



X25 Series Fiberglass Window Performance: Full-Frame NFRC and Center-of-Glass Data

Effective December 1, 2013

525 Series	Description		NFRC Full-Frame Performance					Air Infiltration	Center-of-Glass (COG) Performance*			
	Glass Package	Glazing	U-value	R-Value	SHGC	VT	CRF	@ 1.57psf	U-value	R-value	SHGC	VT
Picture Window (LP)	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.17	5.9	0.29	0.50	64	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.47	0.62	63		0.14	7.1	0.53	0.70
Picture Window (HP)	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.17	5.9	0.26	0.45	64	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.42	0.55	63		0.14	7.1	0.53	0.70
Casement Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.23	0.39	65	<0.01 - 0.02 (cfm/sqft) 36x72	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.37	0.48	61		0.14	7.1	0.53	0.70
Awning Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.23	0.39	65	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.37	0.48	61		0.14	7.1	0.53	0.70
Single-Hung Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.24	0.41	57	0.07 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.22	4.5	0.39	0.51	56		0.13	7.7	0.53	0.70
Double-Hung Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.24	0.41	57	0.16 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.22	4.5	0.39	0.51	56		0.13	7.7	0.53	0.70
Horizontal Siding Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.26	0.44	57	0.09 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.42	0.54	57		0.13	7.7	0.53	0.70
Sliding Patio Door**	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.25	0.42	55	0.07 (cfm/sqft)	0.12	8.3	0.32	0.56
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.39	0.52	55		0.14	7.1	0.51	0.68

525-S Series	Description		NFRC Full-Frame Performance					Air Infiltration	Center-of-Glass (COG) Performance*			
	Glass Package	Glazing	U-value	R-Value	SHGC	VT	CRF	@ 1.57psf	U-value	R-value	SHGC	VT
Picture Window (LP)	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.16	6.3	0.30	0.49	69	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.17	5.9	0.48	0.62	68		0.14	7.1	0.53	0.70
Picture Window (HP)	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.15	6.7	0.27	0.44	69	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.16	6.3	0.43	0.56	68		0.14	7.1	0.53	0.70
Casement Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.24	0.38	70	<0.01 - 0.02 (cfm/sqft) 36x72	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.38	0.48	69		0.14	7.1	0.53	0.70
Awning Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.24	0.38	70	<0.01 (cfm/sqft)	0.12	8.3	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.38	0.48	69		0.14	7.1	0.53	0.70
Single-Hung Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.25	0.41	61	0.07 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.40	0.51	60		0.13	7.7	0.53	0.70
Double-Hung Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.25	0.41	61	0.16 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.40	0.51	60		0.13	7.7	0.53	0.70
Horizontal Siding Window	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.27	0.43	61	0.09 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.42	0.55	60		0.13	7.7	0.53	0.70
Sliding Patio Door**	Alpenglass 5L	Low Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.26	0.42	63	0.07 (cfm/sqft)	0.12	8.3	0.32	0.56
	Alpenglass 5H	High Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.41	0.53	62		0.14	7.1	0.51	0.68



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Effective December 1, 2013

725 Series	Description		NFRC Full-Frame Performance					Air Infiltration	Center-of-Glass (COG) Performance*			
	Glass Package	Glazing	U-value	R-Value	SHGC	VT	CRF	@ 1.57psf	U-value	R-value	SHGC	VT
Picture Window (LP)	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.15	6.7	0.30	0.49	67	<0.01 (cfm/sqft)	0.11	9.1	0.32	0.66
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.16	6.3	0.48	0.62	67		0.12	8.3	0.53	0.70
Picture Window (HP)	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.14	7.1	0.27	0.44	67	<0.01 (cfm/sqft)	0.11	9.1	0.32	0.66
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.15	6.7	0.43	0.56	66		0.12	8.3	0.53	0.70
Casement Window	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.24	0.38	68	<0.01 - 0.02 (cfm/sqft) 36x72	0.11	9.1	0.32	0.66
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.38	0.48	67		0.12	8.3	0.53	0.70
Awning Window	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.24	0.38	68	<0.01 (cfm/sqft)	0.11	9.1	0.32	0.66
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.38	0.48	67		0.12	8.3	0.53	0.70
Single-Hung Window	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.25	0.41	61	0.07 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.40	0.51	60		0.13	7.7	0.53	0.70
Double-Hung Window	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.25	0.41	61	0.16 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.21	4.8	0.40	0.51	60		0.13	7.7	0.53	0.70
Horizontal Siding Window	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.19	5.3	0.27	0.43	61	0.09 (cfm/sqft)	0.11	9.1	0.32	0.57
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.20	5.0	0.42	0.55	60		0.13	7.7	0.53	0.70
Sliding Patio Door**	Alpenglass 7L	Low Solar Gain: Single Film/Dual-Cavity	0.17	5.9	0.26	0.42	60	0.07 (cfm/sqft)	0.11	9.1	0.32	0.66
	Alpenglass 7H	High Solar Gain: Single Film/Dual-Cavity	0.18	5.6	0.41	0.53	59		0.12	8.3	0.53	0.70

925 Series	Description		NFRC Full-Frame Performance					Air Infiltration	Center-of-Glass (COG) Performance*			
	Glass Package	Glazing	U-value	R-Value	SHGC	VT	CRF	@ 1.57psf	U-value	R-value	SHGC	VT
Picture Window (LP)	Alpenglass 9L	Low Solar Gain: Dual Film/Triple-Cavity	0.12	8.3	0.28	0.44	73	<0.01 (cfm/sqft)	0.07	13.7	0.29	0.50
	Alpenglass 9H	High Solar Gain: Dual Film/Triple-Cavity	0.12	8.3	0.41	0.55	72		0.08	12.5	0.45	0.62
Picture Window (HP)	Alpenglass 9L	Low Solar Gain: Dual Film/Triple-Cavity	0.11	9.1	0.25	0.39	73	<0.01 (cfm/sqft)	0.07	13.7	0.29	0.50
	Alpenglass 9H	High Solar Gain: Dual Film/Triple-Cavity	0.12	8.3	0.37	0.49	72		0.08	12.5	0.45	0.62
Casement Window	Alpenglass 9L	Low Solar Gain: Dual Film/Triple-Cavity	0.15	6.7	0.22	0.34	74	<0.01 - 0.02 (cfm/sqft) 36x72	0.07	13.7	0.29	0.50
	Alpenglass 9H	High Solar Gain: Dual Film/Triple-Cavity	0.16	6.3	0.32	0.43	74		0.08	12.5	0.45	0.62
Awning Window	Alpenglass 9L	Low Solar Gain: Dual Film/Triple-Cavity	0.15	6.7	0.22	0.34	75	<0.01 (cfm/sqft)	0.07	13.7	0.29	0.50
	Alpenglass 9H	High Solar Gain: Dual Film/Triple-Cavity	0.16	6.3	0.32	0.43	74		0.08	12.5	0.45	0.62
Sliding Patio Door**	Alpenglass 9L	Low Solar Gain: Dual Film/Triple-Cavity	0.14	7.1	0.24	0.37	66	0.07 (cfm/sqft)	0.07	13.7	0.29	0.50
	Alpenglass 9H	High Solar Gain: Dual Film/Triple-Cavity	0.15	6.7	0.35	0.47	66		0.08	12.5	0.45	0.62

*All center-of-glass performance data based on LBNL Window 6.3 modeling using NFRC 100-2010 environmental conditions. Glass pane thicknesses are 1/8" thick unless otherwise noted.

**Sliding Patio Doors based on 2-panel door configuration; performance data for 525 Series is based on two 3/16" thick glass lites