

PLESIO, INC. COMPUTER SIMULATION REPORT

SCOPE OF WORK

PLESIO SELECT SERIES 86 T/T - NFRC 100/200/500

REPORT NUMBER

J3175.15-116-45 R0

TEST DATE

03/22/19

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11/08/22

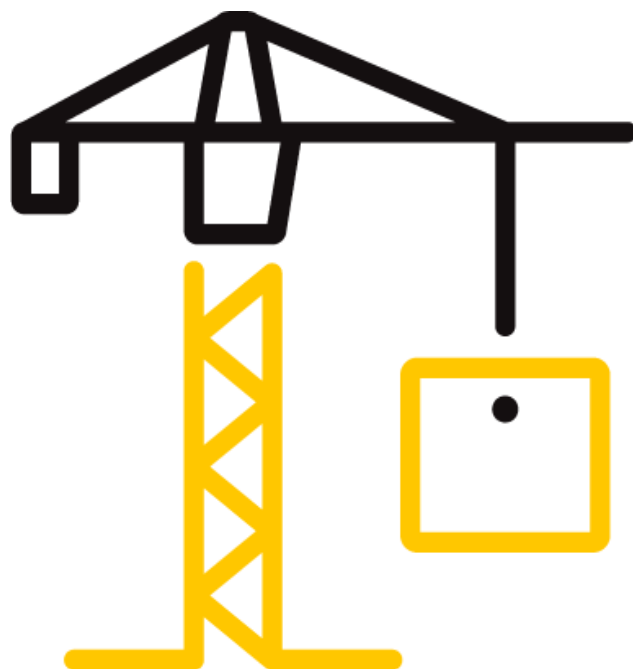
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TEST REPORT FOR PLESIO, INC.

Report No: J3175.15-116-45 R0

Date: 11/08/22

REPORT ISSUED TO

PLESIO, INC.

347 N. Woodmont Drive
Downington, Pennsylvania 19335

SECTION 1

SUMMARY

SERIES/MODEL: Plesio Select Series 86 T/T

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted to perform U-Factor, Solar Heat Gain Coefficient, Visible Transmittance and Condensation Resistance simulations in accordance with the National Fenestration Rating Council (NFRC). This report is reissued in the name of Plesio, Inc. through written authorization of REHAU Construction LLC to whom the original report was rendered. The original REHAU Construction LLC report number is J3175.01-116-45.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends five years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

FOR INTERTEK B&C:

COMPLETED BY:	Jonathan P. Spencer
	Project Engineer
TITLE:	NFRC Certified Simulator
SIGNATURE:	
DATE:	11/08/22

JPS:jps

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TITLE:	
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DATE:	11/08/22

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SECTION 2

TEST METHODS

The products were evaluated in accordance with the following:

ANSI/NFRC 100-2020, Procedure for Determining Fenestration Product U-Factors

ANSI/NFRC 200-2020, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

NFRC 500-2017, Procedure for Determining Fenestration Product Condensation Resistance Values

**Condensation Resistance results obtained from this procedure are for controlled laboratory conditions and do not include the effects of air movement through the specimen, solar radiation, and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening.*

Ratings values included in this report are for submittals to an NFRC-licensed IA and are not meant to be used directly for labeling purposes. Only those values identified on a valid Certificate of Authorization (CA) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes. The ratings values were rounded in accordance with NFRC 601, NFRC Unit and Measurement Policy.

Intertek B&C is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The values included in this report are not considered in compliance with ANSI/NFRC 100, ANSI/NFRC 200, and/or NFRC 500 unless the associated validation test requirements have been satisfied, as applicable.

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SECTION 3

TEST PROCEDURE

The total product, including specific frame, spacer, and glass details, was modeled using NFRC approved software.

FRAME AND EDGE MODELING	THERM 7.4.4
CENTER-OF-GLASS MODELING	WINDOW 7.4.14
TOTAL PRODUCT CALCULATIONS	WINDOW 7.4.14
SPECTRAL DATA LIBRARY	IGDB 88.0

Modeling Assumptions / Technical Interpretations

Any modeling assumptions and technical interpretations required to model this product are listed below.

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.
- 2) Dividers were not modeled in some options per ANSI/NFRC 100-2017, Section 4.2.4.1.D.ii.
- 3) The 532015 and 532335 frame parts were grouped according to ANSI/NFRC 100-2017, Section 4.2.1.H.i. The 532015 frame was the group leader.

SECTION 4

SIMULATION SPECIMEN DESCRIPTION

SERIES/MODEL	Plesio Select Series 86 T/T
PRODUCT TYPE	Dual Action, Tilt Turn
FRAME MATERIAL	VF - Vinyl w/ foam-filled insulation
SASH MATERIAL	VF - Vinyl w/ foam-filled insulation
STANDARD SIZE	1200mm x 1500mm

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SECTION 4 (Continued)

SIMULATION SPECIMEN DESCRIPTION

SPACER OPTIONS			
TYPE	PRIMARY SEAL	SECONDARY SEAL	CODE
Cardinal Endur Spacer	PIB	Silicone	SS-D
Quanex Super Spacer Premium S2	Butyl Rubber	-	ZF-S

GRID OPTIONS		
GRID SIZE	GRID TYPE	GRID PATTERN
3/16" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard

REINFORCEMENT OPTIONS	
LOCATION	MATERIAL
All frame/sash members	Galv. Steel

GAS FILLING TECHNIQUE	
FILL TYPE	METHOD
90% Argon	Single Probe, Timed

EDGE-OF-GLASS CONSTRUCTION	
INTERIOR CONDITION	Rigid PVC glazing bead with flexible fins against glass
EXTERIOR CONDITION	EPDM gasket between rigid PVC sash and glass

WEATHERSTRIPPING		
TYPE	QUANTITY	LOCATION
EPDM Gasket	1 Row	Sash Perimeter
EPDM Gasket	2 Rows	Frame Perimeter

FRAME/SASH MATERIALS FINISH	
INTERIOR	Vinyl
EXTERIOR	Vinyl

VALIDATION MATRIX*	
PRODUCT LINE	REPORT NUMBER
None	-

*These products are part of a validation matrix. Only one is required for validation testing.

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SECTION 5

SPECIALTY PRODUCTS TABLE

The specialty products method allows the manufacturer to determine the overall product SHGC and VT for any glazing option. The center of glass SHGC and/or VT must be determined using WINDOW 7.4.14. The method calculates overall product SHGC and VT indexed on center of glass properties. All values used in the calculations are truncated to six decimal place precision.

	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.003803	0.006390	0.008818
SHGC1	0.684439	0.608283	0.536806
VT0	0.000000	0.000000	0.000000
VT1	0.680636	0.601893	0.527989

$$SHGC = SHGC0 + SHGCc (SHGC1 - SHGC0)$$

$$VT = VT0 + VTc (VT1 - VT0)$$

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SECTION 6

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
1	Foam: E180 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.118	0.500	0.118	0.500	0.118			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16			SHGC(N/<1) 0.39 / 0.34				VT(N/<1) 0.48 / 0.42		CR 79		
2	Foam: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.17			SHGC(N) 0.37				VT(N) 0.46		CR 75		
3	Foam: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.33				VT(<1) 0.41		CR 75		
4	Foam: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.223	0.313	0.224	0.313	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.19			SHGC(N) 0.35				VT(N) 0.45		CR 71		
5	Foam: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.223	0.313	0.224	0.313	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19			SHGC(<1) 0.32				VT(<1) 0.40		CR 71		
6	Foam: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.16			SHGC(N) 0.24				VT(N) 0.38		CR 76		
7	Foam: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.21				VT(<1) 0.34		CR 76		
8	Foam: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.18			SHGC(N) 0.23				VT(N) 0.37		CR 71		
9	Foam: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.19			SHGC(<1) 0.21				VT(<1) 0.33		CR 71		
10	Foam: E272 / ARG90 / LAMIO30 (3MM/2.7MM 030 PVB 2.7MM) - 1" IG											
	0.117	0.594	0.243					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.24			SHGC(N/<1) 0.28 / 0.25				VT(N/<1) 0.48 / 0.42		CR 64		

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft2-F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
11	Foam: E180 / ARG90 / LAMIO30 (3MM/2.7MM 030 PVB 2.7MM) - 1" IG											
	0.118	0.594	0.243					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.25			SHGC(N/<1) 0.44 / 0.39				VT(N/<1) 0.53 / 0.47		CR 63		
12	Foam: E272 / ARG90 / LAMIO90 (3MM/3MM 090 PVB 3MM) - 1" IG											
	0.117	0.531	0.324					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.24			SHGC(N/<1) 0.28 / 0.25				VT(N/<1) 0.48 / 0.42		CR 63		
13	Foam: E180 / ARG90 / LAMIO90 (3MM/3MM 090 PVB 3MM) - 1" IG											
	0.118	0.531	0.324					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.24			SHGC(N/<1) 0.43 / 0.39				VT(N/<1) 0.52 / 0.46		CR 62		
14	Foam: E366 / ARG90 / CLR / ARG90 / E366 (5MM/5MM/5MM) - 1-3/8" IG											
	0.185	0.406	0.185	0.406	0.185			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	N
	U-Factor 0.16			SHGC(N) 0.16				VT(N) 0.31		CR 77		
15	Foam: E366 / ARG90 / CLR / ARG90 / E366 (5MM/5MM/5MM) - 1-3/8" IG											
	0.185	0.406	0.185	0.406	0.185			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	G
	U-Factor 0.16			SHGC(<1) 0.15				VT(<1) 0.27		CR 77		
16	Foam: E366 / ARG90 / CLR / ARG90 / E366 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	N
	U-Factor 0.18			SHGC(N) 0.16				VT(N) 0.30		CR 72		
17	Foam: E366 / ARG90 / CLR / ARG90 / E366 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	G
	U-Factor 0.18			SHGC(<1) 0.15				VT(<1) 0.27		CR 72		
18	Foam: E272 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.117	0.500	0.118	0.500	0.118			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.15			SHGC(N/<1) 0.26 / 0.23				VT(N/<1) 0.43 / 0.38		CR 79		
19	Foam: E272 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.17			SHGC(N) 0.25				VT(N) 0.42		CR 76		
20	Foam: E272 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.22				VT(<1) 0.37		CR 76		

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SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
21	Foam: E272 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.223			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.19		SHGC(N) 0.25				VT(N) 0.41		CR 71			
22	Foam: E272 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.223			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19		SHGC(<1) 0.22				VT(<1) 0.36		CR 71			
23	Foam: E180 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/4" IG											
	0.118	0.688	0.118	0.688	0.118			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16		SHGC(N/<1) 0.39 / 0.34				VT(N/<1) 0.48 / 0.42		CR 81			
24	Foam: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/4" IG											
	0.187	0.594	0.185	0.594	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.37 / 0.33				VT(N/<1) 0.46 / 0.41		CR 80			
25	Foam: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/4" IG											
	0.223	0.500	0.224	0.500	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16		SHGC(N/<1) 0.35 / 0.32				VT(N/<1) 0.45 / 0.40		CR 78			
26	Foam: E272 / ARG90 / CLR / ARG90 / E272 (3MM/3MM/3MM) - 1-3/4" IG											
	0.117	0.688	0.118	0.688	0.117			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.24 / 0.22				VT(N/<1) 0.39 / 0.35		CR 82			
27	Foam: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/4" IG											
	0.187	0.594	0.185	0.594	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.24 / 0.21				VT(N/<1) 0.38 / 0.34		CR 81			
28	Foam: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/4" IG											
	0.224	0.500	0.224	0.500	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.23 / 0.21				VT(N/<1) 0.37 / 0.33		CR 79			
29	Foam: E180 / ARG90 / CLR / ARG90 / E180 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.17		SHGC(N) 0.37				VT(N) 0.46		CR 74			
30	Foam: E180 / ARG90 / CLR / ARG90 / E180 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.17		SHGC(<1) 0.33				VT(<1) 0.41		CR 74			

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SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
31	Foam: E272 / ARG90 / CLR / ARG90 / E272 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.16			SHGC(N) 0.24				VT(N) 0.38		CR 75		
32	Foam: E272 / ARG90 / CLR / ARG90 / E272 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.21				VT(<1) 0.34		CR 75		
33	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.187	0.391	0.118	0.391	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.17			SHGC(N) 0.37				VT(N) 0.46		CR 75		
34	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.187	0.391	0.118	0.391	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.33				VT(<1) 0.41		CR 75		
35	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.187	0.391	0.118	0.391	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.17			SHGC(N) 0.24				VT(N) 0.38		CR 76		
36	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.187	0.391	0.118	0.391	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.21				VT(<1) 0.34		CR 76		
37	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.187	0.359	0.118	0.359	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.18			SHGC(N) 0.37				VT(N) 0.46		CR 74		
38	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.187	0.359	0.118	0.359	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.18			SHGC(<1) 0.33				VT(<1) 0.41		CR 74		
39	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.187	0.359	0.118	0.359	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.17			SHGC(N) 0.24				VT(N) 0.38		CR 75		
40	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.187	0.359	0.118	0.359	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.17			SHGC(<1) 0.21				VT(<1) 0.34		CR 75		

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft2-F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
41	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.223	0.359	0.118	0.359	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.18		SHGC(N) 0.36				VT(N) 0.46		CR 74			
42	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.223	0.359	0.118	0.359	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.18		SHGC(<1) 0.32				VT(<1) 0.41		CR 74			
43	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.224	0.359	0.118	0.359	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.17		SHGC(N) 0.24				VT(N) 0.38		CR 75			
44	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/8" IG											
	0.224	0.359	0.118	0.359	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.18		SHGC(<1) 0.21				VT(<1) 0.33		CR 75			
45	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.223	0.328	0.118	0.328	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.18		SHGC(N) 0.36				VT(N) 0.46		CR 73			
46	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.223	0.328	0.118	0.328	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19		SHGC(<1) 0.32				VT(<1) 0.41		CR 73			
47	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.224	0.328	0.118	0.328	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.18		SHGC(N) 0.24				VT(N) 0.38		CR 74			
48	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/8" IG											
	0.224	0.328	0.118	0.328	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.18		SHGC(<1) 0.21				VT(<1) 0.33		CR 74			
49	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/4" IG											
	0.187	0.578	0.118	0.578	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16		SHGC(N/<1) 0.37 / 0.33				VT(N/<1) 0.46 / 0.41		CR 79			
50	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/4" IG											
	0.187	0.578	0.118	0.578	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.24 / 0.21				VT(N/<1) 0.38 / 0.34		CR 80			

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SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
51	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/4" IG											
	0.187	0.547	0.118	0.547	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.37 / 0.33				VT(N/<1) 0.46 / 0.41		CR 80			
52	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (5MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/4" IG											
	0.187	0.547	0.118	0.547	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.24 / 0.21				VT(N/<1) 0.38 / 0.34		CR 80			
53	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/4" IG											
	0.223	0.547	0.118	0.547	0.250			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16		SHGC(N/<1) 0.36 / 0.32				VT(N/<1) 0.46 / 0.41		CR 79			
54	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/2.7MM 030 PVB 2.7MM) - 1-3/4" IG											
	0.224	0.547	0.118	0.547	0.227			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.23 / 0.21				VT(N/<1) 0.38 / 0.33		CR 80			
55	Foam: E180 / ARG90 / CLR / ARG90 / E180-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/4" IG											
	0.223	0.516	0.118	0.516	0.326			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.16		SHGC(N/<1) 0.36 / 0.32				VT(N/<1) 0.46 / 0.41		CR 80			
56	Foam: E272 / ARG90 / CLR / ARG90 / E272-LAMIO30 (6MM/3MM/3.1MM 030 PVB 3.1MM) - 1-3/4" IG											
	0.224	0.516	0.118	0.516	0.325			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.23 / 0.21				VT(N/<1) 0.38 / 0.33		CR 80			
57	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.118	0.500	0.118	0.500	0.118			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.39 / 0.34				VT(N/<1) 0.48 / 0.42		CR 78			
58	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.19		SHGC(N) 0.37				VT(N) 0.46		CR 75			
59	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19		SHGC(<1) 0.33				VT(<1) 0.41		CR 75			
60	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.223	0.313	0.224	0.313	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.21		SHGC(N) 0.35				VT(N) 0.45		CR 70			

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
61	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.223	0.313	0.224	0.313	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.21			SHGC(<1) 0.32				VT(<1) 0.40		CR 70		
62	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.18			SHGC(N) 0.24				VT(N) 0.38		CR 75		
63	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.18			SHGC(<1) 0.21				VT(<1) 0.34		CR 75		
64	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.20			SHGC(N) 0.23				VT(N) 0.37		CR 71		
65	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.21			SHGC(<1) 0.21				VT(<1) 0.33		CR 71		
66	Reinforcement: E272 / ARG90 / LAMI030 (3MM/2.7MM 030 PVB 2.7MM) - 1" IG											
	0.117	0.594	0.243					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC(N/<1) 0.28 / 0.25				VT(N/<1) 0.48 / 0.42		CR 64		
67	Reinforcement: E180 / ARG90 / LAMI030 (3MM/2.7MM 030 PVB 2.7MM) - 1" IG											
	0.118	0.594	0.243					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC(N/<1) 0.44 / 0.39				VT(N/<1) 0.53 / 0.47		CR 63		
68	Reinforcement: E272 / ARG90 / LAMI090 (3MM/3MM 090 PVB 3MM) - 1" IG											
	0.117	0.531	0.324					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.25			SHGC(N/<1) 0.28 / 0.25				VT(N/<1) 0.48 / 0.42		CR 64		
69	Reinforcement: E180 / ARG90 / LAMI090 (3MM/3MM 090 PVB 3MM) - 1" IG											
	0.118	0.531	0.324					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC(N/<1) 0.43 / 0.39				VT(N/<1) 0.52 / 0.46		CR 63		
70	Reinforcement: E366 / ARG90 / CLR / ARG90 / E366 (5MM/5MM/5MM) - 1-3/8" IG											
	0.185	0.406	0.185	0.406	0.185			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	N
	U-Factor 0.18			SHGC(N) 0.16				VT(N) 0.31		CR 76		

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SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft2-F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
71	Reinforcement: E366 / ARG90 / CLR / ARG90 / E366 (5MM/5MM/5MM) - 1-3/8" IG											
	0.185	0.406	0.185	0.406	0.185			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	G
	U-Factor 0.18		SHGC(<1) 0.15				VT(<1) 0.27		CR 76			
72	Reinforcement: E366 / ARG90 / CLR / ARG90 / E366 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	N
	U-Factor 0.20		SHGC(N) 0.16				VT(N) 0.30		CR 72			
73	Reinforcement: E366 / ARG90 / CLR / ARG90 / E366 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.224			ARG90	0.020(#2) / 0.020(#5)	CL	SS-D	G
	U-Factor 0.20		SHGC(<1) 0.15				VT(<1) 0.27		CR 72			
74	Reinforcement: E272 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.117	0.500	0.118	0.500	0.118			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.26 / 0.23				VT(N/<1) 0.43 / 0.38		CR 78			
75	Reinforcement: E272 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.18		SHGC(N) 0.25				VT(N) 0.42		CR 75			
76	Reinforcement: E272 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19		SHGC(<1) 0.22				VT(<1) 0.37		CR 75			
77	Reinforcement: E272 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.223			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.20		SHGC(N) 0.25				VT(N) 0.41		CR 71			
78	Reinforcement: E272 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/8" IG											
	0.224	0.313	0.224	0.313	0.223			ARG90	0.042(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.21		SHGC(<1) 0.22				VT(<1) 0.36		CR 71			
79	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (3MM/3MM/3MM) - 1-3/4" IG											
	0.118	0.688	0.118	0.688	0.118			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.39 / 0.34				VT(N/<1) 0.48 / 0.42		CR 77			
80	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (5MM/5MM/5MM) - 1-3/4" IG											
	0.187	0.594	0.185	0.594	0.187			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.37 / 0.33				VT(N/<1) 0.46 / 0.41		CR 77			

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
81	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (6MM/6MM/6MM) - 1-3/4" IG											
	0.223	0.500	0.224	0.500	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.18		SHGC(N/<1) 0.35 / 0.32				VT(N/<1) 0.45 / 0.40		CR 77			
82	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (3MM/3MM/3MM) - 1-3/4" IG											
	0.117	0.688	0.118	0.688	0.117			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.24 / 0.22				VT(N/<1) 0.39 / 0.35		CR 77			
83	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (5MM/5MM/5MM) - 1-3/4" IG											
	0.187	0.594	0.185	0.594	0.187			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.24 / 0.21				VT(N/<1) 0.38 / 0.34		CR 77			
84	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (6MM/6MM/6MM) - 1-3/4" IG											
	0.224	0.500	0.224	0.500	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.17		SHGC(N/<1) 0.23 / 0.21				VT(N/<1) 0.37 / 0.33		CR 77			
85	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.19		SHGC(N) 0.37				VT(N) 0.46		CR 74			
86	Reinforcement: E180 / ARG90 / CLR / ARG90 / E180 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.223			ARG90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.19		SHGC(<1) 0.33				VT(<1) 0.41		CR 74			
87	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.18		SHGC(N) 0.24				VT(N) 0.38		CR 74			
88	Reinforcement: E272 / ARG90 / CLR / ARG90 / E272 (5MM/3MM/6MM) - 1-3/8" IG											
	0.187	0.406	0.118	0.406	0.224			ARG90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.18		SHGC(<1) 0.21				VT(<1) 0.34		CR 74			
89	Foam: E180 / KRY90 / CLR / KRY90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.118	0.500	0.118	0.500	0.118			KRY90	0.068(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.15		SHGC(N/<1) 0.39 / 0.34				VT(N/<1) 0.48 / 0.42		CR 81			
90	Foam: E272 / KRY90 / CLR / KRY90 / E272 (3MM/3MM/3MM) - 1-3/8" IG											
	0.117	0.500	0.118	0.500	0.117			KRY90	0.042(#2) / 0.042(#5)	CL	SS-D	N,G
	U-Factor 0.14		SHGC(N/<1) 0.24 / 0.22				VT(N/<1) 0.39 / 0.35		CR 81			

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
91	Foam: E272 / KRY90 / CLR / KRY90 / E180 (3MM/3MM/3MM) - 1-3/8" IG											
	0.117	0.500	0.118	0.500	0.118			KRY90	0.042(#2) / 0.068(#5)	CL	SS-D	N,G
	U-Factor 0.14		SHGC(N<1) 0.26 / 0.23				VT(N<1) 0.43 / 0.38		CR 81			
92	Foam: E180 / KRY90 / CLR / KRY90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.068(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.15		SHGC(N) 0.37				VT(N) 0.46		CR 78			
93	Foam: E180 / KRY90 / CLR / KRY90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.068(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.15		SHGC(<1) 0.33				VT(<1) 0.41		CR 78			
94	Foam: E272 / KRY90 / CLR / KRY90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.042(#2) / 0.042(#5)	CL	SS-D	N
	U-Factor 0.14		SHGC(N) 0.24				VT(N) 0.38		CR 79			
95	Foam: E272 / KRY90 / CLR / KRY90 / E272 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.042(#2) / 0.042(#5)	CL	SS-D	G
	U-Factor 0.14		SHGC(<1) 0.21				VT(<1) 0.34		CR 79			
96	Foam: E272 / KRY90 / CLR / KRY90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.042(#2) / 0.068(#5)	CL	SS-D	N
	U-Factor 0.14		SHGC(N) 0.25				VT(N) 0.42		CR 79			
97	Foam: E272 / KRY90 / CLR / KRY90 / E180 (5MM/5MM/5MM) - 1-3/8" IG											
	0.187	0.406	0.185	0.406	0.187			KRY90	0.042(#2) / 0.068(#5)	CL	SS-D	G
	U-Factor 0.15		SHGC(<1) 0.22				VT(<1) 0.37		CR 79			
98	Foam: E272 / ARG90 / CLR (3MM/3MM) - 1" IG											
	0.117	0.750	0.118					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.25		SHGC(N<1) 0.28 / 0.25				VT(N<1) 0.49 / 0.43		CR 64			
99	Foam: E272 / ARG90 / CLR (5MM/5MM) - 1" IG											
	0.187	0.625	0.185					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.25		SHGC(N<1) 0.28 / 0.25				VT(N<1) 0.48 / 0.43		CR 63			
100	Foam: E272 / ARG90 / CLR (6MM/6MM) - 1" IG											
	0.224	0.500	0.224					ARG90	0.042(#2)	CL	SS-D	N,G
	U-Factor 0.24		SHGC(N<1) 0.28 / 0.25				VT(N<1) 0.48 / 0.42		CR 62			

TEST REPORT FOR PLESIO, INC.

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SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft2-F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
101	Foam: SB60/ARG/CLR/ARG/SB60 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N,G
	U-Factor 0.15			SHGC(N/<1) 0.24 / 0.21				VT(N/<1) 0.40 / 0.35		CR 81		
102	Foam: SB60/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.16			SHGC(N) 0.23				VT(N) 0.39		CR 77		
103	Foam: SB60/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.16			SHGC(<1) 0.21				VT(<1) 0.34		CR 77		
104	Foam: SB60/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.18			SHGC(N) 0.23				VT(N) 0.38		CR 73		
105	Foam: SB60/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.18			SHGC(<1) 0.21				VT(<1) 0.34		CR 73		
106	Foam: SB70/ARG/CLR/ARG/SB60 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N,G
	U-Factor 0.15			SHGC(N/<1) 0.17 / 0.15				VT(N/<1) 0.35 / 0.31		CR 81		
107	Foam: SB70/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.16			SHGC(N) 0.17				VT(N) 0.34		CR 78		
108	Foam: SB70/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.16			SHGC(<1) 0.15				VT(<1) 0.30		CR 78		
109	Foam: SB70/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.18			SHGC(N) 0.17				VT(N) 0.35		CR 73		
110	Foam: SB70/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.18			SHGC(<1) 0.15				VT(<1) 0.31		CR 73		

TEST REPORT FOR PLESIO, INC.

Report No: J3175.15-116-45 R0

Date: 11/08/22

SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
111	Foam: SB60/ARG/CLR/ARG/SB70 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N,G
	U-Factor 0.15		SHGC(N<1) 0.21 / 0.19				VT(N<1) 0.35 / 0.31		CR 81			
112	Foam: SB60/ARG/CLR/ARG/SB70 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N
	U-Factor 0.16		SHGC(N) 0.21				VT(N) 0.34		CR 78			
113	Foam: SB60/ARG/CLR/ARG/SB70 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	G
	U-Factor 0.16		SHGC(<1) 0.19				VT(<1) 0.30		CR 78			
114	Foam: SB60/ARG/CLR/ARG/SB70 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N
	U-Factor 0.18		SHGC(N) 0.20				VT(N) 0.35		CR 73			
115	Foam: SB60/ARG/CLR/ARG/SB70 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	G
	U-Factor 0.18		SHGC(<1) 0.18				VT(<1) 0.31		CR 73			
116	Reinforcement: SB60/ARG/CLR/ARG/SB60 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N,G
	U-Factor 0.16		SHGC(N<1) 0.24 / 0.21				VT(N<1) 0.40 / 0.35		CR 79			
117	Reinforcement: SB60/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.18		SHGC(N) 0.23				VT(N) 0.39		CR 77			
118	Reinforcement: SB60/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.18		SHGC(<1) 0.21				VT(<1) 0.34		CR 77			
119	Reinforcement: SB60/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.20		SHGC(N) 0.23				VT(N) 0.38		CR 72			
120	Reinforcement: SB60/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.20		SHGC(<1) 0.21				VT(<1) 0.34		CR 72			

TEST REPORT FOR PLESIO, INC.

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Date: 11/08/22

SECTION 6 (Continued)

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (Plesio Select Series 86 T/T)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft ² -F)		Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)			
121	Reinforcement: SB70/ARG/CLR/ARG/SB60 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N,G
	U-Factor 0.16		SHGC(N<1) 0.17 / 0.15				VT(N<1) 0.35 / 0.31		CR 79			
122	Reinforcement: SB70/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.18		SHGC(N) 0.17				VT(N) 0.34		CR 77			
123	Reinforcement: SB70/ARG/CLR/ARG/SB60 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.18		SHGC(<1) 0.15				VT(<1) 0.30		CR 77			
124	Reinforcement: SB70/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	N
	U-Factor 0.20		SHGC(N) 0.17				VT(N) 0.35		CR 72			
125	Reinforcement: SB70/ARG/CLR/ARG/SB60 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.018(#2) / 0.035(#5)	CL	ZF-S	G
	U-Factor 0.20		SHGC(<1) 0.15				VT(<1) 0.31		CR 72			
126	Reinforcement: SB60/ARG/CLR/ARG/SB70 (3MM/3MM/3MM) 1-3/8" IG											
	0.129	0.500	0.129	0.500	0.129			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N,G
	U-Factor 0.16		SHGC(N<1) 0.21 / 0.19				VT(N<1) 0.35 / 0.31		CR 79			
127	Reinforcement: SB60/ARG/CLR/ARG/SB70 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N
	U-Factor 0.18		SHGC(N) 0.21				VT(N) 0.34		CR 77			
128	Reinforcement: SB60/ARG/CLR/ARG/SB70 (5MM/5MM/5MM) 1-3/8" IG											
	0.184	0.406	0.184	0.406	0.184			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	G
	U-Factor 0.18		SHGC(<1) 0.19				VT(<1) 0.30		CR 77			
129	Reinforcement: SB60/ARG/CLR/ARG/SB70 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	N
	U-Factor 0.20		SHGC(N) 0.20				VT(N) 0.35		CR 72			
130	Reinforcement: SB60/ARG/CLR/ARG/SB70 (6MM/6MM/6MM) 1-3/8" IG											
	0.223	0.313	0.223	0.313	0.223			ARG90	0.035(#2) / 0.018(#5)	CL	ZF-S	G
	U-Factor 0.20		SHGC(<1) 0.18				VT(<1) 0.31		CR 72			



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TEST REPORT FOR PLESIO, INC.

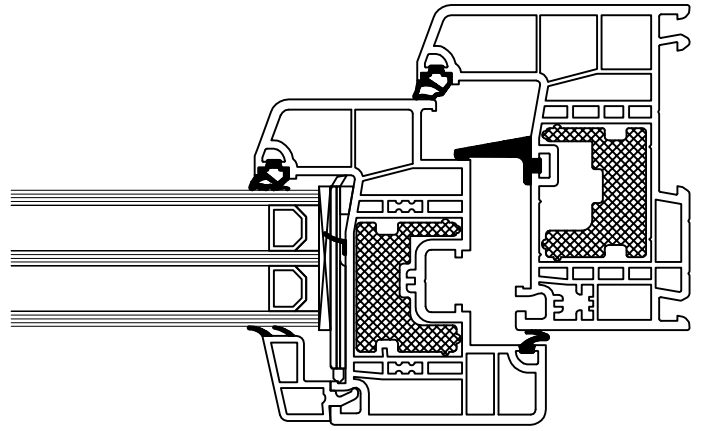
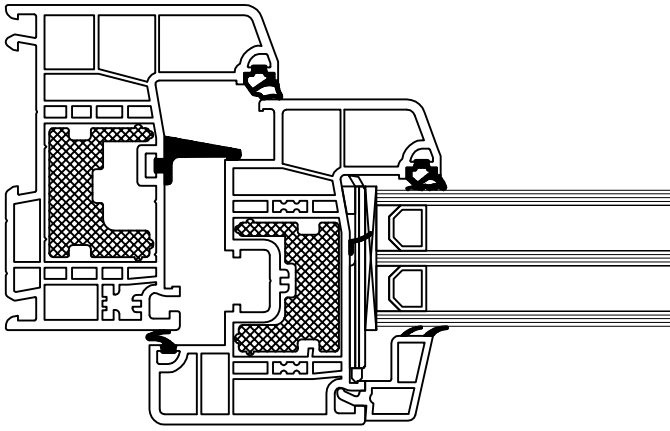
Report No: J3175.15-116-45 R0

Date: 11/08/22

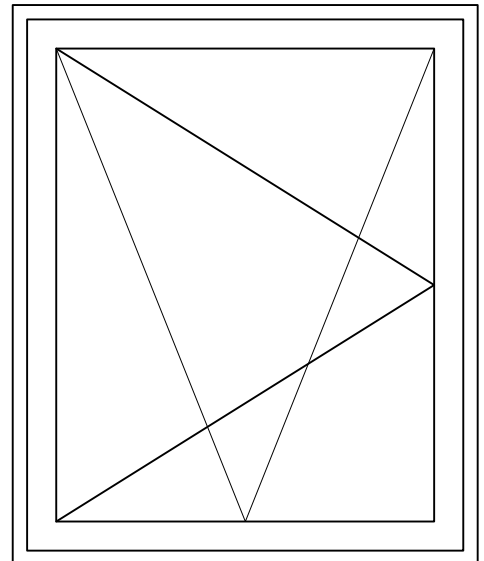
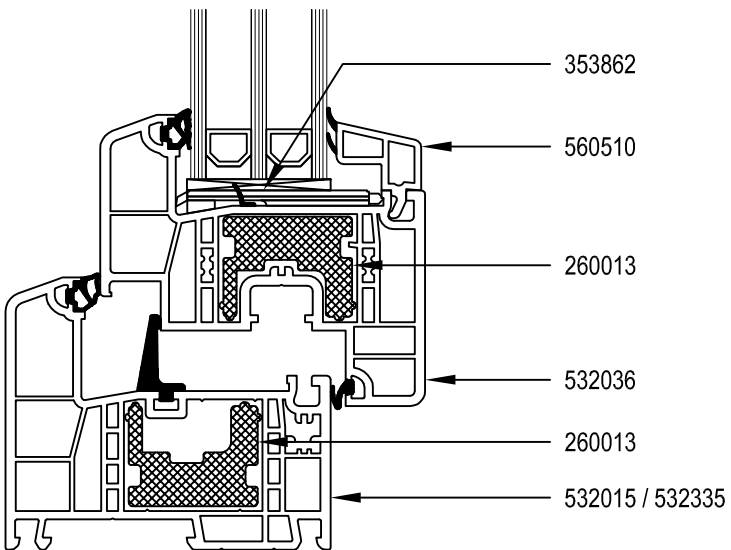
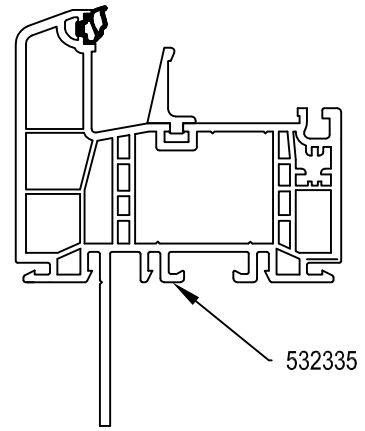
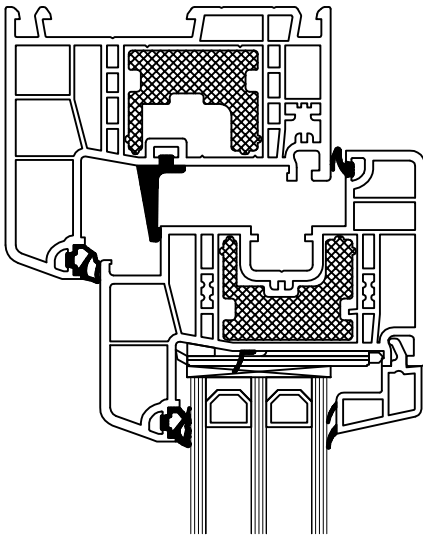
SECTION 7

DRAWINGS / BILL OF MATERIALS

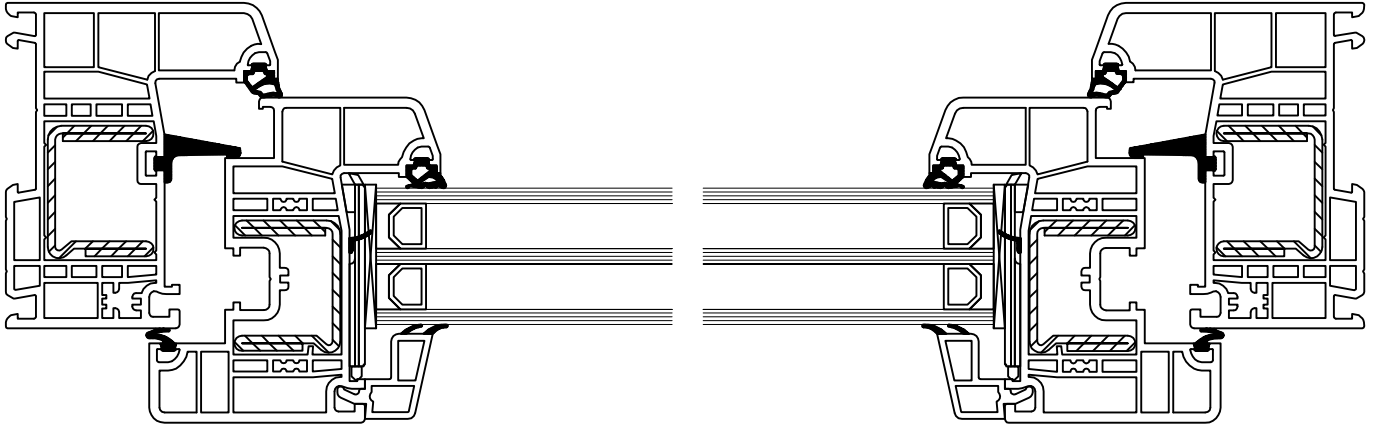
The drawings which follow have been reviewed by Intertek B&C and are representative of the simulation results reported herein. Any deviations are documented herein or on the drawings.



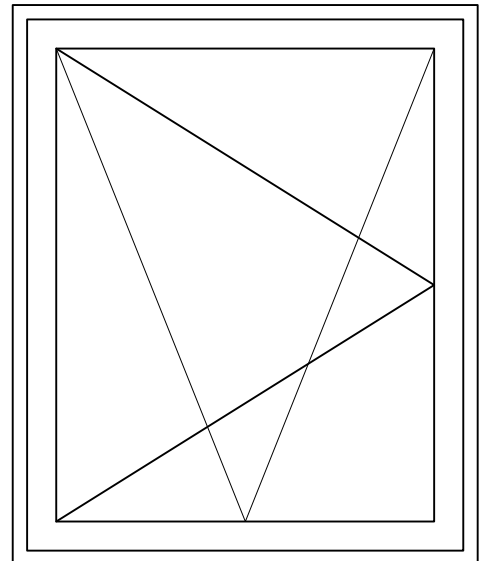
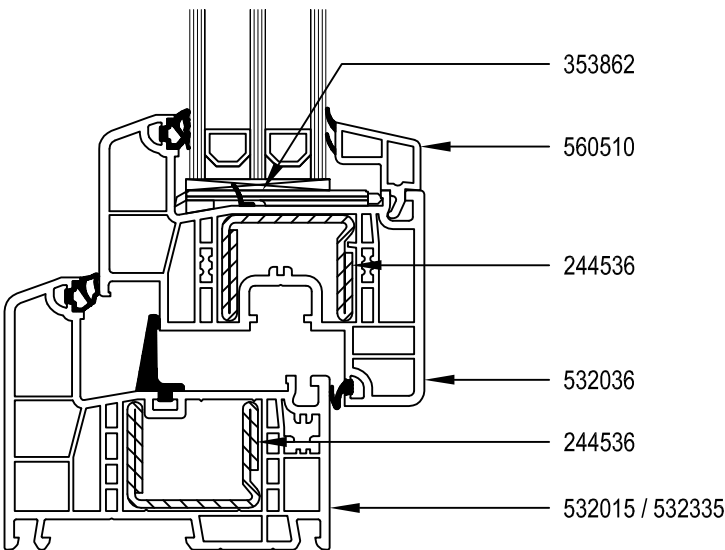
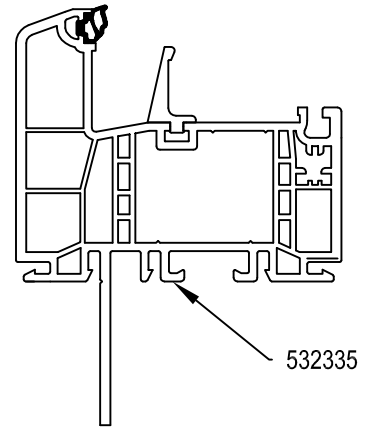
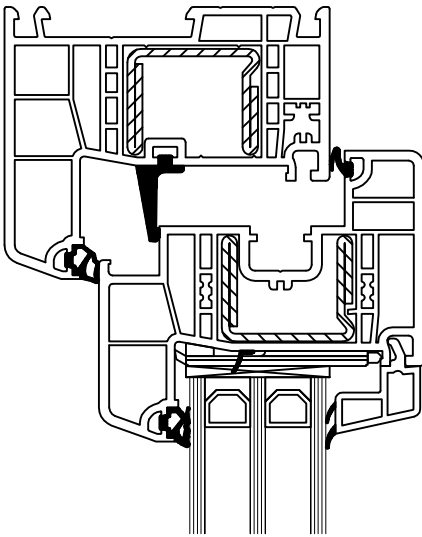
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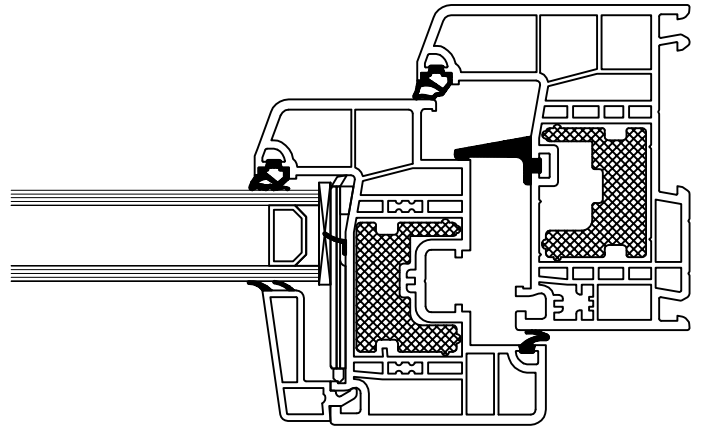
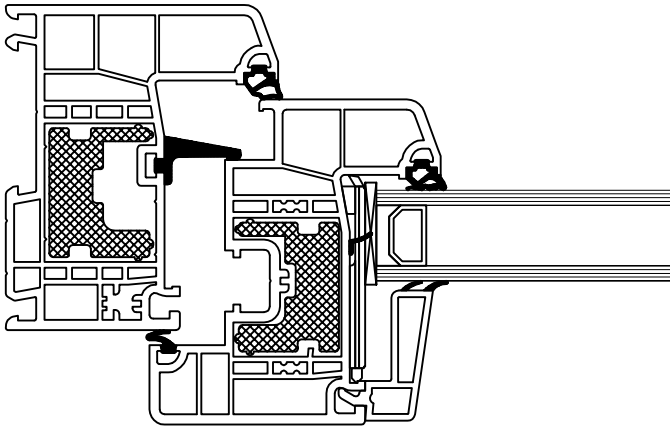
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			Title: Tilt Turn - Foam Insert (Thermal Simulations)		
		REHAU Construction LLC 1501 Edwards Ferry Road, NE Leesburg, Virginia 20176 Tel: (703) 777-5255	Date: 09/29/2014	Scale: 1:2	Drawn by: JWB
				Drawing No.: 2412-14-143	Rev.:
Rev #	Revision Description & Date			© 2014 REHAU. Do not disclose without written permission	




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 Verified by: *Rick A. [Signature]*

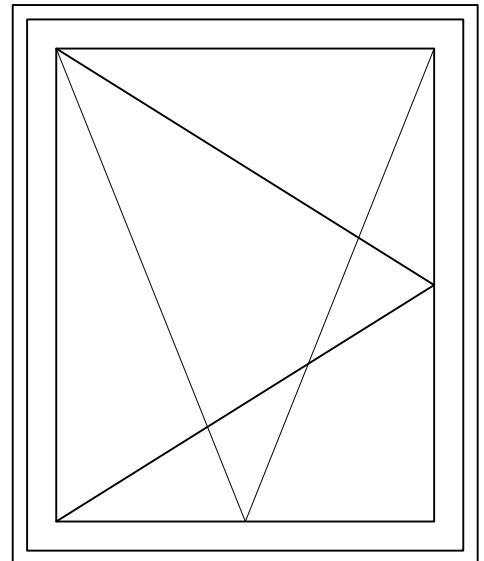
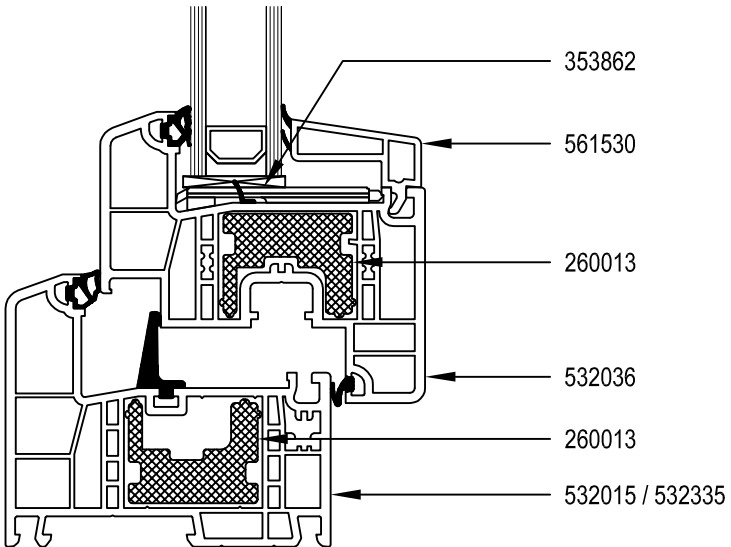
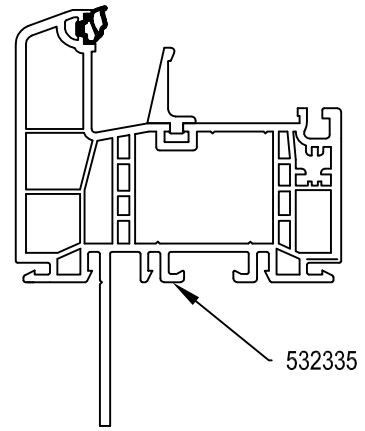
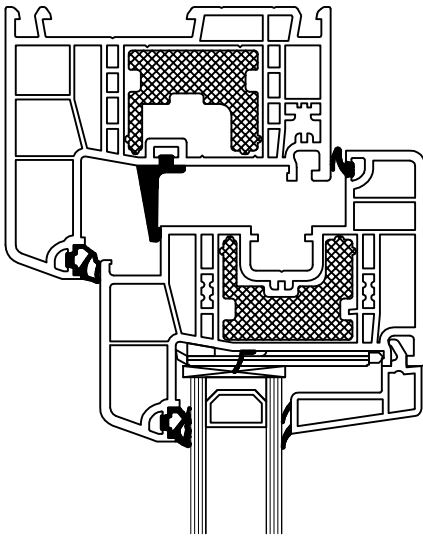


			System: Geneo		
			Title: Tilt Turn - Reinforcement (Thermal Simulations)		
		REHAU Construction LLC 1501 Edwards Ferry Road, NE Leesburg, Virginia 20176 Tel: (703) 777-5255	Date: 09/29/2014	Scale: 1:2	Drawn by: JWB
				Drawing No.: 2412-14-143	Rev.:
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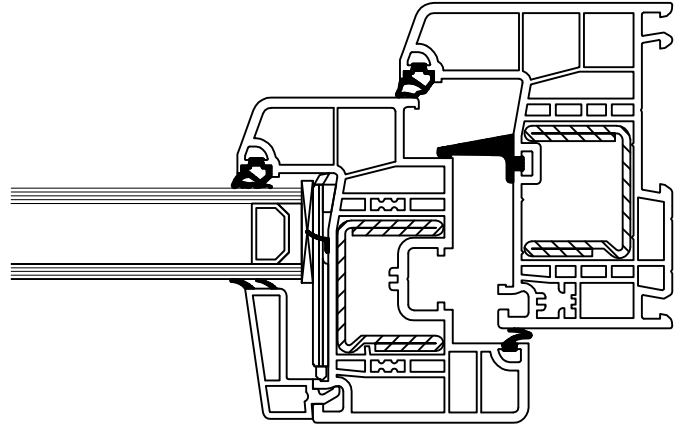
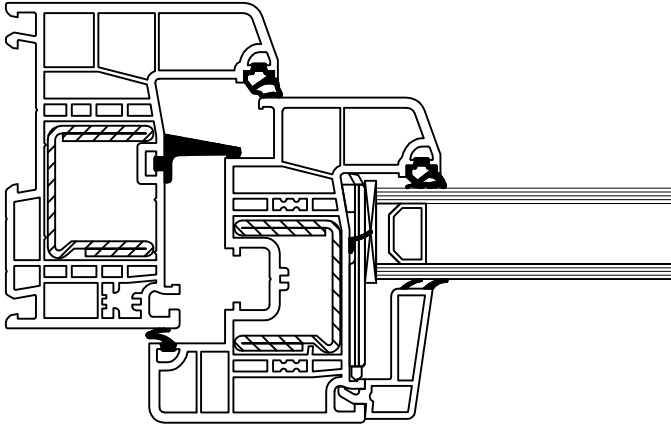


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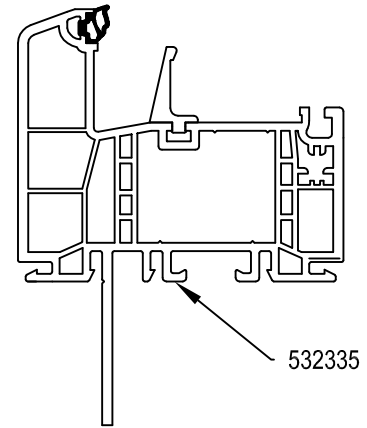
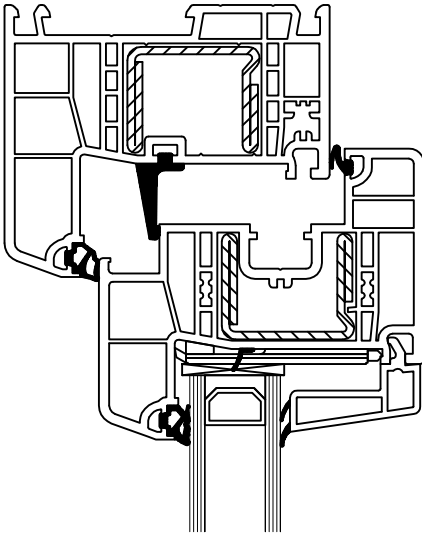


			System: Geneo		
			Title: Tilt Turn - Foam Insert (Thermal Simulations) 1" Glass		
		REHAU Construction LLC 1501 Edwards Ferry Road, NE Leesburg, Virginia 20176 Tel: (703) 777-5255	Date: 10/21/2014	Scale: 1:2	Drawn by: JWB
				Drawing No.: 2412-14-143_1	Rev.:
Rev #	Revision Description & Date	© 2014 REHAU. Do not disclose without written permission			

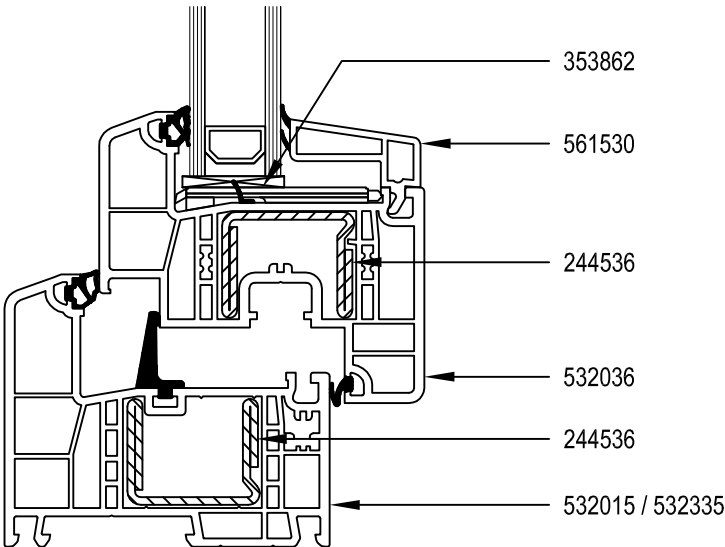


intertek
Total Quality. Assured.

Report #: J3175-116-45
Date: 2/8/2021
Verified by: *Rick L. Lane III*



532335



353862

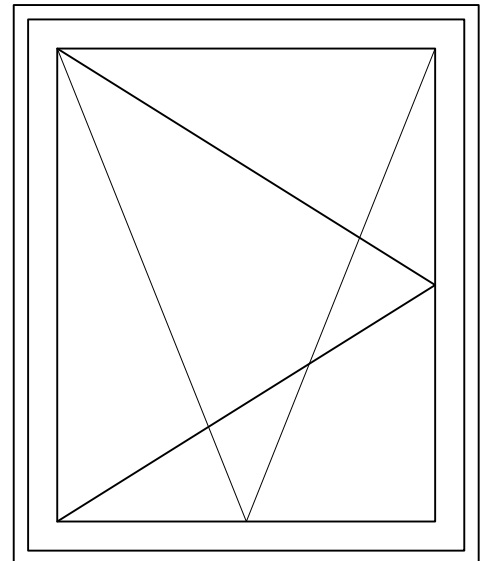
561530

244536

532036

244536

532015 / 532335



Rev #	Revision Description & Date
-	-



REHAU Construction LLC
1501 Edwards Ferry Road, NE
Leesburg, Virginia 20176
Tel: (703) 777-5255

System: Geneo

Title:

Tilt Turn - Reinforcement
(Thermal Simulations)

1" Glass

Date: 10/21/2014

Scale: 1:2

Drawn by: JWB

Drawing No.: 2412-14-143_1

Rev.:

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BILL OF MATERIALS



Product: 4700 - Tilt Turn

Article / Part No.	Description
244536	Steel Reinforcement
260013	Foam Insert Nr. 2
353862	Bridging Wedge
532015	Frame 72
532036	Sash Z 57
560510	22.5 mm Glazing Stop 1-3/8" Glass
532335	Frame 72 with Nail Fin
561530	34.5 mm Glazing Stop - 1" Glass

Notes: Quantity estimate based on rough estimate

 Total Quality. Assured.	Report #: <u>J3175-116-45</u>
	Date: <u>2/8/2021</u>
	Verified by: <u><i>Rhd A. [Signature]</i></u>



Total Quality. Assured.

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www.intertek.com/building

TEST REPORT FOR PLESIO, INC.

Report No: J3175.15-116-45 R0

Date: 11/08/22

SECTION 8

REVISION LOG

REVISION #	DATE	PAGES	REVISION
.15R0	11/08/22	All	Reissue to Plesio, Inc.
