



**NFRC U-FACTOR, SHGC, VT, &
CONDENSATION RESISTANCE
COMPUTER SIMULATION REPORT**

**Rendered to:
THE COEUR D'ALENE WINDOW COMPANY**

**SERIES/MODEL:
3300 Fixed Window**

**Report Number: D9208.02-301-45
Report Date: 08/04/14**



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THE COEUR D'ALENE WINDOW COMPANY
3808 N. Sullivan Road
Spokane Valley, Washington 99216

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Project Summary:

Architectural Testing, Inc. was contracted to perform U-Factor, Solar Heat Gain Coefficient, Visible Transmittance, and Condensation Resistance* computer simulations in accordance with the National Fenestration Rating Council (NFRC). The products were evaluated in full compliance with NFRC requirements to the standards listed below.

**NFRC's Condensation Resistance rating is NOT equivalent to a Condensation Resistance Factor (CRF) determined in accordance with AAMA 1503.*

Standards:

NFRC 100-2014: Procedure for Determining Fenestration Product U-Factors
NFRC 200-2014: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
NFRC 500-2014: Procedure for Determining Fenestration Product Condensation Resistance Values

Software:

Frame and Edge Modeling: THERM 6.3.46
Center-of-Glass Modeling: WINDOW 6.3.74
Total Product Calculations: WINDOW 6.3.74
Spectral Data Library: IGDB 36.0

Simulations Specimen Description:

Series/Model: 3300 Fixed Window
Type: Fixed, 4-Sided
Frame Material: VY Vinyl
Sash Material: NA Not Applicable
Standard Size: 1200mm x 1500mm

Modeling Assumptions/Technical Interpretations:

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.
- 2) The nailing fin on frames R1273 and R1274 was removed per NFRC 100-2014, Section 4.2.5.A.
- 3) Frames R1273, R1274 and R1275 are groupable per NFRC 100-2014, Section 4.2.1.H.i. R1273 is the group leader.
- 4) Grid Group 1: 3/16" x 5/8" contour, 3/16" x 5/8" rectangular, 3/16" x 3/4" rectangular, 3/16" x 13/16" rectangular, 3/16" x 1" rectangular and 5.5 mm x 18 mm contour grids are groupable per NFRC 100-2014, Section 4.2.4.1.D.i. 3/16" x 1" rectangular grid is the group leader for double and triple glazed options.
- 5) Grid Group 2: 1/4" x 5/16" rectangular, 1/4" x 3/8" rectangular, 1/4" x 1/2" rectangular, 1/4" x 5/8" rectangular, 1/4" x 7/8" rectangular, 1/4" x 1" rectangular, 5/16" x 1/2" rectangular, 5/16" x 5/8" rectangular, 5/16" x 7/8" rectangular, 5/16" x 1" rectangular, 3/8" x 3/8" rectangular, 3/8" x 1/2" rectangular, 3/8" x 5/8" rectangular, 3/8" x 7/8" rectangular, 1/2" x 5/8" rectangular, 1/2" x 7/8" rectangular, 8 mm x 18 mm contour and 8 mm x 25 mm contour grids are groupable per NFRC 100-2014, Section 4.2.4.1.D.i. 1/2" x 7/8" rectangular grid is the group leader. Grid Group 2 is only used in double glazed options.
- 6) Grids did not need to be modeled separately on some options per NFRC 100-2014, Section 4.2.4.1.D.ii.a. When results for two grids are present for a glazing option, Grid Group 1 results are listed first.

Specialty Products Table:

The specialty products method allow 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 6.3.74. The method gives overall product SHGC and VT indexed on center of glass properties. All values used in the calculations are truncated to six decimal place

	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.001559	0.004515	0.007314
SHGC1	0.895031	0.807389	0.724428
VT0	0.000000	0.000000	0.000000
VT1	0.893472	0.802874	0.717114

$$\text{SHGC} = \text{SHGC0} + \text{SHGCc} (\text{SHGC1} - \text{SHGC0})$$

$$\text{VT} = \text{VT0} + \text{VTc} (\text{VT1} - \text{VT0})$$

Validation Matrix:

The following products are part of a validation matrix. Only one is required for validation testing.

Product Line	Report Number
None	-

Spacer Option Description

<i>Spacer Type</i>	<i>Sealant</i>		<i>Code</i>
	<i>Primary</i>	<i>Secondary</i>	
Cardinal Endur Spacer	Polyisobutylene	Silicone	SS-D

Grid Option Description

<i>Grid Size</i>	<i>Grid Type</i>	<i>Grid Pattern</i>
3/16" x 5/8"	Aluminum Contour Grid (Painted)	NFRC Standard
3/16" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/16" x 3/4"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/16" x 13/16"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/16" x 1"	Aluminum Rectangular Grid (Painted)	NFRC Standard
5.5 mm x 18	Aluminum Contour Grid (Painted)	NFRC Standard
1/4" x 5/16"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/4" x 3/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/4" x 1/2"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/4" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/4" x 7/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/4" x 1"	Aluminum Rectangular Grid (Painted)	NFRC Standard
5/16" x 1/2"	Aluminum Rectangular Grid (Painted)	NFRC Standard
5/16" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
5/16" x 7/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
5/16" x 1"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/8" x 3/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/8" x 1/2"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/8" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
3/8" x 7/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/2" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
1/2" x 7/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard
8 mm x 18 mm	Aluminum Contour Grid (Painted)	NFRC Standard
8 mm x 25 mm	Aluminum Contour Grid (Painted)	NFRC Standard

Reinforcement Option Description

<i>Location</i>	<i>Material</i>
None	-

Gas Filling Technique Description

<i>Fill Type</i>	<i>Method</i>
90% Argon	Evacuated chamber

Edge-of-Glass Construction

<i>Interior Condition</i>	Glazing tape between frame and glass.
<i>Exterior Condition</i>	Glazing bead against the glass.

Weatherstripping

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
None	-	-

Frame/Sash Materials Finish

<i>Interior</i>	Vinyl
<i>Exterior</i>	Vinyl

*Non-Foam Filled Options #1-48

*Foam Filled Options #49-87

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type		
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance			
	Non-Foam Filled Options #1-48													
1	Clr/Arg/Clr-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90		CL	SS-D	N,G		
	U-Factor		0.44	SHGC (N / <1)				0.71 / 0.64		VT (N / <1)		0.74 / 0.67		CR
2	Clr/Arg/Clr-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90		CL	SS-D	G		
	U-Factor		0.48	SHGC (<1)				0.64		VT (<1)		0.67		CR
3	Clr/Arg/270-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.037(#3)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.42 / 0.38		VT (N / <1)		0.63 / 0.57		CR
	270/Arg/Clr-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.037(#2)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.33 / 0.30		VT (N / <1)		0.63 / 0.57		CR
	366/Arg/Clr-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.022(#2)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.24 / 0.22		VT (N / <1)		0.59 / 0.53		CR
	Clr/Arg/366-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.022(#3)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.35 / 0.32		VT (N / <1)		0.59 / 0.53		CR
	366/Arg/180-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.24 / 0.22		VT (N / <1)		0.56 / 0.51		CR
	270/Arg/270-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	N,G		
	U-Factor		0.27	SHGC (N / <1)				0.30 / 0.28		VT (N / <1)		0.54 / 0.48		CR
4	Clr/Arg/270-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.037(#3)	CL	SS-D	G		
	U-Factor		0.32	SHGC (<1)				0.38		VT (<1)		0.57		CR
	270/Arg/Clr-3/4"-(2mm-2mm)													
	0.087	0.571	0.087					ARG90	0.037(#2)	CL	SS-D	G		
	U-Factor		0.32	SHGC (<1)				0.30		VT (<1)		0.57		CR

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	366/Arg/Clr-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.22					VT (<1) 0.53		CR 59	
	Clr/Arg/366-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.022(#3)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.32					VT (<1) 0.53		CR 59	
	366/Arg/180-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.22					VT (<1) 0.51		CR 59	
	270/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.28					VT (<1) 0.48		CR 59	
5	Clr/Arg/Clr-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90		CL	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.70 / 0.63					VT (N / <1) 0.73 / 0.65		CR 46	
	Clr/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90		CL	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.70 / 0.63					VT (N / <1) 0.74 / 0.66		CR 46	
	SBrz/Arg/Clr-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90		BZ	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.56 / 0.51					VT (N / <1) 0.54 / 0.49		CR 46	
	SGry/Arg/Clr-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90		GY	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.52 / 0.47					VT (N / <1) 0.49 / 0.44		CR 46	
6	Clr/Arg/Clr-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90		CL	SS-D	G
	U-Factor 0.51			SHGC (<1) 0.63					VT (<1) 0.65		CR 39	
	Clr/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90		CL	SS-D	G
	U-Factor 0.51			SHGC (<1) 0.63					VT (<1) 0.66		CR 39	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	SBrz/Arg/Clr-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90		BZ	SS-D	G
	U-Factor 0.51			SHGC (<1) 0.51					VT (<1) 0.49		CR 39	
	SGry/Arg/Clr-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90		GY	SS-D	G
	U-Factor 0.51			SHGC (<1) 0.47					VT (<1) 0.44		CR 39	
7	180/Arg/Clr-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.58 / 0.52					VT (N / <1) 0.70 / 0.63		CR 59	
	Clr/Arg/180-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90	0.068(#3)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.62 / 0.56					VT (N / <1) 0.70 / 0.63		CR 59	
	180/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.58 / 0.52					VT (N / <1) 0.71 / 0.64		CR 59	
	240/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.057(#2)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.23 / 0.21					VT (N / <1) 0.36 / 0.32		CR 59	
	Clr/Arg/180-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.068(#3)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.61 / 0.55					VT (N / <1) 0.71 / 0.64		CR 59	
	Clr/Arg/240-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.057(#3)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.46 / 0.42					VT (N / <1) 0.36 / 0.32		CR 59	
	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.512	0.087					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.42 / 0.38					VT (N / <1) 0.63 / 0.57		CR 59	
8	180/Arg/Clr-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.52					VT (<1) 0.63		CR 48	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC)					Visible Transmittance (VT)		Condensation Resistance	
	Grids (None / <1 / >=1)											
	Clr/Arg/180-3/4"-(2.8mm-2.8mm)											
	0.110	0.512	0.110					ARG90	0.068(#3)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.56					VT (<1) 0.63		CR 48	
	180/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.52					VT (<1) 0.64		CR 48	
	240/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.057(#2)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.21					VT (<1) 0.32		CR 48	
	Clr/Arg/180-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.068(#3)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.55					VT (<1) 0.64		CR 48	
	Clr/Arg/240-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.057(#3)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.42					VT (<1) 0.32		CR 48	
	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.512	0.087					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.37			SHGC (<1) 0.38					VT (<1) 0.57		CR 48	
9	180/Arg/i89-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.23			SHGC (N / <1) 0.56 / 0.51					VT (N / <1) 0.69 / 0.62		CR 46	
	180/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.23			SHGC (N / <1) 0.56 / 0.50					VT (N / <1) 0.69 / 0.62		CR 46	
10	180/Arg/i89-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.28			SHGC (<1) 0.51					VT (<1) 0.62		CR 35	
	180/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.28			SHGC (<1) 0.50					VT (<1) 0.62		CR 35	

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
11	Clr/Arg/270-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.118					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.41 / 0.37					VT (N / <1) 0.62 / 0.56		CR 60	
	270/Arg/Clr-3/4"-(3mm-2.8mm)											
	0.118	0.512	0.110					ARG90	0.037(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.33 / 0.30					VT (N / <1) 0.62 / 0.56		CR 60	
	366/Arg/Clr-3/4"-(3mm-2.8mm)											
	0.117	0.512	0.110					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.58 / 0.52		CR 60	
	Clr/Arg/366-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.117					ARG90	0.022(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.35 / 0.32					VT (N / <1) 0.58 / 0.52		CR 60	
	366/Arg/180-3/4"-(3mm-2.8mm)											
	0.117	0.512	0.110					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.56 / 0.50		CR 60	
	366/Arg/270-3/4"-(3mm-3mm)											
	0.117	0.512	0.118					ARG90	0.022(#2) / 0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.49 / 0.44		CR 60	
	270/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.037(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.33 / 0.30					VT (N / <1) 0.63 / 0.56		CR 60	
	366/Arg/Clr-3/4"-(3mm-3mm)											
	0.117	0.512	0.118					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.58 / 0.52		CR 60	
	SBrz/Arg/270-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90	0.037(#3)	BZ	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.32 / 0.29					VT (N / <1) 0.46 / 0.42		CR 60	
	SGry/Arg/270-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90	0.037(#3)	GY	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.30 / 0.28					VT (N / <1) 0.42 / 0.37		CR 60	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type		
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance			
	Clr/Arg/270-3/4"-(3mm-3mm)													
	0.118	0.512	0.118					ARG90	0.037(#3)	CL	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.41 / 0.37		VT (N / <1)		0.63 / 0.56		CR
	Clr/Arg/366-3/4"-(3mm-3mm)													
	0.118	0.512	0.117					ARG90	0.022(#3)	CL	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.35 / 0.32		VT (N / <1)		0.58 / 0.52		CR
	270/Arg/SBrz-3/4"-(3mm-3mm)													
	0.118	0.512	0.129					ARG90	0.037(#2)	BZ	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.32 / 0.29		VT (N / <1)		0.46 / 0.42		CR
	270/Arg/SGry-3/4"-(3mm-3mm)													
	0.118	0.512	0.129					ARG90	0.037(#2)	GY	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.32 / 0.29		VT (N / <1)		0.42 / 0.37		CR
	366/Arg/180-3/4"-(3mm-3mm)													
	0.117	0.512	0.118					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.24 / 0.22		VT (N / <1)		0.56 / 0.50		CR
	270/Arg/270-3/4"-(3mm-3mm)													
	0.118	0.512	0.118					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	N,G		
	U-Factor		0.26	SHGC (N / <1)				0.30 / 0.28		VT (N / <1)		0.53 / 0.48		CR
12	Clr/Arg/270-3/4"-(2.8mm-3mm)													
	0.110	0.512	0.118					ARG90	0.037(#3)	CL	SS-D	G		
	U-Factor		0.36	SHGC (<1)				0.37		VT (<1)		0.56		CR
	270/Arg/Clr-3/4"-(3mm-2.8mm)													
	0.118	0.512	0.110					ARG90	0.037(#2)	CL	SS-D	G		
	U-Factor		0.36	SHGC (<1)				0.30		VT (<1)		0.56		CR
	366/Arg/Clr-3/4"-(3mm-2.8mm)													
	0.117	0.512	0.110					ARG90	0.022(#2)	CL	SS-D	G		
	U-Factor		0.36	SHGC (<1)				0.22		VT (<1)		0.52		CR
	Clr/Arg/366-3/4"-(2.8mm-3mm)													
	0.110	0.512	0.117					ARG90	0.022(#3)	CL	SS-D	G		
	U-Factor		0.36	SHGC (<1)				0.32		VT (<1)		0.52		CR

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	366/Arg/180-3/4"-(3mm-2.8mm)											
	0.117	0.512	0.110					ARG90	0.022(#2) / 0.068(#3)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.22					VT (<1) 0.50		CR	48
	366/Arg/270-3/4"-(3mm-3mm)											
	0.117	0.512	0.118					ARG90	0.022(#2) / 0.037(#3)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.22					VT (<1) 0.44		CR	48
	270/Arg/Clr-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.037(#2)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.30					VT (<1) 0.56		CR	48
	366/Arg/Clr-3/4"-(3mm-3mm)											
	0.117	0.512	0.118					ARG90	0.022(#2)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.22					VT (<1) 0.52		CR	48
	SBrz/Arg/270-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90	0.037(#3)		BZ	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.29					VT (<1) 0.42		CR	48
	SGry/Arg/270-3/4"-(3mm-3mm)											
	0.129	0.512	0.118					ARG90	0.037(#3)		GY	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.28					VT (<1) 0.37		CR	48
	Clr/Arg/270-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.037(#3)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.37					VT (<1) 0.56		CR	48
	Clr/Arg/366-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.022(#3)		CL	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.32					VT (<1) 0.52		CR	48
	270/Arg/SBrz-3/4"-(3mm-3mm)											
	0.118	0.512	0.129					ARG90	0.037(#2)		BZ	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.29					VT (<1) 0.42		CR	48
	270/Arg/SGry-3/4"-(3mm-3mm)											
	0.118	0.512	0.129					ARG90	0.037(#2)		GY	SS-D / G
	U-Factor 0.36			SHGC (<1) 0.29					VT (<1) 0.37		CR	48

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	366/Arg/180-3/4"-(3mm-3mm)											
	0.117	0.512	0.118					ARG90	0.022(#2) / 0.068(#3)		CL	SS-D G
	U-Factor 0.36			SHGC (<1) 0.22					VT (<1) 0.50		CR	48
	270/Arg/270-3/4"-(3mm-3mm)											
	0.118	0.512	0.118					ARG90	0.037(#2) / 0.037(#3)		CL	SS-D G
	U-Factor 0.36			SHGC (<1) 0.28					VT (<1) 0.48		CR	48
13	240/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.057(#2) / 0.149(#4)		CL	SS-D N,G
	U-Factor 0.22			SHGC (N / <1) 0.22 / 0.20					VT (N / <1) 0.35 / 0.31		CR	46
	270/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.037(#2) / 0.149(#4)		CL	SS-D N,G
	U-Factor 0.22			SHGC (N / <1) 0.32 / 0.29					VT (N / <1) 0.61 / 0.55		CR	46
	366/Arg/i89-3/4"-(3mm-3mm)											
	0.117	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D N,G
	U-Factor 0.22			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.57 / 0.51		CR	46
14	240/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.057(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.28			SHGC (<1) 0.20					VT (<1) 0.31		CR	36
	270/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.037(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.28			SHGC (<1) 0.29					VT (<1) 0.55		CR	36
	366/Arg/i89-3/4"-(3mm-3mm)											
	0.117	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.28			SHGC (<1) 0.22					VT (<1) 0.51		CR	36
15	180/Arg/Clr-3/4"-(3mm-5mm)											
	0.118	0.453	0.185					ARG90	0.068(#2)		CL	SS-D N,G
	U-Factor 0.27			SHGC (N / <1) 0.58 / 0.52					VT (N / <1) 0.70 / 0.63		CR	57
	240/Arg/Clr-3/4"-(3mm-5mm)											
	0.118	0.453	0.185					ARG90	0.057(#2)		CL	SS-D N,G
	U-Factor 0.27			SHGC (N / <1) 0.23 / 0.21					VT (N / <1) 0.36 / 0.32		CR	57

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC)					Visible Transmittance (VT)		Condensation Resistance	
				Grids (None / <1 / >=1)					Grids (None / <1 / >=1)			
16	270/Arg/Clr-3/4"-(3mm-5mm)											
	0.118	0.453	0.185					ARG90	0.037(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.33 / 0.30					VT (N / <1) 0.62 / 0.56		CR 58	
	366/Arg/Clr-3/4"-(3mm-5mm)											
	0.117	0.453	0.185					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.25 / 0.22					VT (N / <1) 0.57 / 0.52		CR 58	
17	Clr/Arg/Clr-3/4"-(4mm-4mm)											
	0.154	0.453	0.154					ARG90		CL	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.68 / 0.61					VT (N / <1) 0.73 / 0.66		CR 45	
	SCBrz/Arg/Clr-3/4"-(4mm-4mm)											
	0.154	0.453	0.154					ARG90		BZ	SS-D	N,G
	U-Factor 0.44			SHGC (N / <1) 0.32 / 0.29					VT (N / <1) 0.20 / 0.18		CR 45	
18	180/Arg/Clr-3/4"-(4mm-4mm)											
	0.160	0.453	0.154					ARG90	0.068(#2)	CL	SS-D	N,G
	U-Factor 0.27			SHGC (N / <1) 0.56 / 0.51					VT (N / <1) 0.70 / 0.63		CR 57	
	Clr/Arg/180-3/4"-(4mm-4mm)											
	0.154	0.453	0.160					ARG90	0.068(#3)	CL	SS-D	N,G
	U-Factor 0.27			SHGC (N / <1) 0.60 / 0.54					VT (N / <1) 0.70 / 0.63		CR 57	
19	366/Arg/Clr-3/4"-(4mm-4mm)											
	0.153	0.453	0.154					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.25 / 0.22					VT (N / <1) 0.57 / 0.52		CR 58	
	Clr/Arg/366-3/4"-(4mm-4mm)											
	0.154	0.453	0.153					ARG90	0.022(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.35 / 0.31					VT (N / <1) 0.57 / 0.52		CR 58	
	366/Arg/180-3/4"-(4mm-4mm)											
	0.153	0.453	0.160					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.55 / 0.50		CR 58	
	270/Arg/270-3/4"-(4mm-4mm)											
	0.157	0.453	0.157					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.30 / 0.27					VT (N / <1) 0.53 / 0.47		CR 58	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
20	270/Arg/SCBrz-3/4"-(4mm-4mm)											
	0.157	0.453	0.154					ARG90	0.037(#2)		BZ	SS-D, N,G
	U-Factor 0.26			SHGC (N / <1) 0.27 / 0.25					VT (N / <1) 0.17 / 0.15		CR	58
	270/Arg/Clr-3/4"-(4mm-4mm)											
	0.157	0.453	0.154					ARG90	0.037(#2)		CL	SS-D, N,G
	U-Factor 0.26			SHGC (N / <1) 0.33 / 0.30					VT (N / <1) 0.62 / 0.56		CR	58
	SCBrz/Arg/270-3/4"-(4mm-4mm)											
	0.154	0.453	0.157					ARG90	0.037(#3)		BZ	SS-D, N,G
	U-Factor 0.26			SHGC (N / <1) 0.15 / 0.14					VT (N / <1) 0.17 / 0.15		CR	58
	Clr/Arg/270-3/4"-(4mm-4mm)											
	0.154	0.453	0.157					ARG90	0.037(#3)		CL	SS-D, N,G
	U-Factor 0.26			SHGC (N / <1) 0.40 / 0.37					VT (N / <1) 0.62 / 0.56		CR	58
	Clr/Arg/180-3/4"-(4mm-4mm)											
	0.154	0.453	0.157					ARG90	0.037(#3)		CL	SS-D, N,G
	U-Factor 0.26			SHGC (N / <1) 0.40 / 0.37					VT (N / <1) 0.62 / 0.56		CR	58
21	180/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.068(#2)		CL	SS-D, N
	U-Factor 0.28			SHGC (N) 0.56					VT (N) 0.70		CR	56
	Clr/Arg/180-3/4"-(5mm-5mm)											
	0.185	0.386	0.187					ARG90	0.068(#3)		CL	SS-D, N
	U-Factor 0.28			SHGC (N) 0.59					VT (N) 0.70		CR	56
22	180/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.068(#2)		CL	SS-D, G
	U-Factor 0.30			SHGC (<1) 0.50					VT (<1) 0.63		CR	56
	Clr/Arg/180-3/4"-(5mm-5mm)											
	0.185	0.386	0.187					ARG90	0.068(#3)		CL	SS-D, G
	U-Factor 0.30			SHGC (<1) 0.53					VT (<1) 0.63		CR	56
23	180/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.068(#2) / 0.149(#4)		CL	SS-D, N
	U-Factor 0.24			SHGC (N) 0.53					VT (N) 0.68		CR	43

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	240/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.057(#2) / 0.149(#4)	CL	SS-D	N
	U-Factor 0.24			SHGC (N) 0.22					VT (N) 0.34		CR 43	
	270/Arg/i89-3/4"-(5mm-5mm)											
	0.197	0.386	0.187					ARG90	0.037(#2) / 0.149(#4)	CL	SS-D	N
	U-Factor 0.24			SHGC (N) 0.32					VT (N) 0.60		CR 43	
	366/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	N
	U-Factor 0.24			SHGC (N) 0.24					VT (N) 0.55		CR 43	
24	180/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.25			SHGC (<1) 0.48					VT (<1) 0.61		CR 43	
	240/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.057(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.25			SHGC (<1) 0.20					VT (<1) 0.30		CR 43	
	270/Arg/i89-3/4"-(5mm-5mm)											
	0.197	0.386	0.187					ARG90	0.037(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.25			SHGC (<1) 0.29					VT (<1) 0.54		CR 43	
	366/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.25			SHGC (<1) 0.22					VT (<1) 0.50		CR 43	
25	270/Arg/SGry-3/4"-(5mm-5mm)											
	0.197	0.386	0.184					ARG90	0.037(#2)	GY	SS-D	N
	U-Factor 0.27			SHGC (N) 0.31					VT (N) 0.35		CR 56	
	270/Arg/Clr-3/4"-(5mm-5mm)											
	0.197	0.386	0.185					ARG90	0.037(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.33					VT (N) 0.61		CR 56	
	366/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.25					VT (N) 0.57		CR 56	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	SBrz/Arg/270-3/4"-(5mm-5mm)											
	0.184	0.386	0.197					ARG90	0.037(#3)	BZ	SS-D	N
	U-Factor		0.27	SHGC (N)				0.29	VT (N)		0.40	CR
	SGry/Arg/270-3/4"-(5mm-5mm)											
	0.184	0.386	0.197					ARG90	0.037(#3)	GY	SS-D	N
	U-Factor		0.27	SHGC (N)				0.27	VT (N)		0.35	CR
	Clr/Arg/270-3/4"-(5mm-5mm)											
	0.185	0.386	0.197					ARG90	0.037(#3)	CL	SS-D	N
	U-Factor		0.27	SHGC (N)				0.40	VT (N)		0.61	CR
	Clr/Arg/366-3/4"-(5mm-5mm)											
	0.185	0.386	0.187					ARG90	0.022(#3)	CL	SS-D	N
	U-Factor		0.27	SHGC (N)				0.34	VT (N)		0.57	CR
	270/Arg/SBrz-3/4"-(5mm-5mm)											
	0.197	0.386	0.184					ARG90	0.037(#2)	BZ	SS-D	N
	U-Factor		0.27	SHGC (N)				0.31	VT (N)		0.40	CR
	366/Arg/180-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N
	U-Factor		0.27	SHGC (N)				0.25	VT (N)		0.55	CR
	270/Arg/270-3/4"-(5mm-5mm)											
	0.197	0.386	0.197					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	N
	U-Factor		0.27	SHGC (N)				0.30	VT (N)		0.52	CR
26	270/Arg/SGry-3/4"-(5mm-5mm)											
	0.197	0.386	0.184					ARG90	0.037(#2)	GY	SS-D	G
	U-Factor		0.29	SHGC (<1)				0.28	VT (<1)		0.31	CR
	270/Arg/Clr-3/4"-(5mm-5mm)											
	0.197	0.386	0.185					ARG90	0.037(#2)	CL	SS-D	G
	U-Factor		0.29	SHGC (<1)				0.30	VT (<1)		0.55	CR
	366/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor		0.29	SHGC (<1)				0.23	VT (<1)		0.51	CR

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	SBrz/Arg/270-3/4"-(5mm-5mm)											
	0.184	0.386	0.197					ARG90	0.037(#3)	BZ	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.27					VT (<1) 0.36		CR 56	
	SGry/Arg/270-3/4"-(5mm-5mm)											
	0.184	0.386	0.197					ARG90	0.037(#3)	GY	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.24					VT (<1) 0.31		CR 56	
	Clr/Arg/270-3/4"-(5mm-5mm)											
	0.185	0.386	0.197					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.36					VT (<1) 0.55		CR 56	
	Clr/Arg/366-3/4"-(5mm-5mm)											
	0.185	0.386	0.187					ARG90	0.022(#3)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.31					VT (<1) 0.51		CR 56	
	270/Arg/SBrz-3/4"-(5mm-5mm)											
	0.197	0.386	0.184					ARG90	0.037(#2)	BZ	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.28					VT (<1) 0.36		CR 56	
	366/Arg/180-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.22					VT (<1) 0.49		CR 56	
	270/Arg/270-3/4"-(5mm-5mm)											
	0.197	0.386	0.197					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.27					VT (<1) 0.47		CR 56	
27	SCBrz/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		BZ	SS-D	N
	U-Factor 0.46			SHGC (N) 0.28					VT (N) 0.17		CR 43	
	Clr/Arg/Clr-3/4"-(5mm-5mm)											
	0.185	0.386	0.185					ARG90		CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.67					VT (N) 0.72		CR 43	
	SBrz/Arg/Clr-3/4"-(5mm-5mm)											
	0.184	0.386	0.185					ARG90		BZ	SS-D	N
	U-Factor 0.46			SHGC (N) 0.50					VT (N) 0.47		CR 43	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	SGry/Arg/Clr-3/4"-(5mm-5mm)											
	0.184	0.386	0.185					ARG90		GY	SS-D	N
	U-Factor 0.46			SHGC (N) 0.45					VT (N) 0.41		CR 43	
	SCGry/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		GY	SS-D	N
	U-Factor 0.46			SHGC (N) 0.25					VT (N) 0.14		CR 43	
	Clr/Arg/Clr-3/4"-(6mm-6mm)											
	0.224	0.315	0.224					ARG90		CL	SS-D	N
	U-Factor 0.46			SHGC (N) 0.64					VT (N) 0.71		CR 43	
	SBrz/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		BZ	SS-D	N
	U-Factor 0.46			SHGC (N) 0.46					VT (N) 0.43		CR 43	
	SGry/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		GY	SS-D	N
	U-Factor 0.46			SHGC (N) 0.41					VT (N) 0.36		CR 43	
28	SCBrz/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		BZ	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.25					VT (<1) 0.15		CR 43	
	Clr/Arg/Clr-3/4"-(5mm-5mm)											
	0.185	0.386	0.185					ARG90		CL	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.60					VT (<1) 0.65		CR 43	
	SBrz/Arg/Clr-3/4"-(5mm-5mm)											
	0.184	0.386	0.185					ARG90		BZ	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.45					VT (<1) 0.42		CR 43	
	SGry/Arg/Clr-3/4"-(5mm-5mm)											
	0.184	0.386	0.185					ARG90		GY	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.41					VT (<1) 0.36		CR 43	
	SCGry/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		GY	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.23					VT (<1) 0.12		CR 43	

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	Clr/Arg/Clr-3/4"-(6mm-6mm)											
	0.224	0.315	0.224					ARG90		CL	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.58					VT (<1) 0.64		CR 43	
	SBrz/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		BZ	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.42					VT (<1) 0.38		CR 43	
	SGry/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90		GY	SS-D	G
	U-Factor 0.47			SHGC (<1) 0.37					VT (<1) 0.32		CR 43	
29	Clr/Arg/180-3/4"-(2mm-2mm)											
	0.087	0.480	0.087					ARG90	0.068(#3)	CL	SS-D	N,G
	U-Factor 0.27			SHGC (N / <1) 0.62 / 0.56					VT (N / <1) 0.72 / 0.64		CR 59	
	Clr/Arg/180-3/4"-(3mm-3mm)											
	0.118	0.480	0.118					ARG90	0.068(#3)	CL	SS-D	N,G
	U-Factor 0.27			SHGC (N / <1) 0.61 / 0.55					VT (N / <1) 0.71 / 0.64		CR 59	
30	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.480	0.087					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.42 / 0.38					VT (N / <1) 0.63 / 0.57		CR 60	
	Clr/Arg/270-3/4"-(3mm-3mm)											
	0.118	0.480	0.118					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.41 / 0.37					VT (N / <1) 0.63 / 0.56		CR 60	
	366/Arg/Clr-3/4"-(3mm-3mm)											
	0.117	0.453	0.118					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.25 / 0.22					VT (N / <1) 0.58 / 0.52		CR 60	
31	Clr/Arg/180-3/4"-(4mm-5mm)											
	0.154	0.413	0.197					ARG90	0.037(#3)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.40					VT (N) 0.62		CR 57	
32	Clr/Arg/180-3/4"-(4mm-5mm)											
	0.154	0.413	0.197					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.28			SHGC (<1) 0.37					VT (<1) 0.55		CR 57	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
33	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.068(#2)	CL	SS-D	N
	U-Factor 0.28			SHGC (N) 0.57					VT (N) 0.70		CR 57	
	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.057(#2)	CL	SS-D	N
	U-Factor 0.28			SHGC (N) 0.23					VT (N) 0.35		CR 57	
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.160	0.386	0.241					ARG90	0.068(#2)	CL	SS-D	N
	U-Factor 0.28			SHGC (N) 0.56					VT (N) 0.69		CR 57	
34	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.30			SHGC (<1) 0.51					VT (<1) 0.63		CR 57	
	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.057(#2)	CL	SS-D	G
	U-Factor 0.30			SHGC (<1) 0.21					VT (<1) 0.32		CR 57	
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.160	0.386	0.241					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.30			SHGC (<1) 0.50					VT (<1) 0.62		CR 57	
35	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.037(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.33					VT (N) 0.62		CR 58	
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.117	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.25					VT (N) 0.57		CR 58	
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.157	0.386	0.241					ARG90	0.037(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.32					VT (N) 0.61		CR 58	
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.153	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.25					VT (N) 0.57		CR 58	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC)				Visible Transmittance (VT)		Condensation Resistance		
				Grids (None / <1 / >=1)				Grids (None / <1 / >=1)				
36	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.037(#2)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.30				VT (<1) 0.55		CR 58		
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.117	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.22				VT (<1) 0.51		CR 58		
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.157	0.386	0.241					ARG90	0.037(#2)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.29				VT (<1) 0.55		CR 58		
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(4mm-6mm)											
	0.153	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.22				VT (<1) 0.51		CR 58		
37	366/Arg/Clr/Arg/Clr-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90/KRY95	0.022(#2)	CL	SS-D	N
	U-Factor 0.25			SHGC (N) 0.23				VT (N) 0.54		CR 66		
38	366/Arg/Clr/Arg/Clr-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90/KRY95	0.022(#2)	CL	SS-D	G
	U-Factor 0.27			SHGC (<1) 0.21				VT (<1) 0.48		CR 66		
39	366/Arg/180 (#4)/Arg/Clr-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.022(#2) / 0.068(#4)	CL	SS-D	N
	U-Factor 0.22			SHGC (N) 0.22				VT (N) 0.52		CR 65		
	270/Arg/Clr/Arg/270-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.037(#2) / 0.037(#5)	CL	SS-D	N
	U-Factor 0.22			SHGC (N) 0.28				VT (N) 0.49		CR 65		
	366/Arg/Clr/Arg/270-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.022(#2) / 0.037(#5)	CL	SS-D	N
	U-Factor 0.22			SHGC (N) 0.22				VT (N) 0.46		CR 65		
40	366/Arg/180 (#4)/Arg/Clr-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.022(#2) / 0.068(#4)	CL	SS-D	G
	U-Factor 0.23			SHGC (<1) 0.20				VT (<1) 0.46		CR 65		

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	270/Arg/Clr/Arg/270-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.037(#2) / 0.037(#5)		CL	SS-D G
	U-Factor 0.23			SHGC (<1) 0.26					VT (<1) 0.44		CR 65	
	366/Arg/Clr/Arg/270-3/4"-(2mm-2mm-2mm)											
	0.087	0.256	0.087	0.256	0.087			ARG90	0.022(#2) / 0.037(#5)		CL	SS-D G
	U-Factor 0.23			SHGC (<1) 0.20					VT (<1) 0.41		CR 65	
41	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.057(#2)		CL	SS-D N
	U-Factor 0.30			SHGC (N) 0.23					VT (N) 0.34		CR 55	
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.197	0.315	0.241					ARG90	0.037(#2)		CL	SS-D N
	U-Factor 0.30			SHGC (N) 0.33					VT (N) 0.61		CR 55	
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.022(#2)		CL	SS-D N
	U-Factor 0.30			SHGC (N) 0.25					VT (N) 0.56		CR 55	
42	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.057(#2)		CL	SS-D G
	U-Factor 0.33			SHGC (<1) 0.21					VT (<1) 0.31		CR 55	
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.197	0.315	0.241					ARG90	0.037(#2)		CL	SS-D G
	U-Factor 0.33			SHGC (<1) 0.30					VT (<1) 0.55		CR 55	
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.022(#2)		CL	SS-D G
	U-Factor 0.33			SHGC (<1) 0.23					VT (<1) 0.51		CR 55	
43	240/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.057(#2)		CL	SS-D N
	U-Factor 0.28			SHGC (N) 0.23					VT (N) 0.35		CR 56	
44	240/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.057(#2)		CL	SS-D G
	U-Factor 0.30			SHGC (<1) 0.21					VT (<1) 0.31		CR 56	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
45	180/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90	0.068(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.54					VT (N) 0.69		CR 53	
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.068(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.55					VT (N) 0.69		CR 53	
	SCBrz/Arg/270-3/4"-(6mm-6mm)											
	0.223	0.315	0.236					ARG90	0.037(#3)	BZ	SS-D	N
	U-Factor 0.31			SHGC (N) 0.14					VT (N) 0.14		CR 53	
	SCGry/Arg/270-3/4"-(6mm-6mm)											
	0.223	0.315	0.236					ARG90	0.037(#3)	GY	SS-D	N
	U-Factor 0.31			SHGC (N) 0.13					VT (N) 0.12		CR 53	
	270/Arg/SCBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	N
	U-Factor 0.31			SHGC (N) 0.22					VT (N) 0.14		CR 53	
	270/Arg/SCGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	N
	U-Factor 0.31			SHGC (N) 0.22					VT (N) 0.12		CR 53	
	270/Arg/Clr-3/4"-(6mm-6mm)											
	0.236	0.315	0.224					ARG90	0.037(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.33					VT (N) 0.61		CR 53	
	Clr/Arg/180-3/4"-(6mm-6mm)											
	0.224	0.315	0.223					ARG90	0.068(#3)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.57					VT (N) 0.69		CR 53	
	Clr/Arg/270-3/4"-(6mm-6mm)											
	0.224	0.315	0.236					ARG90	0.037(#3)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.39					VT (N) 0.61		CR 53	
	Clr/Arg/240-3/4"-(6mm-6mm)											
	0.224	0.315	0.224					ARG90	0.057(#3)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.42					VT (N) 0.33		CR 53	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	270/Arg/SBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	N
	U-Factor 0.31			SHGC (N) 0.31					VT (N) 0.36		CR	53
	270/Arg/SGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	N
	U-Factor 0.31			SHGC (N) 0.30					VT (N) 0.30		CR	53
	270/Arg/SCBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	N
	U-Factor 0.31			SHGC (N) 0.22					VT (N) 0.14		CR	53
	270/Arg/SCGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	N
	U-Factor 0.31			SHGC (N) 0.22					VT (N) 0.12		CR	53
	366/Arg/180-3/4"-(6mm-6mm)											
	0.225	0.315	0.223					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.25					VT (N) 0.54		CR	53
	270/Arg/270-3/4"-(6mm-6mm)											
	0.236	0.315	0.236					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.30					VT (N) 0.52		CR	53
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.223	0.315	0.241					ARG90	0.068(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.54					VT (N) 0.69		CR	53
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.236	0.315	0.241					ARG90	0.037(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.32					VT (N) 0.61		CR	53
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.225	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.31			SHGC (N) 0.25					VT (N) 0.56		CR	53
46	180/Arg/Clr-3/4"-(6mm-6mm)											
	0.223	0.315	0.224					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.49					VT (<1) 0.62		CR	53

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.50					VT (<1) 0.62		CR 53	
	SCBrz/Arg/270-3/4"-(6mm-6mm)											
	0.223	0.315	0.236					ARG90	0.037(#3)	BZ	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.13					VT (<1) 0.13		CR 53	
	SCGry/Arg/270-3/4"-(6mm-6mm)											
	0.223	0.315	0.236					ARG90	0.037(#3)	GY	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.12					VT (<1) 0.10		CR 53	
	270/Arg/SCBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.20					VT (<1) 0.13		CR 53	
	270/Arg/SCGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.20					VT (<1) 0.11		CR 53	
	270/Arg/Clr-3/4"-(6mm-6mm)											
	0.236	0.315	0.224					ARG90	0.037(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.30					VT (<1) 0.54		CR 53	
	Clr/Arg/180-3/4"-(6mm-6mm)											
	0.224	0.315	0.223					ARG90	0.068(#3)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.52					VT (<1) 0.62		CR 53	
	Clr/Arg/270-3/4"-(6mm-6mm)											
	0.224	0.315	0.236					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.36					VT (<1) 0.54		CR 53	
	Clr/Arg/240-3/4"-(6mm-6mm)											
	0.224	0.315	0.224					ARG90	0.057(#3)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.38					VT (<1) 0.30		CR 53	
	270/Arg/SBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.28					VT (<1) 0.32		CR 53	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	270/Arg/SGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.28					VT (<1) 0.27		CR 53	
	270/Arg/SCBrz-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	BZ	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.20					VT (<1) 0.13		CR 53	
	270/Arg/SCGry-3/4"-(6mm-6mm)											
	0.236	0.315	0.223					ARG90	0.037(#2)	GY	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.20					VT (<1) 0.11		CR 53	
	366/Arg/180-3/4"-(6mm-6mm)											
	0.225	0.315	0.223					ARG90	0.022(#2) / 0.068(#3)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.23					VT (<1) 0.49		CR 53	
	270/Arg/270-3/4"-(6mm-6mm)											
	0.236	0.315	0.236					ARG90	0.037(#2) / 0.037(#3)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.27					VT (<1) 0.46		CR 53	
	180/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.223	0.315	0.241					ARG90	0.068(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.49					VT (<1) 0.62		CR 53	
	270/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.236	0.315	0.241					ARG90	0.037(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.29					VT (<1) 0.54		CR 53	
	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.225	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.34			SHGC (<1) 0.23					VT (<1) 0.50		CR 53	
47	366/Arg/Clr-3/4"-(6mm-6mm)											
	0.225	0.315	0.224					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.30			SHGC (N) 0.25					VT (N) 0.56		CR 54	
	Clr/Arg/366-3/4"-(6mm-6mm)											
	0.224	0.315	0.225					ARG90	0.022(#3)	CL	SS-D	N
	U-Factor 0.30			SHGC (N) 0.34					VT (N) 0.56		CR 54	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
48	366/Arg/Clr-3/4"-(6mm-6mm)											
	0.225	0.315	0.224					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor		0.32	SHGC (<1)				0.23	VT (<1)		0.50	CR
	Clr/Arg/366-3/4"-(6mm-6mm)											
	0.224	0.315	0.225					ARG90	0.022(#3)	CL	SS-D	G
	U-Factor		0.32	SHGC (<1)				0.31	VT (<1)		0.50	CR
	Foam Filled Options #49-87											
49	366/Arg/Clr-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor		0.26	SHGC (N / <1)				0.24 / 0.22	VT (N / <1)		0.59 / 0.53	CR
50	366/Arg/Clr-3/4"-(2mm-2mm)											
	0.087	0.571	0.087					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor		0.31	SHGC (<1)				0.22	VT (<1)		0.53	CR
51	366/Arg/Clr-3/4"-(3mm-2.8mm)											
	0.117	0.512	0.110					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor		0.25	SHGC (N / <1)				0.24 / 0.22	VT (N / <1)		0.58 / 0.52	CR
52	366/Arg/Clr-3/4"-(3mm-2.8mm)											
	0.117	0.512	0.110					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor		0.35	SHGC (<1)				0.22	VT (<1)		0.52	CR
53	180/Arg/i89-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor		0.22	SHGC (N / <1)				0.56 / 0.51	VT (N / <1)		0.69 / 0.62	CR
	180/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor		0.22	SHGC (N / <1)				0.56 / 0.50	VT (N / <1)		0.69 / 0.62	CR
54	180/Arg/i89-3/4"-(2.8mm-3mm)											
	0.110	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor		0.28	SHGC (<1)				0.51	VT (<1)		0.62	CR
	180/Arg/i89-3/4"-(3mm-3mm)											
	0.118	0.512	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor		0.28	SHGC (<1)				0.50	VT (<1)		0.62	CR

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
55	366/Arg/i89-3/4"-(3mm-3mm)											
	0.117	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D, N,G
	U-Factor 0.21			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.57 / 0.51		CR 47	
56	366/Arg/i89-3/4"-(3mm-3mm)											
	0.117	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D, G
	U-Factor 0.27			SHGC (<1) 0.22					VT (<1) 0.51		CR 36	
57	366/Arg/Clr-3/4"-(4mm-4mm)											
	0.153	0.453	0.154					ARG90	0.022(#2)		CL	SS-D, N,G
	U-Factor 0.25			SHGC (N / <1) 0.25 / 0.22					VT (N / <1) 0.57 / 0.52		CR 51	
	Clr/Arg/366-3/4"-(4mm-4mm)											
	0.154	0.453	0.153					ARG90	0.022(#3)		CL	SS-D, N,G
	U-Factor 0.25			SHGC (N / <1) 0.35 / 0.31					VT (N / <1) 0.57 / 0.52		CR 51	
	366/Arg/180-3/4"-(4mm-4mm)											
	0.153	0.453	0.160					ARG90	0.022(#2) / 0.068(#3)		CL	SS-D, N,G
	U-Factor 0.25			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.55 / 0.50		CR 51	
	270/Arg/270-3/4"-(4mm-4mm)											
	0.157	0.453	0.157					ARG90	0.037(#2) / 0.037(#3)		CL	SS-D, N,G
	U-Factor 0.25			SHGC (N / <1) 0.30 / 0.27					VT (N / <1) 0.53 / 0.47		CR 51	
58	Clr/Arg/180-3/4"-(4mm-4mm)											
	0.154	0.453	0.160					ARG90	0.068(#3)		CL	SS-D, N,G
	U-Factor 0.27			SHGC (N / <1) 0.60 / 0.54					VT (N / <1) 0.70 / 0.63		CR 58	
59	366/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.022(#2)		CL	SS-D, N
	U-Factor 0.26			SHGC (N) 0.25					VT (N) 0.57		CR 56	
60	366/Arg/Clr-3/4"-(5mm-5mm)											
	0.187	0.386	0.185					ARG90	0.022(#2)		CL	SS-D, G
	U-Factor 0.28			SHGC (<1) 0.23					VT (<1) 0.51		CR 56	
61	180/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.068(#2) / 0.149(#4)		CL	SS-D, N
	U-Factor 0.23			SHGC (N) 0.53					VT (N) 0.68		CR 43	

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
	240/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.057(#2) / 0.149(#4)		CL	SS-D N
	U-Factor 0.23		SHGC (N) 0.22					VT (N) 0.34		CR 43		
	270/Arg/i89-3/4"-(5mm-5mm)											
	0.197	0.386	0.187					ARG90	0.037(#2) / 0.149(#4)		CL	SS-D N
	U-Factor 0.23		SHGC (N) 0.32					VT (N) 0.60		CR 43		
	366/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D N
	U-Factor 0.23		SHGC (N) 0.24					VT (N) 0.55		CR 43		
62	180/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.068(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.24		SHGC (<1) 0.48					VT (<1) 0.61		CR 43		
	240/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.057(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.24		SHGC (<1) 0.20					VT (<1) 0.30		CR 43		
	270/Arg/i89-3/4"-(5mm-5mm)											
	0.197	0.386	0.187					ARG90	0.037(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.24		SHGC (<1) 0.29					VT (<1) 0.54		CR 43		
	366/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.386	0.187					ARG90	0.022(#2) / 0.149(#4)		CL	SS-D G
	U-Factor 0.24		SHGC (<1) 0.22					VT (<1) 0.50		CR 43		
63	Clr/Arg/180-3/4"-(2mm-2mm)											
	0.087	0.480	0.087					ARG90	0.068(#3)		CL	SS-D N,G
	U-Factor 0.27		SHGC (N / <1) 0.62 / 0.56					VT (N / <1) 0.72 / 0.64		CR 59		
	Clr/Arg/180-3/4"-(3mm-3mm)											
	0.118	0.480	0.118					ARG90	0.068(#3)		CL	SS-D N,G
	U-Factor 0.27		SHGC (N / <1) 0.61 / 0.55					VT (N / <1) 0.71 / 0.64		CR 59		
64	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.512	0.087					ARG90	0.037(#3)		CL	SS-D N,G
	U-Factor 0.26		SHGC (N / <1) 0.42 / 0.38					VT (N / <1) 0.63 / 0.57		CR 60		

NFRC 100/200/500 Summary Sheet

3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
65	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.512	0.087					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.35			SHGC (<1) 0.38					VT (<1) 0.57		CR 48	
66	Clr/Arg/270-3/4"-(2mm-2mm)											
	0.087	0.480	0.087					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.42 / 0.38					VT (N / <1) 0.63 / 0.57		CR 60	
	Clr/Arg/270-3/4"-(3mm-3mm)											
	0.118	0.480	0.118					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.41 / 0.37					VT (N / <1) 0.63 / 0.56		CR 60	
	366/Arg/Clr-3/4"-(3mm-3mm)											
	0.117	0.453	0.118					ARG90	0.022(#2)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.25 / 0.22					VT (N / <1) 0.58 / 0.52		CR 60	
67	Clr/Arg/180-3/4"-(4mm-4mm)											
	0.154	0.453	0.157					ARG90	0.037(#3)	CL	SS-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.40 / 0.37					VT (N / <1) 0.62 / 0.56		CR 58	
68	Clr/Arg/180-3/4"-(4mm-5mm)											
	0.154	0.413	0.197					ARG90	0.037(#3)	CL	SS-D	N
	U-Factor 0.26			SHGC (N) 0.40					VT (N) 0.62		CR 57	
69	Clr/Arg/180-3/4"-(4mm-5mm)											
	0.154	0.413	0.197					ARG90	0.037(#3)	CL	SS-D	G
	U-Factor 0.28			SHGC (<1) 0.37					VT (<1) 0.55		CR 57	
70	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.057(#2)	CL	SS-D	N
	U-Factor 0.27			SHGC (N) 0.23					VT (N) 0.35		CR 57	
71	240/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.118	0.386	0.241					ARG90	0.057(#2)	CL	SS-D	G
	U-Factor 0.29			SHGC (<1) 0.21					VT (<1) 0.32		CR 58	
72	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.117	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.26			SHGC (N) 0.25					VT (N) 0.57		CR 58	

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
73	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(3mm-6mm)											
	0.117	0.386	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.28			SHGC (<1) 0.22					VT (<1) 0.51		CR 58	
74	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.29			SHGC (N) 0.25					VT (N) 0.56		CR 56	
75	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(5mm-6mm)											
	0.187	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.31			SHGC (<1) 0.23					VT (<1) 0.51		CR 56	
76	180/Arg/i89-3/4"-(4mm-3mm)											
	0.160	0.480	0.117					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.22			SHGC (N / <1) 0.55 / 0.49					VT (N / <1) 0.69 / 0.62		CR 46	
	366/Arg/i89-3/4"-(4mm-3mm)											
	0.153	0.480	0.117					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.22			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.56 / 0.51		CR 46	
77	180/Arg/i89-3/4"-(5mm-5mm)											
	0.187	0.480	0.187					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.22			SHGC (N / <1) 0.53 / 0.48					VT (N / <1) 0.68 / 0.61		CR 44	
78	366/Arg/Clr-3/4"-(6mm-6mm)											
	0.225	0.315	0.224					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.29			SHGC (N) 0.25					VT (N) 0.56		CR 54	
	Clr/Arg/366-3/4"-(6mm-6mm)											
	0.224	0.315	0.225					ARG90	0.022(#3)	CL	SS-D	N
	U-Factor 0.29			SHGC (N) 0.34					VT (N) 0.56		CR 54	
79	366/Arg/Clr-3/4"-(6mm-6mm)											
	0.225	0.315	0.224					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.23					VT (<1) 0.50		CR 54	
	Clr/Arg/366-3/4"-(6mm-6mm)											
	0.224	0.315	0.225					ARG90	0.022(#3)	CL	SS-D	G
	U-Factor 0.32			SHGC (<1) 0.31					VT (<1) 0.50		CR 54	

NFRC 100/200/500 Summary Sheet 3300 Fixed Window

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
80	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.225	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	N
	U-Factor 0.29			SHGC (N) 0.25					VT (N) 0.56		CR 56	
81	366/Arg/Clr Lami 2.3mm-0.060SGP-2.3mm-3/4"-(6mm-6mm)											
	0.225	0.315	0.241					ARG90	0.022(#2)	CL	SS-D	G
	U-Factor 0.31			SHGC (<1) 0.23					VT (<1) 0.50		CR 56	
82	366/Arg/i89-3/4"-(2mm-3mm)											
	0.087	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	N,G
	U-Factor 0.21			SHGC (N / <1) 0.24 / 0.22					VT (N / <1) 0.57 / 0.51		CR 47	
83	366/Arg/i89-3/4"-(2mm-3mm)											
	0.087	0.512	0.117					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.27			SHGC (<1) 0.22					VT (<1) 0.51		CR 36	
84	180/Arg/i89-3/4"-(6mm-5mm)											
	0.223	0.315	0.187					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	N
	U-Factor 0.25			SHGC (N) 0.52					VT (N) 0.67		CR 41	
85	180/Arg/i89-3/4"-(6mm-5mm)											
	0.223	0.315	0.187					ARG90	0.068(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.27			SHGC (<1) 0.47					VT (<1) 0.61		CR 41	
86	366/Arg/i89-3/4"-(6mm-5mm)											
	0.225	0.315	0.187					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	N
	U-Factor 0.24			SHGC (N) 0.24					VT (N) 0.55		CR 42	
87	366/Arg/i89-3/4"-(6mm-5mm)											
	0.225	0.315	0.187					ARG90	0.022(#2) / 0.149(#4)	CL	SS-D	G
	U-Factor 0.26			SHGC (<1) 0.22					VT (<1) 0.50		CR 42	

The 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 Certification Authorization Report (CAR) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes. The ratings values were rounded in accordance to NFRC 601, NFRC Unit and Measurement Policy.

Architectural Testing, Inc. is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The NFRC procedure requires that the computational results be verified through actual test results.

This report is reissued in the name of The Coeur D'Alene Window Company through written authorization of Royal Window and Door Profiles Plant 14, to whom the original report was rendered. The original Royal Window and Door Profiles Plant 14 report number is Everett, Washington.

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period. The test record retention end date for this report is August 4, 2018.

Results obtained are simulated values and were secured by using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the product simulated. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

SIMULATED BY:

REVIEWED BY:

Ryan P. Johnson
Simulation Technician

Kenny C. White
Laboratory Manager
Simulator-In-Responsible-Charge

RPJ:rpj
D9208.02-301-45

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Drawings and Bills of Material (11)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.02R0	08/04/14	All	Original Report Issue. Work Requested by Pat Collins of The Coeur D'Alene Window Company.

This report produced from controlled document template ATI 00037, Revised 10/2/2012.



All drawings and Bills of Material used to simulate this product are enclosed in this Appendix
Some drawings may be omitted at the extruder's request.

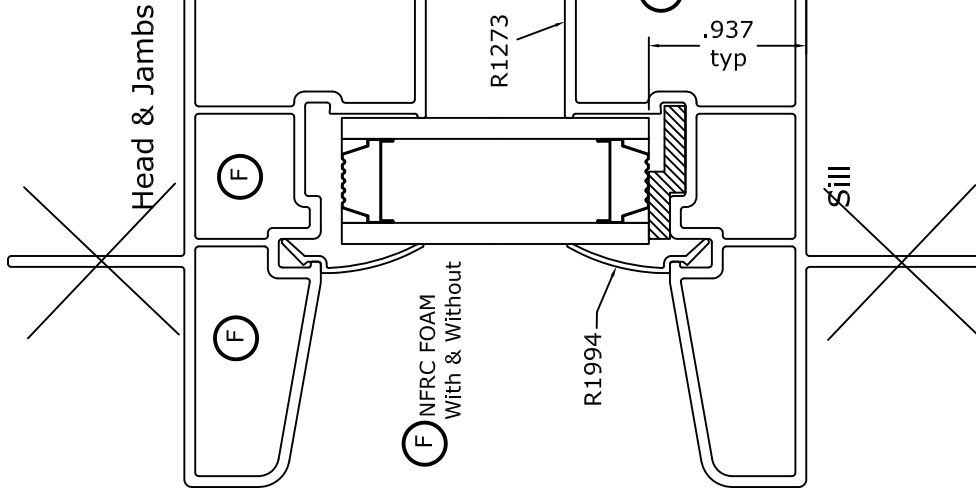
Appendix A

D9208.02-301-45

3300 Series Picture BOM

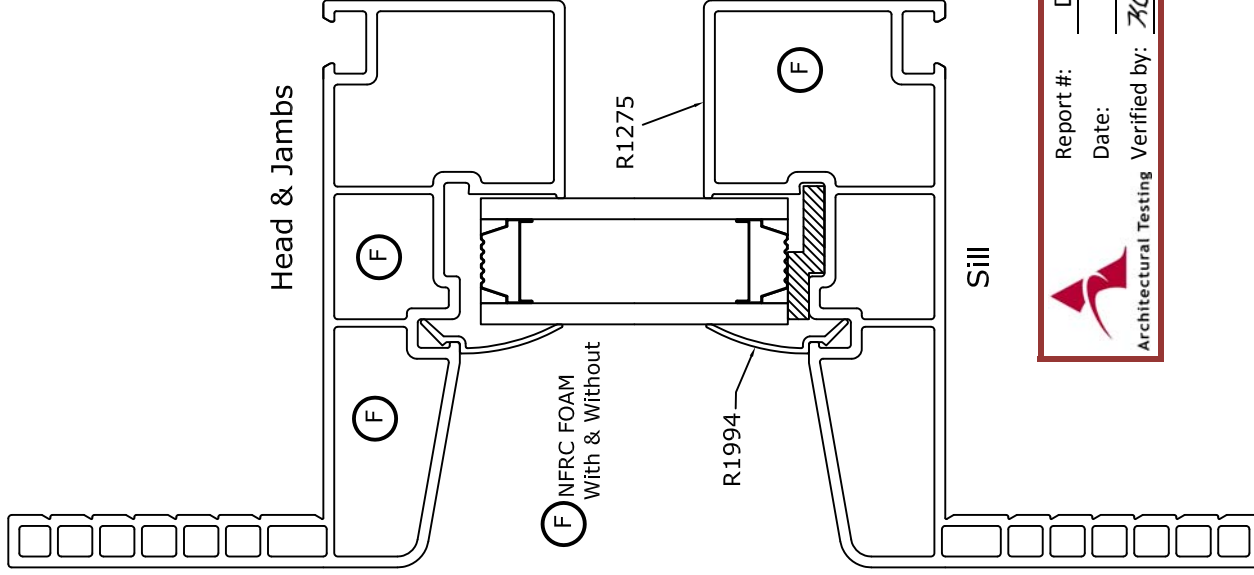
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305-D10	Frame	Royal	
305-D11	Frame Block	Royal	Alternate
305-D12	Frame Flush Fin	Royal	Alternate
R1994	Glazing Bead	Royal	
6554	Setting Block Frame	Mikron	
305-D23R	T-Bar	Royal	
VG1216W-FC515	Glazing Tape	Echo Tape	

 Architectural Testing	Report #:	D9208-301-45
	Date:	08/04/2014
	Verified by:	<i>RC. Madio</i>



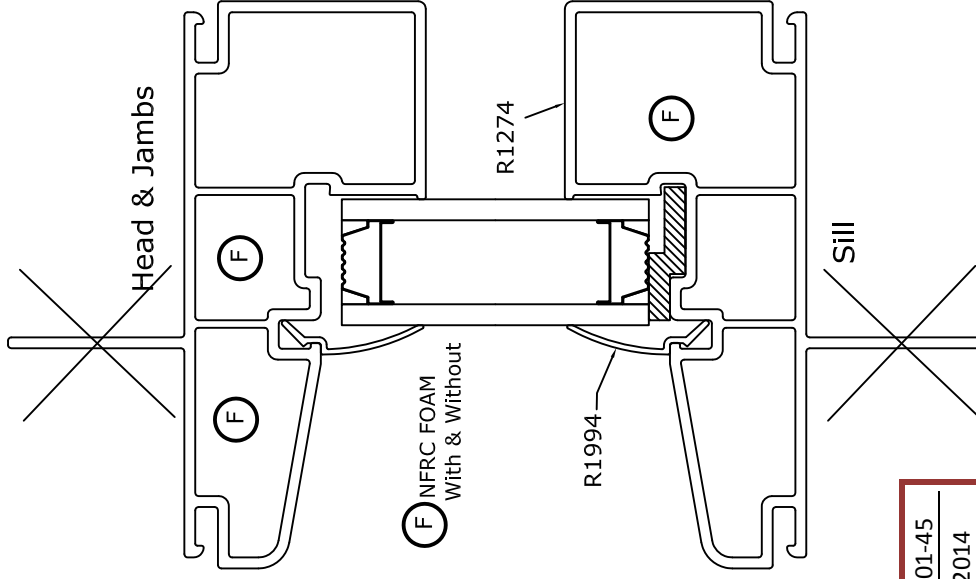
Head & Jamb

Sill



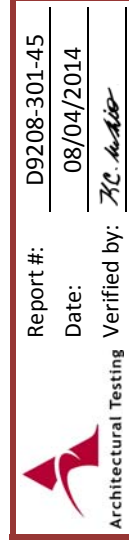
Head & Jamb

Sill



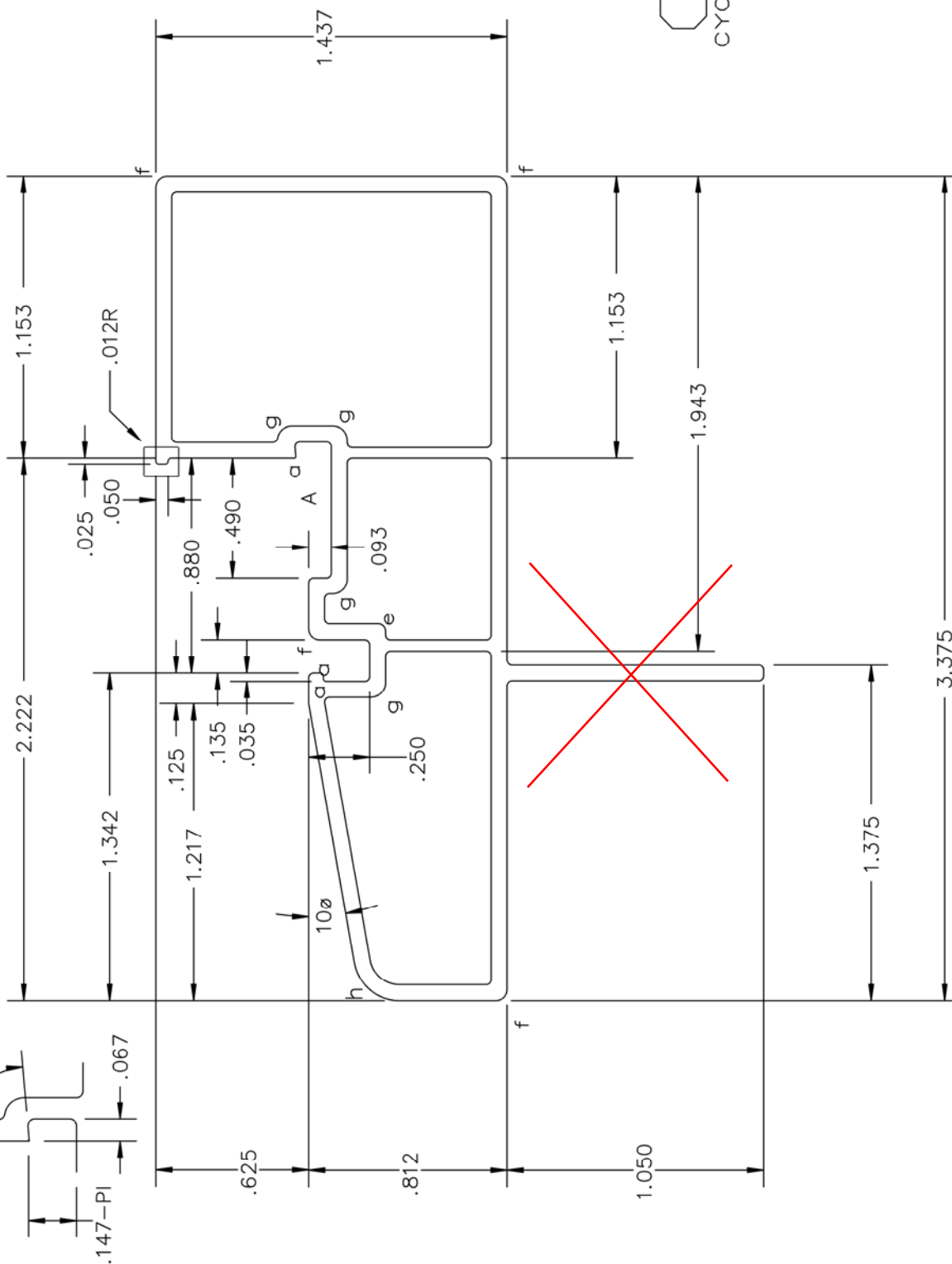
Head & Jamb

Sill



	Die#			THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND SHALL NOT BE COPIED, REPRODUCED, OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS GIVEN, WITHOUT THE WRITTEN PERMISSION OF ROYAL GROUP INC.	Copyright © 2014 Royal Group, Inc. All Rights Reserved	Layout Name: PIC_H_V		305	ACAD#:	Cda Sections_all export_at 7-21-2014	Ref				
	Sys No.	305-L1270-PIC_H_V				Drawn by:	SCALE					0.875:1	WALL TOLERANCES:	ANGULAR TOLERANCES:	RADI:
													0.000-0.099 ±0.006	x.x ±1/2'	UNMARKED 0.015
	CUSTOMER	Coeur d'Alene Windows			PROJECT:	305_CdA			WALL THICKNESS:	SYMBOL:	a				
								AREA	LINEAR TOLERANCES:	WALL THICKNESS:	b				
								.000	0.000-0.999 ±0.010	Exterior	c				
								WT/FT	1.000-1.999 ±0.015	Interior	f				
								.000	2.000-3.999 ±0.020	CRITICAL	s				
									0.000-0.999 ±0.010	EXPOSED	SHARP				
									0.000-0.999 ±0.010	EXPOSED					
									0.000-0.999 ±0.010	EXPOSED					
									0.000-0.999 ±0.010	EXPOSED					
									0.000-0.999 ±0.010	EXPOSED					
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									0.000-0.999 ±0.010	EXPOSED					

SCALE: 1.5:1



a=0. 006R
b=0. 01 2R
c=0. 01 5R
d=0. 02 0R
e=0. 03 0R
f=0. 04 5R
g=0. 06 0R
h=0. 1 87R



Architectural Testing

Report #: D9208-301-45

Date: 08/04/2014

Verified by: *KC. m. hio*

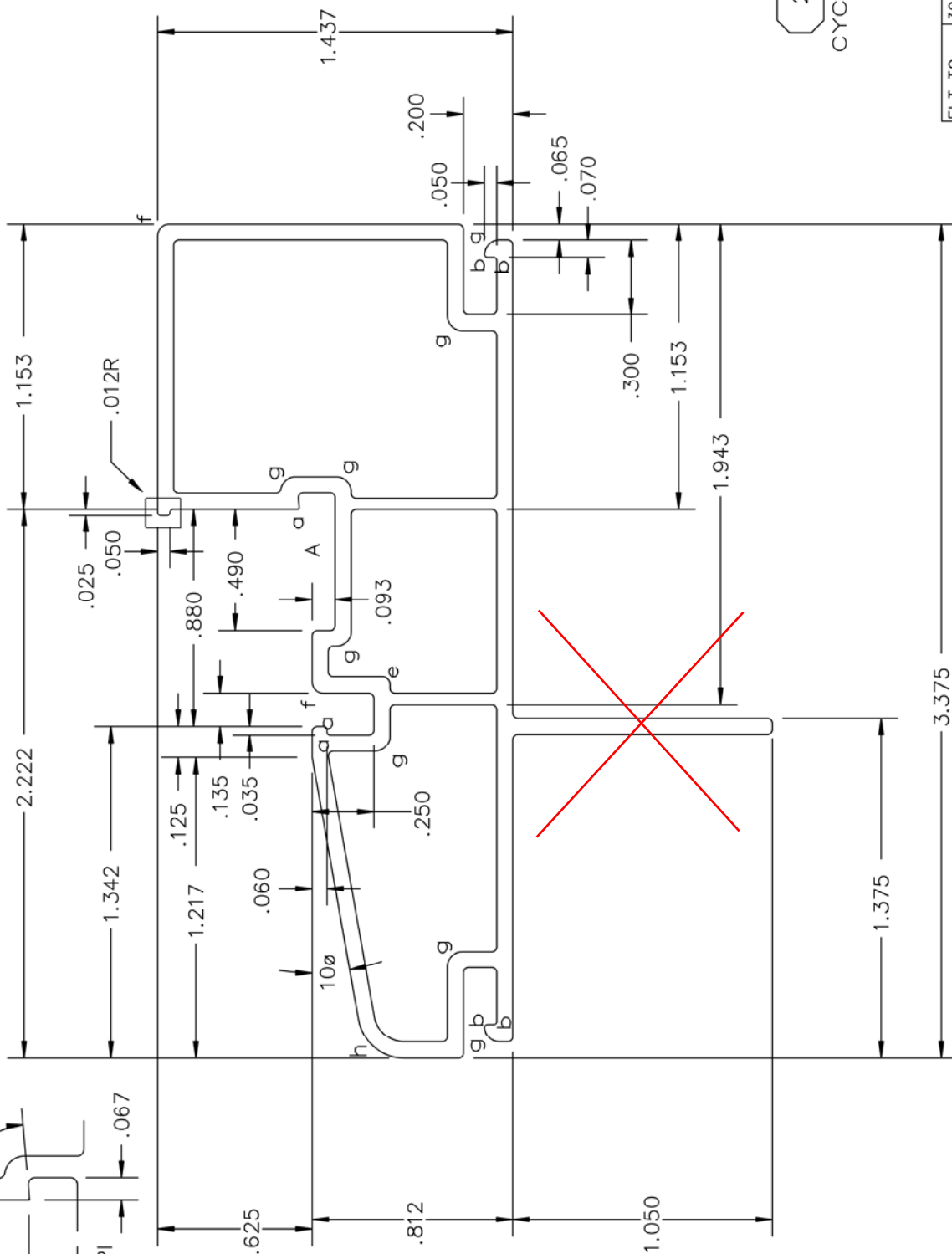
APPROVED

23-DEC-97

CYCLOID DESIGNS

CYCLOID DESIGNS		DWG: 305-D10	DATE: 18-DEC-97	FAB REF 305-F5L	FLT TO 305-D35	305-D49 291-D7
		© 1997 COPYRI GHT ROYAL SIERRA INC SPARKS, NEVADA ALL RI GHTS RESERVED			EXTERNAL WALL: 0.065 INTERNAL WALL: 0.045 CORNER TYP: 0.020R WEI GHT: 0.476 LB/FT	
TITLE: FIXED FRAME W/FIN: 3-3/8"		RS1273				

SCALE: 1.5:1



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b=0. 01 2R
c=0. 01 5R
d=0. 02 0R
e=0. 03 0R
f=0. 04 5R
g=0. 06 0R
h=0. 1 87R



Report #: D9208-301-45
Date: 08/04/2014
Verified by: KC. *Wick*

APPROVED

23-DEC-97

CYCLOID DESIGNS

FLIT TO	305-D35	305-D37	291-D7
305-D33	305-D36	305-D38	305-D42
305-D43	305-D49	305-D51	
305-D44			

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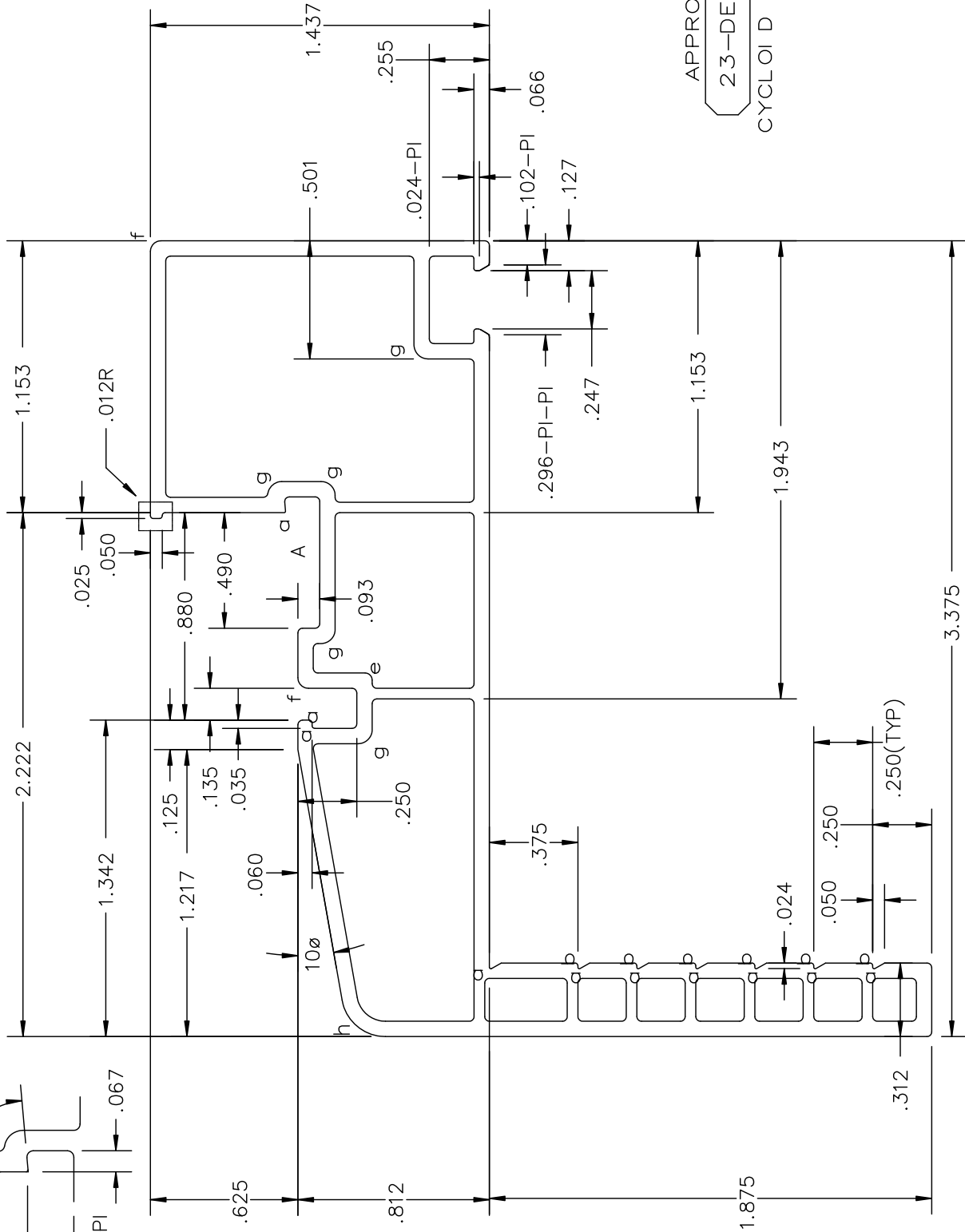
DATE: 18-DEC-97

DWG: 305-D11

TITLE: FIXED FRAME W/FI N+GROOVE: 3-3/8" RS1274

EXTERNAL WALL:	0.065
INTERNAL WALL:	0.045
CORNER TYP:	0.020R
WEIGHT:	0.503 LB/FT

SCALE: 1.5:1



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b=0. 012R
c=0. 015R
d=0. 020R
e=0. 030R
f=0. 045R
g=0. 060R
h=0. 187R



Report #: D9208-301-45
Date: 08/04/2014
Verified by: KC. McKis

APPROVED
23-DEC-97
CYCLOID DESIGN

FAB REF			F I T T O	291-D7		
305-F5N				305-D35		

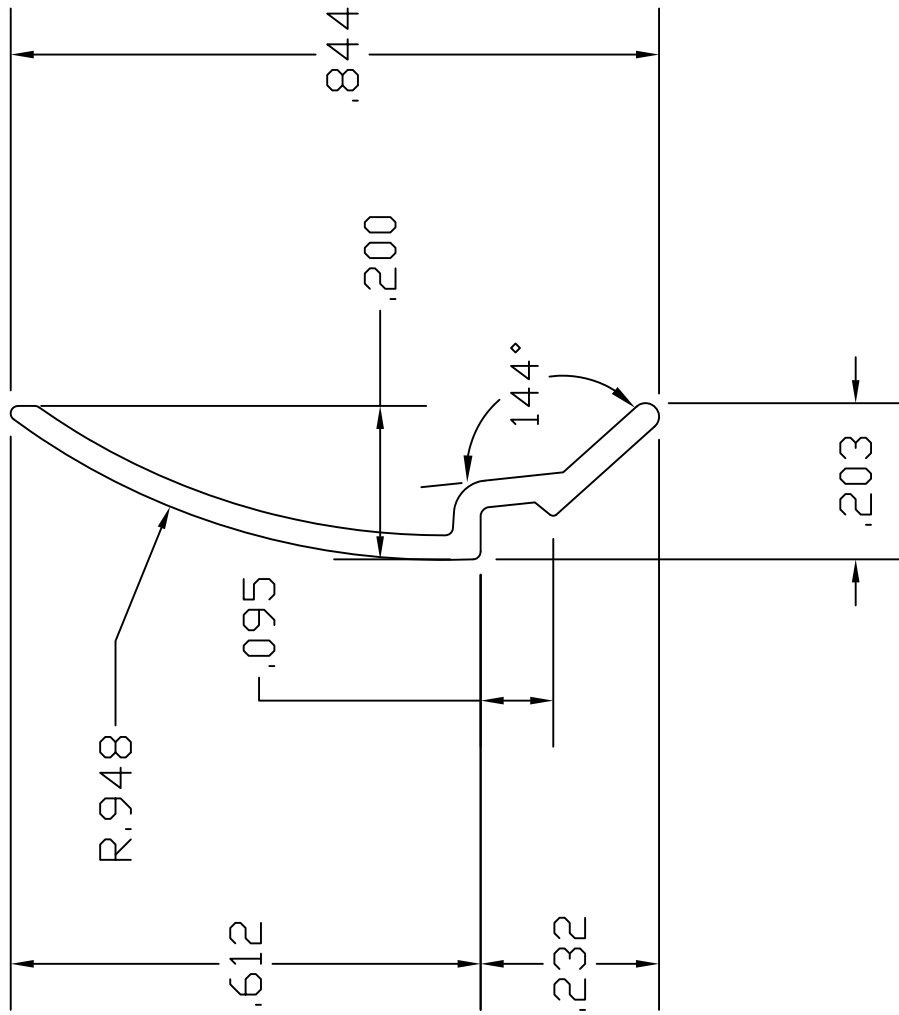
DWG: 305-D1 2

DATE: 18-DEC-97

TI TLE:FI XED FRAME W/STUCCO FI N: 3-3/8" RS1 275

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EXTERNAL WALL: 0.065
INTERNAL WALL: 0.045
CORNER TYP: 0.020R
WEIGHT: 0.634 LB/FT



Actual Size

Customer Approval
By: _____
Date: _____



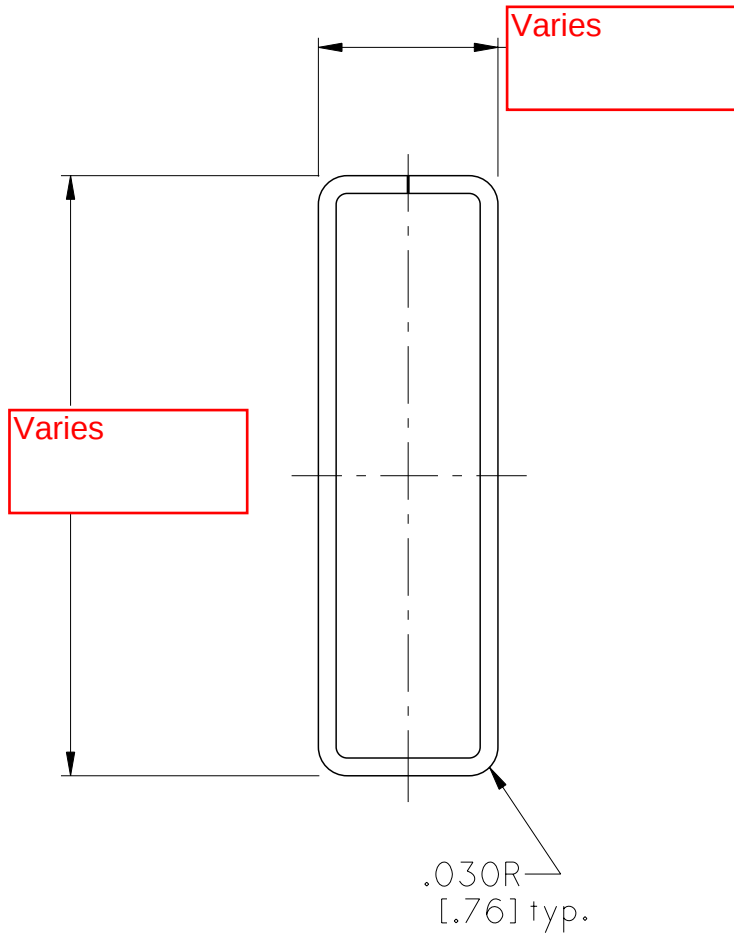
Report #: D9208-301-45

Date: 08/04/2014

Verified by: *KC. Mahia*

REV #		DATE	REVISION NOTES		
			Copyright © 2008 ROYAL GROUP, INC.		
			100A Royal Group Crescent Woodbridge, Ontario Canada L4L 8Z7 All Rights Reserved		
			NOTICE: THE INFORMATION CONTAINED HEREON IS THE PROPERTY OF ROYAL GROUP, INC. IT'S CONTENTS ARE CONFIDENTIAL AND MUST NOT BE COPIED OR SUBMITTED TO OUTSIDE PARTIES FOR USE OR EXAMINATION WITHOUT THE WRITTEN PERMISSION OF ROYAL.		
External Walls = .065		DATE: 4-25-08			
Internal Walls = .045		ACAD#: R1994-373-D26-BDS			
Layout Name: Base		PROJECT: Sierra Classic SlimLine			
Drawn By: gmc		SCALE 4:1		AREA = .0323 WT/FT = .020	
CUSTOMER RSE					
TITLE		Clam Shell Bead			

NOTE: ALL DIMENSIONS IN [] BRACKETS ARE MM UNLESS NOTED



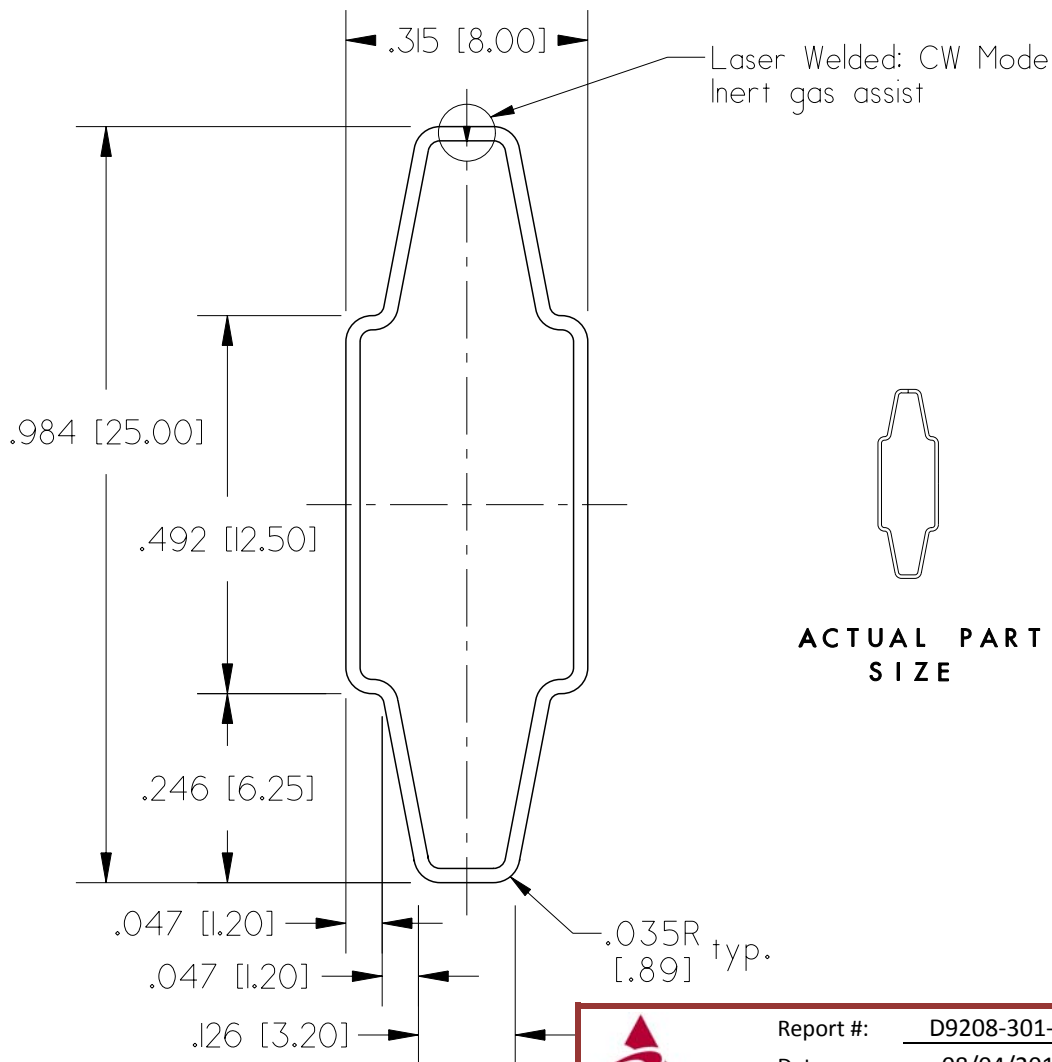
 Architectural Testing	Report #:	D9208-301-45
	Date:	08/04/2014
	Verified by:	<i>RC. White</i>

ACTUAL PART
SIZE

FILENAME:.. \MB\0185\316X625

DATE	SYM.	REVISION		AUTH.	DRN.	CK.
 ALLMETAL			INFORMATION SHOWN ON THIS PRINT IS PROPRIETARY. THIS DRAWING IS NOT TO BE REPRODUCED EITHER WHOLLY OR IN PART WITHOUT THE EXPRESS PERMISSION OF ALLMETAL INC.			
TOLERANCES EXCEPT AS NOTED		TITLE 3/16 x .625 MB (Muntin Bar)			DRN. BY <i>G. Matthews</i>	
DECIMAL INCHES .XX .XXX .XXXX $\pm .01 .005 .0002$		MATL. .0185 [.47mm] 3105-H24 Aluminum		FINISH Painted		CK. BY
DECIMAL MM .XX .XXX $\pm .13 .06$		SCALE 5:1		DATE 11/15/01		APPR. BY
ANGULAR $\pm 1^\circ$		DWG. NO. 1021101018XX140		S.O. NO.		

NOTE: ALL DIMENSIONS IN [] BRACKETS ARE MM UNLESS NOTED



	Report #:	D9208-301-45
	Date:	08/04/2014
	Verified by:	<i>HC. Miller</i>

3/15/99		Gauge changed from .020 to .0185		GRM	
4/17/97		Weld note changed, Title block changed		GRM	
4/1/95		Gauge changed from .016 to .020		GRM	
12/9/92		Initial Release		GRM	
DATE	SYM.	REVISION	AUTH.	DRN.	CK.

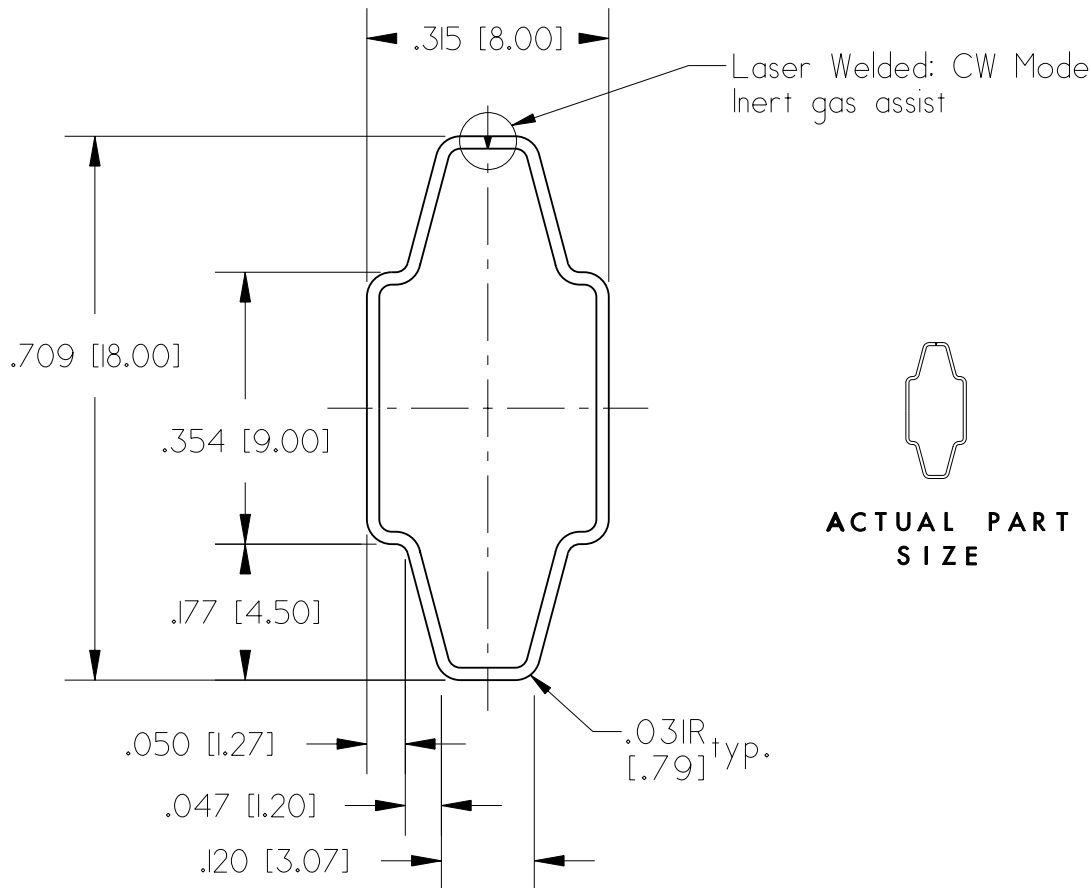


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TOLERANCES EXCEPT AS NOTED		TITLE		DRN. BY <i>G. Matthews</i>	
DECIMAL INCHES .XX .XXX .XXXX ± .01 .005 .0002		8 x 25mm Contour Muntin Bar (CMB)		CK. BY	
DECIMAL MM .XX .XXX ± .13 .06		MATL. .0185" [.47mm] 3105 Aluminum		APPR. BY	
ANGULAR ± 1°		FINISH FULL RANGE (MILL, ANOD., PAINTED)		S.O. NO.	
SCALE 4:1		DATE 3/15/99		DWG. NO. 1020301018XX380	

FILENAME: CMB825K



 Architectural Testing	Report #:	D9208-301-45
	Date:	08/04/2014
	Verified by:	<i>RC. Miller</i>

4/17/97		Weld note changed, Title block changed		GRM	
12/9/92		Initial Release		GRM	
DATE	SYM.	REVISION	AUTH.	DRN.	CK.

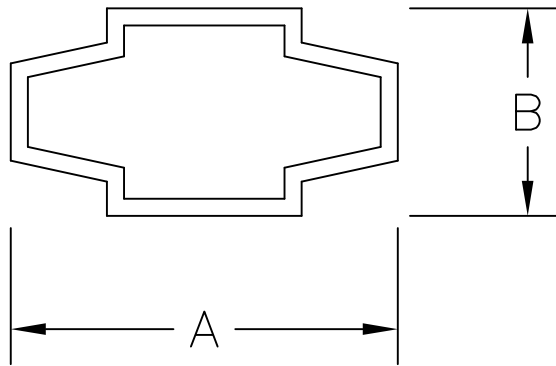


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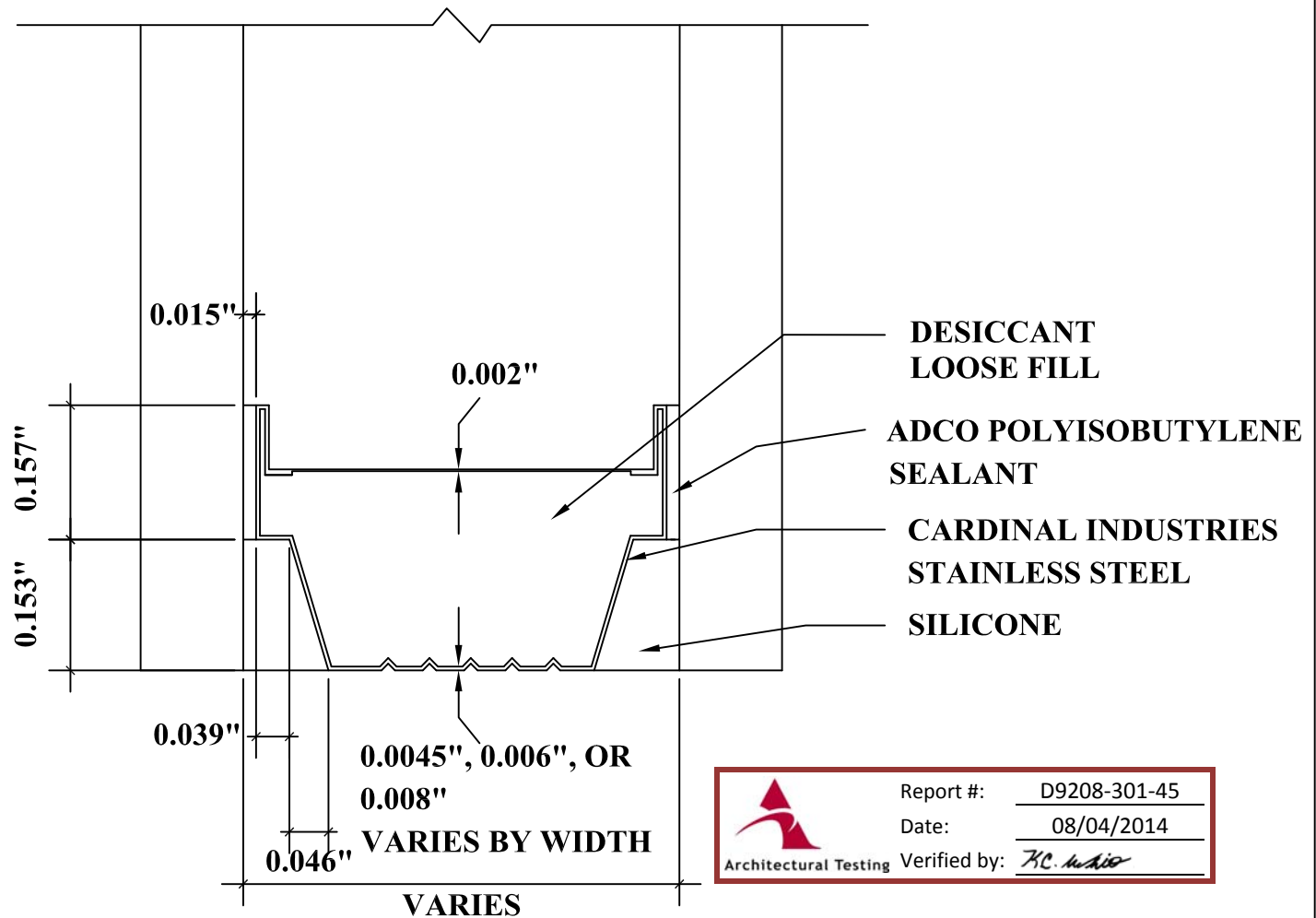
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DECIMAL INCHES .XX .XXX .XXXX ± .01 .005 .0002	MATL. .016" [.41mm] 3105 Aluminum	FINISH FULL RANGE (MILL, ANOD., PAINTED)	APPR. BY	CK. BY	
				S.O. NO.	
DECIMAL MM .XX .XXX ± .13 .06	SCALE	DATE	DWG. NO.	1020301010XX280	
ANGULAR ± 1°	4:1	4/17/97			

INTERNAL MUNTIN



 Architectural Testing	Report #:	D9208-301-45
	Date:	08/04/2014
	Verified by:	<i>KC. White</i>

Material: PAINTED ALUMINUM
Length (A): 5/8"
Width (B): 3/16"
Wall Thickness: 0.016"



DETAIL FOR THERMAL MODELING OF
CARDINAL ENDUR SPACER (SS-D)