85 +65/-85	+65/-66 +65/-82 +65/-85 +50/-65 +65/-83 +65/-85	+65/-65 +65/-81 +65/-85 +50/-64 +65/-81 +65/-85	+61/-61 +65/-78 +65/-85 +50/-61 +65/-79 +65/-85	+57/-57 +65/-75 +65/-85 +50/-58 +65/-75 +65/-85	+53/-53 +65/-71 +65/-85 +50/-55 +65/-72 +65/-85	+51/-51 +65/-68 +65/-85 +50/-53 +65/-69 +65/-85	+50/-50 +65/-65 +65/-85 +50/-51 +65/-66 +65/-85	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	
	48	A B C,E D F G H	+65/-81 +65/-79 +65/-79 +65/-79 +50/-65 +65/-85 +65/-85	+65/-76 +65/-79 +65/-79 +65/-79 +50/-65 +65/-85 +65/-85	+65/-70 +65/-79 +65/-79 +65/-79 +50/-65 +65/-82 +65/-85	+64/-64 +65/-78 +65/-79 +65/-79 +50/-64 +65/-78 +65/-85	+62/-62 +65/-76 +65/-79 +65/-79 +50/-61 +65/-76 +65/-85	+59/-59 +65/-74 +65/-79 +65/-79 +50/-58 +65/-74 +65/-85	+54/-54 +65/-70 +65/-79 +65/-79 +50/-55 +65/-71 +65/-85	+52/-52 +65/-66 +65/-79 +65/-79 +50/-52 +65/-67 +65/-85	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	+65/-75 +65/-75 +65/-75 +65/-75 N/A N/A N/A	+65/-75 +65/-75 +65/-75 +65/-75 N/A N/A N/A	
	54	A B C,E D F G H	+65/-70 +65/-70 +65/-70 +65/-75 +50/-65 +65/-84 +65/-85	+65/-70 +65/-70 +65/-70 +65/-75 +50/-65 +65/-80 +65/-85	+65/-70 +65/-70 +65/-70 +65/-75 +50/-64 +65/-76 +65/-85	+65/-70 +65/-70 +65/-70 +65/-75 +50/-59 +65/-72 +65/-85	+65/-68 +65/-70 +65/-70 +65/-75 +50/-56 +65/-69 +65/-85	+65/-66 +65/-70 +65/-70 +65/-75 +50/-53 +65/-67 +65/-85	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	
	60	A B,C,E D F G H	+63/-63 +63/-63 +65/-75 +50/-65 +65/-79 +65/-85	+63/-63 +63/-63 +65/-75 +50/-63 +65/-75 +65/-85	+62/-62 +63/-63 +65/-75 +50/-59 +65/-70 +65/-85	+59/-59 +63/-63 +65/-75 +50/-55 +65/-66 +65/-85	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	N/A N/A +65/-75 N/A N/A N/A	
	66	A,B,C,E D F G H	+57/-57 +65/-75 +50/-63 +65/-75 +65/-85	+57/-57 +65/-75 +50/-59 +65/-71 +65/-85	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	
	72	A,B,C,E D F G H	+53/-53 +65/-75 +50/-60 +65/-71 +65/-85	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A +65/-75 N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	
	73-7/16	A,B,C,E D F G H	+52/-52 +65/-73 +50/-59 +65/-70 +65/-85	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A +65/-73 N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	
	78	D	N/A	+65/-69	+65/-69	+65/-69	+65/-69	+65/-69	+65/-69	+65/-69	+65/-69	N/A	N/A	N/A	N/A	N/A	N/A
	84	D	N/A	N/A	+64/-64	+64/-64	+64/-64	+64/-64	+64/-64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	90	D	N/A	N/A	N/A	+60/-60	+60/-60	+60/-60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	92-15/16	D	N/A	N/A	N/A	N/A	+58/-58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



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