



Aluminum – NW Region

Performance Ratings Guide

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Min/Max

Structural Class

Air Infiltration

Egress

U-Factors

Solar Heat Gain Coefficients

Visible Light Transmittance

Sound Transmission Class



Aluminum - NW Region Performance Ratings

June 2004

Window Type	Series	AAMA Label		Min		Max		Structural Class	Wind Speed	Air Infiltration	Egress Calc. Min. Egress
		Silver	Gold	Width	Height	Width	Height				
Horizontal Slider 10050 XOX	1110							HS-LC25	100	.05	1/2AWW - 1 7/8" AWH - 2"
Half Vent			X	2 ⁰	1 ⁰	6 ⁰	5 ⁰				4036
Double Vent (max VS = 36")			X	4 ⁰	1 ⁰	10 ⁰	5 ⁰				2036 vent
Half Vent Below / Above (hmr)		X		2 ⁰	2 ⁰	6 ⁰	7 ⁰				2036 vent
Half Vent Below / Above (mulled)			X	2 ⁰	2 ⁰	6 ⁰	7 ⁰				2036 vent
Double Vent Below / Above (hmr)		X		4 ⁰	2 ⁰	8 ⁰	7 ⁰				2036 vent
Double Vent Below / Above (mulled)			X	4 ⁰	2 ⁰	8 ⁰	7 ⁰				2036 vent
Single Hung 4066 O/X	1510							H-LC25	100	.19	AWW - 2 1/8" BARSET - 2 1/2"
Single Hung			X	1 ⁶	2 ⁶	4 ⁰	6 ⁶				2656/3050
Double Single Hung (mulled)			X	3 ⁰	2 ⁶	8 ⁰	6 ⁶				2656/3050
Triple Single Hung (mulled)			X	4 ⁶	2 ⁶	12 ⁰	6 ⁶				2656/3050
Picture Window 8060	910							F-HC45	134	.01	N/A
Picture Window			X	1 ⁰	1 ⁰	8 ⁰	6 ⁰				N/A
Octagon			X	2 ⁰	2 ⁰	6 ⁰	6 ⁰				N/A
Radius 6060	R15							F-HC40	127	<0.01	N/A
Full Round			X	2 ⁶	2 ⁶	6 ⁰	6 ⁰				N/A
1/2 Round			X	2 ⁶	1 ³	8 ⁰	4 ⁰				N/A
1/4 Round			X	1 ³	1 ³	6 ⁰	6 ⁰				N/A
Awning 4080 O/X	910							AP-C30	110	.17	N/A
Full Awning			X	1 ⁶	1 ⁶	4 ⁰	3 ⁰				N/A
Double Awning (mulled)			X	3 ⁰	1 ⁶	8 ⁰	3 ⁰				N/A
Double Awning (T-Bar)		X		3 ⁰	1 ⁶	8 ⁰	3 ⁰				N/A
Bottom Awning (mulled, max BS = 36")			X	1 ⁶	2 ⁰	4 ⁰	8 ⁰				N/A
Bottom Awning (T-Bar, max BS = 36")			X	1 ⁶	2 ⁰	4 ⁰	8 ⁰				N/A
Casement 10050 XOX	910							C-C30	110	.14	AWW - 4" AWH - 2 1/2"
Full Casement			X	1 ⁶	1 ⁶	2 ⁶	5 ⁰				2630
Single Casement (mulled, max VS = 30")			X	2 ⁰	1 ⁶	8 ⁰	5 ⁰				5030
Single Casement (T-Bar, max VS = 30")			X	2 ⁰	1 ⁶	8 ⁰	5 ⁰				5030
Double Casement (mulled, max VS = 30")			X	2 ⁰	1 ⁶	5 ⁰	5 ⁰				5030
Double Casement (T-Bar, max VS = 30")			X	2 ⁰	1 ⁶	5 ⁰	5 ⁰				5030
Double Casement XOX (mulled, max VS = 30")			X	3 ⁰	1 ⁶	10 ⁰	5 ⁰				5030
Double Casement XOX (T-Bar, max VS = 30")			X	3 ⁰	1 ⁶	10 ⁰	5 ⁰				5030
Sliding Glass Door 80610 OX	415							SGD-LC25	100	.16	N/A
SGD OX / XO			X	5 ⁰	6 ⁸	8 ⁰	6 ¹⁰				N/A
SGD OXO		X		9 ⁰	6 ⁸	12 ⁰	6 ¹⁰				N/A
SGD OXOX		X		10 ⁰	6 ⁸	16 ⁰	6 ¹⁰				N/A
Skylight	750	X				6 ⁰	4 ⁰	50 PSF design load	N/A	.06	N/A
Skylight	780	X				4 ⁰	4 ⁰	50 PSF design load	N/A	.09	N/A
Skylight	780	X				4 ⁰	4 ⁰	50 PSF design load	N/A	.09	N/A

Location specific U-Values will be maintained by locations.
Barsets are considered nominal for egress calculations.



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Aluminum Series Performance Ratings

June 2004

NFRC Tested U-Factors for Aluminum Windows - NW Aluminum And Intercept Spacer

Without Grids or
SS/SS With Grids or
DS/DS
With Flat Grids

Mtrl	Window Series	Window Type	CLR/CLR		CLR/HARD LOW-E(2)		Cardinal 172 CLR/SOFT LOW-E(4)	
				ARGON		ARGON		ARGON
ALNS	1110	Aluminum Slider	0.77	0.75	0.66	0.63	0.62	0.58
ALNS	1510	Aluminum Single Hung	0.75	0.73	0.65	0.61	0.60	0.56
ALNS	910 Pic	Aluminum Picture Window	0.60	0.58	0.48	0.45	0.44	0.40
ALNS	910 Awn	Aluminum Awning	0.74	0.72	0.64	0.62	0.61	0.57
ALNS	910 Case	Aluminum Casement	0.74	0.72	0.64	0.62	0.61	0.57
ALNH	911 Pic	Aluminum H-Bar Picture Window	0.60	0.58	0.48	0.45	0.44	0.40
ALNH	911 Awn	Aluminum H-Bar Awning	0.73	0.72	0.65	0.62	0.61	0.58
ALNH	911 Case	Aluminum H-Bar Casement	0.73	0.72	0.65	0.62	0.61	0.58
ALNS	415	Aluminum Sliding Door	0.74	0.71	0.63	0.60	0.59	0.55
ALNS	R-15	Aluminum Radius Window	0.59	0.57	0.47	0.44	0.42	0.38
ALHS	1600	Aluminum Sliding Door (Heavy)	0.80	0.78	0.70	0.67	0.66	0.62

A specific glazing option may be 0.01 to 0.02 lower than shown.

(2) Low E.2 = Hardcoat (PPG Sungate 500 or LOF).

(4) Low E.04 = Softcoat (Cardinal LoE²).



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Aluminum Series Performance Ratings

June 2004

NFRC Tested U-Factors for Aluminum Windows - NW Aluminum And Intercept Spacer

DS/DS
With Sculptured Grids &
TS/TS With or Without

Mtrl	Window Series	Window Type	CLR/CLR		CLR/HARD LOW-E(2)		Cardinal 172 CLR/SOFT LOW-E(4)	
				ARGON		ARGON		ARGON
ALNS	1110	Aluminum Slider	0.79	0.76	0.70	0.66	0.66	0.61
ALNS	1510	Aluminum Single Hung	0.77	0.74	0.68	0.64	0.64	0.59
ALNS	910 Pic	Aluminum Picture Window	0.62	0.58	0.52	0.47	0.48	0.42
ALNS	910 Awn	Aluminum Awning	0.76	0.73	0.68	0.64	0.64	0.60
ALNS	910 Case	Aluminum Casement	0.76	0.73	0.68	0.64	0.64	0.60
ALNH	911 Pic	Aluminum H-Bar Picture Window	0.62	0.59	0.52	0.48	0.48	0.43
ALNH	911 Awn	Aluminum H-Bar Awning	0.75	0.73	0.68	0.64	0.65	0.61
ALNH	911 Case	Aluminum H-Bar Casement	0.75	0.73	0.68	0.64	0.65	0.61
ALNS	415	Aluminum Sliding Door	0.74	0.71	0.63	0.60	0.59	0.55
ALNS	R-15	Aluminum Radius Window	0.61	0.58	0.51	0.46	0.47	0.41
ALHS	1600	Aluminum Sliding Door (Heavy)	0.80	0.78	0.70	0.67	0.66	0.62

A specific glazing option may be 0.01 to 0.02 lower than shown.

(2) Low E.2 = Hardcoat (PPG Sungate 500 or LOF).

(4) Low E.04 = Softcoat (Cardinal LoE²).



Aluminum Series Performance Ratings Solar Heat Gain Coefficients & Visible Light Transmittance

June 2004

Aluminum

Type	Glazing	SHGC			VT		
		No Grids	Flat Grids	Sculptured Grids	No Grids	Flat Grids	Sculptured Grids
Sliders	Clr / Clr	0.68	0.63	0.57	0.67	0.61	0.54
1110H / 1180H / 1280H	Brz / Clr	0.56	0.52	0.48	0.51	0.46	0.41
1110	LoE172 / Clr	0.39	0.37	0.33	0.60	0.54	0.48
ALCS / ALRH / ALRZ	LoE170 / Clr	0.36	0.33	0.30	0.58	0.52	0.47
ALSS / ALNS	Clr / LOF	0.64	0.58	0.54	0.62	0.56	0.50
	Azurlite / Clr	0.43	0.40	0.37	0.58	0.52	0.47
Single Hungs	Clr / Clr	0.68	0.62	0.57	0.67	0.61	0.54
1510 / 1580 / 1680	Brz / Clr	0.57	0.52	0.48	0.51	0.46	0.41
ALNS / ALRH / ALRZ	LoE172 / Clr	0.40	0.36	0.33	0.60	0.53	0.48
ALCS / ALSS	LoE170 / Clr	0.36	0.33	0.30	0.58	0.52	0.47
	Clr / LOF	0.63	0.58	0.53	0.62	0.56	0.50
	Azurlite / Clr	0.44	0.40	0.37	0.58	0.52	0.47
Fixed	Clr / Clr	0.71	0.65	0.62	0.73	0.67	0.63
910C / 910	Brz / Clr	0.58	0.54	0.51	0.55	0.51	0.48
ALCS / ALNS	LoE172 / Clr	0.39	0.37	0.35	0.65	0.60	0.56
	LoE170 / Clr	0.35	0.33	0.31	0.63	0.58	0.55
	Clr / LOF	0.65	0.60	0.58	0.68	0.62	0.58
	Azurlite / Clr	0.44	0.41	0.39	0.63	0.58	0.55
Fixed	Clr / Clr	.	0.65	0.59	0.75	0.67	0.60
710	Brz / Clr	0.59	0.53	0.49	0.56	0.51	0.45
ALSC	LoE172 / Clr	0.40	0.36	0.33	0.66	0.60	0.53
	LoE170 / Clr	0.35	0.32	0.30	0.64	0.58	0.52
	Clr / LOF	0.66	0.60	0.55	0.69	0.62	0.56
	Azurlite / Clr	0.44	0.40	0.37	0.60	0.58	0.52
Casement / Awnings	Clr / Clr	0.61	0.57	0.54	0.60	0.55	0.53
910C / 910	Brz / Clr	0.51	0.48	0.45	0.45	0.41	0.40
ALCS / ALNS	LoE172 / Clr	0.36	0.33	0.32	0.53	0.49	0.47
	LoE170 / Clr	0.33	0.31	0.30	0.52	0.48	0.46
	Clr / LOF	0.58	0.55	0.52	0.56	0.51	0.49
	Azurlite / Clr	0.39	0.37	0.35	0.52	0.48	0.46
Door	Clr / Clr	0.69	0.62	0.57	0.68	0.61	0.55
450 / 415	Brz / Clr	0.57	0.52	0.47	0.51	0.46	0.41
A45S / A451 / ALNS	LoE172 / Clr	0.39	0.36	0.33	0.61	0.55	0.49
	LoE170 / Clr	0.35	0.33	0.30	0.59	0.53	0.47
	Clr / LOF	0.64	0.58	0.53	0.63	0.57	0.51
	Azurlite / Clr	0.44	0.40	0.37	0.59	0.53	0.47
SKYLIGHT	Clr / Clr	0.73	/	/	0.74	/	/
780	Brz / Clr	0.60	/	/	0.56	/	/
VINS	LoE172 / Clr	0.40	/	/	0.66	/	/
	LoE170 / Clr	0.36	/	/	0.64	/	/
	Clr / LOF	0.67	/	/	0.69	/	/
	Azurlite / Clr	0.45	/	/	0.64	/	/

12/1/2003

LoE 170 = Suncoat™ LoE² Milgard's standard LoE for Aluminum



MILGARD ALUMINUM SERIES SOUND TRANSMISSION CLASS (STC)

1110 Horizontal Slider – Test Size 6040

Test Number	TL-98-412	TL-98-411	TL-98-409	TL-98-410
Glass Type	7/32 LAM / 7/32 LAM	7/32 LAM / 3/16	7/32 LAM / 1/8	1/8 / 1/8
STC	32	31	32	29
EWR	34	33	33	30
OITC	29	28	27	25

1510 Vertical Slider – Test Size 4060

Test Number	TL-98-404	TL-98-398	TL-99-202	TL-99-200
Glass Type	7/32 LAM / 3/16	7/32 LAM / 1/8	3/16 / 1/8	1/8 / 1/8
STC	32	32	31	27
EWR	33	33	31	28
OITC	28	28	26	24

910 Picture Window – Test Size 6040

Test Number	TL-98-402	TL-98-403	TL-98-400	TL-98-401
Glass Type	7/32 LAM / 7/32 LAM	7/32 LAM / 3/16	7/32 LAM / 1/8	1/8 / 1/8
STC	35	34	33	29
EWR	35	36	33	30
OITC	30	30	28	24

710 Picture Window – Test Size 6040

Test Number	TL-99-150	TL-99-151	TL-99-154	TL-99-149
Glass Type	7/32 LAM / 7/32 LAM	7/32 LAM / 3/16	7/32 LAM / 1/8	1/8 / 1/8
STC	37	35	34	30
EWR	36	35	33	30
OITC	29	29	27	24

910 Casement – Test Size 3050

Test Number	TL-98-394	TL-98-396	TL-98-397	TL-98-395
Glass Type	7/32 LAM / 1/4	7/32 LAM / 1/8	1/4 / 1/8	1/8 / 1/8
STC	36	36	35	30
EWR	36	36	35	31
OITC	30	30	30	26

450 Patio Door – Test Size 6068

Test Number	TL-98-407	TL-98-408	TL-98-405	TL-98-406	TL-01-374	TL-01-375
Glass Type	7/32 LAM / 7/32 LAM	7/32 LAM / 1/8	1/4 / 1/8	1/8 / 1/8	3/16 / 1/8	3/16 / 3/16
STC	29	31	30	27	31	30
EWR	30	32	31	28	31	31
OITC	26	26	26	22	25	26

- ◆ **STC = SOUND TRANSMISSION CLASS**
- ◆ **EWR = EXTERIOR WALL RATING**
- ◆ **OITC = OUTSIDE INSIDE TRANSMISSION CLASS**

12/01/03