



Aluminum – SW Region

Performance Ratings Guide

Included in this Guide:

Min/Max

Structural Class

Air Infiltration

Egress

U-Factors

Solar Heat Gain Coefficients

Visible Light Transmittance

Sound Transmission Class



Aluminum - SW 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 10060 XOX	1110H 1110SH 1180H 1280H							HS-LC25	100	.08	1/2AWW - 1 7/8" AWH - 2"
Half Vent			X	2 ⁰	1 ⁰	6 ⁰	6 ⁰				4036
Double Vent (max VS = 36")			X	4 ⁰	1 ⁰	10 ⁰	6 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 1510S 1580 1680							H-LC25	100	.19	AWW - 2 1/8" BARSET - 2 1/2"
Single Hung			X	1 ⁶	2 ⁶	4 ⁰	6 ⁶				2660/3050
Double Single Hung (mulled)			X	3 ⁰	2 ⁶	8 ⁰	6 ⁶				2630 vent
Triple Single Hung (mulled)			X	4 ⁶	2 ⁶	12 ⁰	6 ⁶				2630 vent
Picture Window 8060 O	710 710S							F-C40	127	<.01	N/A
Picture Window			X	1 ⁰	1 ⁰	8 ⁰	6 ⁰				N/A
Picture Window 8060 OO	710 710S							F-C40	127	<.01	N/A
Picture Window			X	2 ⁰	1 ⁰	8 ⁰	6 ⁰				N/A
Picture Window 8060 O	910C 910S 911C							F-HC45	134	.01	N/A
Picture Window			X	1 ⁰	1 ⁰	8 ⁰	6 ⁰				N/A
Octagon			X	2 ⁶	2 ⁶	6 ⁰	6 ⁰				N/A
Radius 6060	R15 R15S							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	910C 910S 911C							AP-C35	120	.05	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 8'10" 5'0" XOX	910C 910S 911C							C-C35	120	0.18	AWW - 4" AWH - 2 5/8"
Full Casement			X	1 ⁶	1 ⁶	2 ⁶	5 ⁰				2630
Single Casement (mulled, max VS = 30")			X	3 ⁰	1 ⁶	8 ⁰	5 ⁰				5030
Single Casement (T-Bar, max VS = 30")			X	3 ⁰	1 ⁶	8 ⁰	5 ⁰				5030
Double Casement (mulled, max VS = 30")			X	3 ⁰	1 ⁶	5 ⁰	5 ⁰				5030



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Window Type	Series	AAMA Label		Min		Max		Structural Class	Wind Speed	Air Infiltration	Egress Calc. Min. Egress
		Silver	Gold	Width	Height	Width	Height				
Double Casement (T-Bar, max VS = 30")			X	3 ⁰	1 ⁶	5 ⁰	5 ⁰				5030
Double Casement XOX (mullied, max VS = 30")			X	4 ⁰	1 ⁶	8 ¹⁰	5 ⁰				5030
Double Casement XOX (T-Bar, max VS = 30")			X	4 ⁰	1 ⁶	8 ¹⁰	5 ⁰				5030
Sliding Glass Door 100610 XO	450 450S							SGD-R20	90	.17	N/A
Sliding Glass Door 12080 OXO								SGD-R20	90	.30	N/A
Sliding Glass Door 16080 OXXO								SGD-R20	90	.18	N/A
SGD OX / XO			X	5 ⁰	6 ⁸	10 ⁰	6 ¹⁰				Clear Opening (ADW/2)-4 3/16"
SGD OXO			X	9 ⁰	6 ⁸	12 ⁰	6 ¹⁰				Clear Opening (ADW-12 13/16)/3
SGD OXXO			X	10 ⁰	6 ⁸	16 ⁰	6 ¹⁰				Clear Opening (ADW/2)-7 3/8"
Sliding Glass Door OX / XO 100100	1600							SGD-HC40	127	.17	N/A
Sliding Glass Door OXO 120100								FORTHCOMING			N/A
Sliding Glass Door OXXO 160100								SGD-C30	110	.08	N/A
Sliding Glass Door OXXO 16080								SGD-C40	127	.08	N/A
Sliding Glass Door 100120 W/Transom XO/O, XO/OO, OX/O, OX/OO								SGD-LC25	100	.11	N/A
Sliding Glass Door 160120 W/Transom OXXO/OO, OXXO/OOOO								SGD-LC25	100	.11	N/A
SGD OX / XO			X	6 ⁰	6 ⁸	10 ⁰	10 ⁰				Clear Opening (ADW/2)-8 5/16"
SGD OXO			X	9 ⁰	6 ⁸	12 ⁰	10 ⁰				Clear Opening (ADW/3)-8 9/16"
SGD OXXO			X	12 ⁰	6 ⁸	16 ⁰	10 ⁰				Clear Opening (ADW/2)-14 3/4"
SGD OX / XO			X	6 ⁰	7 ⁸	10 ⁰	10 ⁰				Clear Opening (ADW/2)-8 5/16"
SGD OXO			X	9 ⁰	7 ⁸	12 ⁰	10 ⁰				Clear Opening (ADW/3)-8 9/16"
SGD OXXO			X	12 ⁰	7 ⁸	16 ⁰	10 ⁰				Clear Opening (ADW/2)-14 3/4"

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

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

Mtrl	Window Series	Window Type	California		CLR/CLR		CLR/HARD LOW-E(2)		SunCoat 170/172 Card 140 CLR/SOFT LOW-E(4)	
			Default U-Factor		ARGON	ARGON	ARGON	ARGON	ARGON	ARGON
			Clear	Low-E						
ALCS/ALRH/ALRZ	1110H/1180H/1280H	Aluminum Slider (std hol/H hol/Z hol)	0.82	0.77	0.74	0.72	0.63	0.60	0.59	0.55
ALCS/ALRH/ALRZ	1510/1580/1680	Aluminum Single Hung (std/H/Z)	0.82	0.77	0.75	0.73	0.65	0.61	0.60	0.56
ALCS	910C Case	Aluminum Casement (Cal)	0.82	0.77	0.73	0.71	0.64	0.61	0.60	0.57
ALCS	910C Awn	Aluminum Awning (Cal)	0.82	0.77	0.73	0.71	0.64	0.61	0.60	0.57
ALCS	910C Pic	Aluminum Picture Window (Cal)	0.67	0.62	0.62	0.59	0.50	0.47	0.46	0.41
ALCH	911C Case	Aluminum Casement (Cal H-bar)	0.82	0.77	0.74	0.72	0.65	0.63	0.62	0.59
ALCH	911C Awn	Aluminum Awning (Cal H-bar)	0.82	0.77	0.74	0.72	0.65	0.63	0.62	0.59
ALCH	911C Pic	Aluminum Picture Window (Cal H-bar)	0.67	0.62	0.60	0.58	0.48	0.45	0.44	0.40
ALC1	912C Pic	Aluminum Picture Window (Cal 1")	0.67	0.62	0.62	0.59	0.50	0.47	0.46	0.41
ALSC	710 Pic	Aluminum Picture Window (std)	0.67	0.62	0.60	0.57	0.48	0.45	0.43	0.39
ALSC	410	Aluminum Sliding Door	0.77	0.72						
A451	450	Aluminum Sliding Door (std)	0.72	0.67	0.74	0.72	0.62	0.59	0.58	0.54
ALCS	R15	Aluminum Radius Window	0.67	0.62	0.59	0.57	0.47	0.44	0.42	0.38
ALHS	1600	Aluminum Sliding Door (Heavy)	0.77	0.72	0.80	0.78	0.70	0.67	0.66	0.62

"S" Series

Mtrl	Window Series	Window Type	California		CLR/CLR		CLR/HARD LOW-E(2)		SunCoat 170/172 Card 140 CLR/SOFT LOW-E(4)	
			Default U-Factor		ARGON	ARGON	ARGON	ARGON	ARGON	
			Clear	Low-E						
ALSS	1110SH	Aluminum Slider Stucco Hollow Sill	0.82	0.77	0.77	0.75	0.66	0.63	0.62	0.58
ALSS	1510S	Aluminum Single Hung Stucco	0.82	0.77	0.78	0.76	0.67	0.64	0.62	0.59
ALSS	910S Case	Aluminum Casement Stucco	0.82	0.77	0.74	0.72	0.65	0.62	0.61	0.58
ALSS	910S Awn	Aluminum Awning Stucco	0.82	0.77	0.74	0.72	0.65	0.62	0.61	0.58
ALSS	910S Pic	Aluminum Picture Window Stucco	0.67	0.62	0.62	0.60	0.51	0.47	0.46	0.42
ALS1	912S Pic	Aluminum Picture Window Stucco 1"	0.67	0.62	0.62	0.60	0.51	0.47	0.46	0.42
ALST	710S Pic	Aluminum Picture Window (stucco)	0.67	0.62	0.60	0.57	0.48	0.45	0.43	0.39
A45S	450S	Aluminum Sliding Door (stucco)	0.72	0.67	0.74	0.72	0.62	0.59	0.58	0.54
ALSS	R-15S	Aluminum Radius Window Stucco	0.67	0.62	0.59	0.57	0.47	0.44	0.42	0.38

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) SunCoat™

Updates hilited in yellow.

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

**NFRC Tested U-Factors for Aluminum Windows - SW
Aluminum And Intercept Spacer**

Mtrl	Window Series	Window Type	California		CLR/CLR		CLR/HARD LOW-E(2)		SunCoat 170/172 Card 140 CLR/SOFT LOW-E(4)	
			Default U-Factor		ARGON	ARGON	ARGON	ARGON		
			Clear	Low-E						
ALCS/ALRH/ALRZ	1110H/1180H/1280H	Aluminum Slider (std hol/H hol/Z hol)	0.87	0.82	0.76	0.73	0.67	0.63	0.63	0.58
ALCS/ALRH/ALRZ	1510/1580/1680	Aluminum Single Hung (std/H/Z)	0.87	0.82	0.77	0.74	0.68	0.64	0.64	0.59
ALCS	910C Case	Aluminum Casement (Cal)	0.87	0.82	0.75	0.72	0.67	0.63	0.64	0.60
ALCS	910C Awn	Aluminum Awning (Cal)	0.87	0.82	0.75	0.72	0.67	0.63	0.64	0.60
ALCS	910C Pic	Aluminum Picture Window (Cal)	0.72	0.67	0.63	0.60	0.53	0.48	0.49	0.43
ALCH	911C Case	Aluminum Casement (Cal H-bar)	0.87	0.82	0.76	0.73	0.69	0.65	0.65	0.61
ALCH	911C Awn	Aluminum Awning (Cal H-bar)	0.87	0.82	0.76	0.73	0.69	0.65	0.65	0.61
ALCH	911C Pic	Aluminum Picture Window (Cal H-bar)	0.72	0.67	0.62	0.59	0.52	0.48	0.48	0.43
ALSC	410	Aluminum Sliding Door	0.82	0.77						
ALCS	R15	Aluminum Radius Window	0.72	0.67	0.61	0.58	0.51	0.46	0.47	0.41
ALHS	1600	Aluminum Sliding Door (Heavy)	0.82	0.77	0.80	0.78	0.70	0.67	0.66	0.62

"S" Series

Mtrl	Window Series	Window Type	California		CLR/CLR		CLR/HARD LOW-E(2)		SunCoat 170/172 Card 140 CLR/SOFT LOW-E(4)	
			Default U-Factor		ARGON	ARGON	ARGON	ARGON		
			Clear	Low-E						
ALSS	1110SH	Aluminum Slider Stucco Hollow Sill	0.87	0.82	0.79	0.76	0.70	0.66	0.66	0.61
ALSS	1510S	Aluminum Single Hung Stucco	0.87	0.82	0.80	0.77	0.71	0.66	0.67	0.62
ALSS	910S Case	Aluminum Casement Stucco	0.87	0.82	0.76	0.73	0.68	0.64	0.65	0.60
ALSS	910S Awn	Aluminum Awning Stucco	0.87	0.82	0.76	0.73	0.68	0.64	0.65	0.60
ALSS	910S Pic	Aluminum Picture Window Stucco	0.72	0.67	0.63	0.60	0.54	0.49	0.49	0.44
ALSS	R-15S	Aluminum Radius Window Stucco	0.72	0.67	0.62	0.58	0.51	0.47	0.47	0.41

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) SunCoat™

Updates hilited in yellow.



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