



FeelSafe and FeelSafe IG Aluminum Clad Wood Windows
and Patio Doors

Thermal Product Performance Guide

11/2/2010

Clear Insulating Glass and High-Performance Glazings

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NFR Thermal Performance Values									
		Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
FeelSafe IG Energy Saver Casement	Air-Filled	No GIAS	Insul Clear	0.49	2.04	0.47	0.53	41	None
			Bronze Insul Clear	0.49	2.04	0.36	0.31	41	None
			Gray Insul Clear	0.49	2.04	0.35	0.26	41	None
			LowE Clear	0.38	2.63	0.31	0.46	50	None
			LowE Bronze	0.38	2.63	0.22	0.27	50	S
			LowE Gray	0.38	2.63	0.20	0.22	50	S
		w/ GIAS or CHDL ≤ 1"	Insul Clear	0.49	2.04	0.43	0.48	41	None
			Bronze Insul Clear	0.49	2.04	0.33	0.28	41	None
			Gray Insul Clear	0.49	2.04	0.32	0.23	41	None
			LowE Clear	0.38	2.63	0.28	0.41	50	None
			LowE Bronze	0.38	2.63	0.20	0.24	50	S
			LowE Gray	0.38	2.63	0.19	0.20	50	S
		w/ GIAS or CHDL > 1"	Insul Clear	0.49	2.04	0.39	0.43	41	None
			Bronze Insul Clear	0.49	2.04	0.30	0.25	41	None
			Gray Insul Clear	0.49	2.04	0.29	0.21	41	None
			LowE Clear	0.38	2.63	0.26	0.37	50	S
			LowE Bronze	0.38	2.63	0.18	0.22	50	S
			LowE Gray	0.38	2.63	0.17	0.18	50	S
	Argon-Filled	No GIAS	Insul Clear	0.47	2.13	0.45	0.52	42	None
			Bronze Insul Clear	0.47	2.13	0.34	0.30	42	None
			Gray Insul Clear	0.47	2.13	0.33	0.27	42	None
			LowE Clear	0.34	2.94	0.26	0.46	54	S/C and S
			LowE Bronze	0.34	2.94	0.21	0.26	54	S/C and S
			LowE Gray	0.34	2.94	0.20	0.23	54	S/C and S
w/ GIAS or CHDL ≤ 1"		Insul Clear	0.47	2.13	0.41	0.47	42	None	
		Bronze Insul Clear	0.47	2.13	0.31	0.27	42	None	
		Gray Insul Clear	0.47	2.13	0.31	0.24	42	None	
		LowE Clear	0.34	2.94	0.24	0.41	54	S/C and S	
		LowE Bronze	0.34	2.94	0.19	0.23	54	S/C and S	
		LowE Gray	0.34	2.94	0.18	0.21	54	S/C and S	
w/ GIAS or CHDL > 1"		Insul Clear	0.47	2.13	0.37	0.42	42	None	
		Bronze Insul Clear	0.47	2.13	0.28	0.24	42	None	
		Gray Insul Clear	0.47	2.13	0.28	0.21	42	None	
		LowE Clear	0.34	2.94	0.22	0.37	54	S/C and S	
		LowE Bronze	0.34	2.94	0.18	0.21	54	S/C and S	
		LowE Gray	0.34	2.94	0.17	0.19	54	S/C and S	

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NFRC Thermal Performance Values									
FeelSafe Monolithic Energy Saver Casement	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
	No Airspace	No GIAS OR CHDL	Clear Lami	0.80	1.25	0.51	0.57	14	None
			LowE Lami	0.80	1.25	0.31	0.45	14	None
			Bronze Lami	0.80	1.25	0.41	0.33	14	None
			LowE Bronze Lami	0.80	1.25	0.27	0.26	14	None
			Gray Lami	0.80	1.25	0.40	0.29	14	None
			LowE Gray Lami	0.80	1.25	0.26	0.23	14	None
	w/CHDL ≤ 1"	w/CHDL ≤ 1"	Clear Lami	0.80	1.25	0.46	0.52	14	None
			LowE Lami	0.80	1.25	0.28	0.41	14	None
			Bronze Lami	0.80	1.25	0.37	0.30	14	None
LowE Bronze Lami			0.80	1.25	0.25	0.23	14	None	
Gray Lami			0.80	1.25	0.37	0.26	14	None	
LowE Gray Lami			0.80	1.25	0.24	0.21	14	None	
w/CHDL > 1"	w/CHDL > 1"	Clear Lami	0.80	1.25	0.42	0.46	14	None	
		LowE Lami	0.80	1.25	0.25	0.37	14	None	
		Bronze Lami	0.80	1.25	0.34	0.27	14	None	
		LowE Bronze Lami	0.80	1.25	0.22	0.21	14	None	
		Gray Lami	0.80	1.25	0.17	0.19	14	None	
		LowE Gray Lami	0.80	1.25	0.22	0.19	14	None	

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NFRC Thermal Performance Values								
FeelSafe IG Energy Saver Casement Picture	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating
	Air-Filled	No GIAS	Insul Clear	0.48	2.08	0.44	0.52	40
Bronze Insul Clear			0.48	2.08	0.34	0.30	40	None
Gray Insul Clear			0.48	2.08	0.33	0.26	40	None
LowE Clear			0.34	2.94	0.26	0.46	50	S/C and S
LowE Bronze			0.34	2.94	0.21	0.26	50	S/C and S
LowE Gray			0.34	2.94	0.20	0.23	50	S/C and S
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.48	2.08	0.40	0.47	40	None
		Bronze Insul Clear	0.48	2.08	0.31	0.27	40	None
		Gray Insul Clear	0.48	2.08	0.30	0.24	40	None
		LowE Clear	0.34	2.94	0.24	0.41	50	S/C and S
		LowE Bronze	0.34	2.94	0.19	0.23	50	S/C and S
		LowE Gray	0.34	2.94	0.18	0.20	50	S/C and S
w/ GIAS or CHDL $> 1"$		Insul Clear	0.48	2.08	0.36	0.42	40	None
		Bronze Insul Clear	0.48	2.08	0.28	0.24	40	None
		Gray Insul Clear	0.48	2.08	0.27	0.21	40	S
		LowE Clear	0.34	2.94	0.22	0.37	50	S/C and S
		LowE Bronze	0.34	2.94	0.18	0.21	50	S/C and S
		LowE Gray	0.34	2.94	0.17	0.18	50	S/C and S
Argon-Filled	No GIAS	Insul Clear	0.46	2.17	0.44	0.52	42	None
		Bronze Insul Clear	0.46	2.17	0.33	0.30	42	None
		Gray Insul Clear	0.46	2.17	0.33	0.26	42	None
		LowE Clear	0.30	3.33	0.26	0.46	53	All Zones
		LowE Bronze	0.30	3.33	0.21	0.26	53	All Zones
		LowE Gray	0.30	0.23	0.20	0.23	53	All Zones
	w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.46	2.17	0.40	0.47	42	None
		Bronze Insul Clear	0.46	2.17	0.30	0.27	42	None
		Gray Insul Clear	0.46	2.17	0.30	0.24	42	None
		LowE Clear	0.31	3.23	0.24	0.41	52	N/C,S/C, S
		LowE Bronze	0.31	3.23	0.19	0.23	52	N/C,S/C, S
		LowE Gray	0.31	3.23	0.18	0.20	52	N/C,S/C, S
	w/ GIAS or CHDL $> 1"$	Insul Clear	0.46	2.17	0.36	0.42	42	None
		Bronze Insul Clear	0.46	2.17	0.28	0.24	42	None
		Gray Insul Clear	0.46	2.17	0.27	0.21	42	S
		LowE Clear	0.31	3.23	0.22	0.37	52	N/C,S/C, S
		LowE Bronze	0.31	3.23	0.18	0.21	52	N/C,S/C, S
		LowE Gray	0.31	3.23	0.17	0.18	52	N/C,S/C, S

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NFRC Thermal Performance Values									
FeelSafe Monolithic Energy Saver Casement Picture	No Airspace	No GIAS OR CHDL	Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating
			Clear Lami	0.85	1.18	0.51	0.57	14	None
		LowE Lami	0.85	1.18	0.31	0.45	14	None	
		Bronze Lami	0.85	1.18	0.41	0.33	14	None	
		LowE Bronze Lami	0.85	1.18	0.27	0.26	14	None	
		Gray Lami	0.85	1.18	0.40	0.29	14	None	
		LowE Gray Lami	0.85	1.18	0.26	0.23	14	None	
		w/CHDL ≤ 1"	Clear Lami	0.85	1.18	0.46	0.52	14	None
		LowE Lami	0.85	1.18	0.28	0.41	14	None	
		Bronze Lami	0.85	1.18	0.37	0.30	14	None	
LowE Bronze Lami	0.85	1.18	0.25	0.23	14	None			
Gray Lami	0.85	1.18	0.37	0.26	14	None			
LowE Gray Lami	0.85	1.18	0.24	0.21	14	None			
w/CHDL > 1"	Clear Lami	0.85	1.18	0.42	0.46	14	None		
LowE Lami	0.85	1.18	0.25	0.37	14	None			
Bronze Lami	0.85	1.18	0.34	0.27	14	None			
LowE Bronze Lami	0.85	1.18	0.22	0.21	14	None			
Gray Lami	0.85	1.18	0.33	0.24	14	None			
LowE Gray Lami	0.85	1.18	0.22	0.19	14	None			

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NFRC Thermal Performance Values									
		Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
FeelSafe IG Energy Saver Awning	Air-Filled	No GIAS	Insul Clear	0.48	2.08	0.45	0.52	40	None
			Bronze Insul Clear	0.48	2.08	0.34	0.30	40	None
			Gray Insul Clear	0.48	2.08	0.34	0.26	40	None
			LowE Clear	0.37	2.70	0.26	0.46	50	S
			LowE Bronze	0.37	2.70	0.21	0.26	50	S
			LowE Gray	0.37	2.70	0.20	0.23	50	S
		w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.48	2.08	0.41	0.47	40	None
			Bronze Insul Clear	0.48	2.08	0.31	0.27	40	None
			Gray Insul Clear	0.48	2.08	0.31	0.24	40	None
			LowE Clear	0.37	2.70	0.24	0.41	50	S
			LowE Bronze	0.37	2.70	0.20	0.23	50	S
			LowE Gray	0.37	2.70	0.19	0.21	50	S
		w/ GIAS or CHDL $> 1"$	Insul Clear	0.48	2.08	0.37	0.42	40	None
			Bronze Insul Clear	0.48	2.08	0.28	0.24	40	None
			Gray Insul Clear	0.48	2.08	0.28	0.21	40	None
			LowE Clear	0.37	2.70	0.22	0.37	50	S
			LowE Bronze	0.37	2.70	0.18	0.21	50	S
			LowE Gray	0.37	2.70	0.17	0.19	50	S
	Argon-Filled	No GIAS	Insul Clear	0.47	2.13	0.45	0.52	42	None
			Bronze Insul Clear	0.47	2.13	0.34	0.30	42	None
			Gray Insul Clear	0.47	2.13	0.33	0.26	42	None
			LowE Clear	0.33	3.03	0.26	0.46	53	S/C and S
			LowE Bronze	0.33	3.03	0.21	0.26	53	S/C and S
			LowE Gray	0.33	3.03	0.20	0.23	53	S/C and S
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.47	2.13	0.41	0.47	42	None	
		Bronze Insul Clear	0.47	2.13	0.31	0.27	42	None	
		Gray Insul Clear	0.47	2.13	0.30	0.24	42	None	
		LowE Clear	0.33	3.03	0.23	0.41	53	S/C and S	
		LowE Bronze	0.33	3.03	0.19	0.23	53	S/C and S	
		LowE Gray	0.33	3.03	0.18	0.21	53	S/C and S	
w/ GIAS or CHDL $> 1"$		Insul Clear	0.47	2.13	0.37	0.42	42	None	
		Bronze Insul Clear	0.47	2.13	0.28	0.24	42	None	
		Gray Insul Clear	0.47	2.13	0.28	0.21	42	None	
		LowE Clear	0.33	3.03	0.21	0.37	53	S/C and S	
		LowE Bronze	0.33	3.03	0.17	0.21	53	S/C and S	
		LowE Gray	0.33	3.03	0.17	0.19	53	S/C and S	

Performance ratings are based on individual units only. Hurd is constantly working to refine and improve our products. For this reason specifications may change without notice.

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NFRC Thermal Performance Values									
FeelSafe Monolithic Energy Saver Awning	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
	No Airspace	No GIAS OR CHDL	Clear Lami	0.85	1.18	0.52	0.58	13	None
			LowE Lami	0.85	1.18	0.30	0.46	13	None
			Bronze Lami	0.85	1.18	0.42	0.33	13	None
			LowE Bronze Lami	0.85	1.18	0.27	0.26	13	None
			Gray Lami	0.85	1.18	0.41	0.29	13	None
			LowE Gray Lami	0.85	1.18	0.26	0.23	13	None
	w/CHDL ≤ 1"	Clear Lami	0.85	1.18	0.47	0.52	13	None	
		LowE Lami	0.85	1.18	0.28	0.41	13	None	
		Bronze Lami	0.85	1.18	0.38	0.30	13	None	
LowE Bronze Lami		0.85	1.18	0.24	0.24	13	None		
Gray Lami		0.85	1.18	0.37	0.26	13	None		
LowE Gray Lami		0.85	1.18	0.24	0.21	13	None		
w/CHDL > 1"	Clear Lami	0.85	1.18	0.42	0.47	13	None		
	LowE Lami	0.85	1.18	0.25	0.37	13	None		
	Bronze Lami	0.85	1.18	0.34	0.27	13	None		
	LowE Bronze Lami	0.85	1.18	0.22	0.21	13	None		
	Gray Lami	0.85	1.18	0.34	0.24	13	None		
	LowE Gray Lami	0.85	1.18	0.22	0.19	13	None		

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NFRC Thermal Performance Values								
FeelSafe IG Energy Saver Direct Set	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating
	Air-Filled	No GIAS	Insul Clear	0.49	2.04	0.59	0.68	40
Bronze Insul Clear			0.49	2.04	0.45	0.39	40	None
Gray Insul Clear			0.49	2.04	0.43	0.35	40	None
LowE Clear			0.33	3.03	0.34	0.60	48	None
LowE Bronze			0.33	3.03	0.28	0.34	48	S/C and S
LowE Gray			0.33	3.03	0.26	0.30	48	S/C and S
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.49	2.04	0.53	0.61	39	None
		Bronze Insul Clear	0.49	2.04	0.40	0.35	39	None
		Gray Insul Clear	0.49	2.04	0.39	0.31	39	None
		LowE Clear	0.33	3.03	0.30	0.49	49	S/C and S
		LowE Bronze	0.33	3.03	0.20	0.23	49	S/C and S
		LowE Gray	0.33	3.03	0.19	0.21	49	S/C and S
w/ GIAS or CHDL $> 1"$		Insul Clear	0.49	2.04	0.48	0.55	39	None
		Bronze Insul Clear	0.49	2.04	0.36	0.32	39	None
		Gray Insul Clear	0.49	2.04	0.36	0.28	39	None
		LowE Clear	0.33	3.03	0.28	0.48	48	S/C and S
		LowE Bronze	0.33	3.03	0.23	0.27	49	S/C and S
		LowE Gray	0.33	3.03	0.22	0.24	49	S/C and S
Argon-Filled	No GIAS	Insul Clear	0.47	2.13	0.59	0.68	40	None
		Bronze Insul Clear	0.47	2.13	0.44	0.39	40	None
		Gray Insul Clear	0.47	2.13	0.43	0.35	40	None
		LowE Clear	0.29	3.45	0.33	0.60	51	N/C, SC
		LowE Bronze	0.29	3.45	0.27	0.34	51	All Zones
		LowE Gray	0.29	3.45	0.25	0.30	51	All Zones
	w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.47	2.13	0.53	0.61	40	None
		Bronze Insul Clear	0.47	2.13	0.40	0.35	40	None
		Gray Insul Clear	0.47	2.13	0.39	0.31	40	None
		LowE Clear	0.30	3.33	0.29	0.49	52	S/C and S
		LowE Bronze	0.30	3.33	0.25	0.30	52	All Zones
		LowE Gray	0.30	3.33	0.23	0.27	52	All Zones
	w/ GIAS or CHDL $> 1"$	Insul Clear	0.47	2.13	0.48	0.55	40	None
		Bronze Insul Clear	0.47	2.13	0.36	0.32	40	None
		Gray Insul Clear	0.47	2.13	0.35	0.28	40	None
		LowE Clear	0.30	3.33	0.27	0.44	52	All Zones
		LowE Bronze	0.30	3.33	0.22	0.27	52	All Zones
		LowE Gray	0.30	3.33	0.21	0.24	52	All Zones

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NFRC Thermal Performance Values									
FeelSafe Monolithic Energy Saver Direct Set	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
	No Airspace	No GIAS OR CHDL	Clear Lami	0.92	1.09	0.68	0.76	13	None
			LowE Lami	0.92	1.09	0.40	0.60	13	None
			Bronze Lami	0.92	1.09	0.54	0.44	13	None
			LowE Bronze Lami	0.92	1.09	0.35	0.35	13	None
			Gray Lami	0.92	1.09	0.54	0.39	13	None
			LowE Gray Lami	0.92	1.09	0.34	0.31	13	None
	w/CHDL ≤ 1"	Clear Lami	0.92	1.09	0.61	0.68	13	None	
		LowE Lami	0.92	1.09	0.37	0.54	13	None	
		Bronze Lami	0.92	1.09	0.49	0.39	13	None	
LowE Bronze Lami		0.92	1.09	0.32	0.35	13	None		
Gray Lami		0.92	1.09	0.48	0.35	13	None		
LowE Gray Lami		0.92	1.09	0.31	0.28	13	None		
w/CHDL > 1"	Clear Lami	0.92	1.09	0.55	0.61	13	None		
	LowE Lami	0.92	1.09	0.33	0.48	13	None		
	Bronze Lami	0.92	1.09	0.44	0.35	13	None		
	LowE Bronze Lami	0.92	1.09	0.29	0.28	13	None		
	Gray Lami	0.92	1.09	0.44	0.31	13	None		
	LowE Gray Lami	0.92	1.09	0.28	0.25	13	None		

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		NFRC Thermal Performance Values							
		Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
FeelSafe IG Monument SH/DH Operator	Air-Filled	No GIAS	Insul Clear	0.49	2.04	0.48	0.56	39	None
			Bronze Insul Clear	0.49	2.04	0.37	0.32	39	None
			Gray Insul Clear	0.49	2.04	0.36	0.29	39	None
			LowE Clear	0.37	2.70	0.26	0.45	47	S
			LowE Bronze	0.37	2.70	0.23	0.28	47	S
			LowE Gray	0.37	2.70	0.21	0.25	47	S
		w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.49	2.04	0.43	0.50	39	None
			Bronze Insul Clear	0.49	2.04	0.33	0.29	39	None
			Gray Insul Clear	0.49	2.04	0.32	0.25	39	None
			LowE Clear	0.37	2.70	0.24	0.40	47	S
			LowE Bronze	0.37	2.70	0.20	0.25	47	S
			LowE Gray	0.37	2.70	0.19	0.22	47	S
		w/ GIAS or CHDL $> 1"$	Insul Clear	0.49	2.04	0.38	0.44	39	None
			Bronze Insul Clear	0.49	2.04	0.29	0.25	39	None
			Gray Insul Clear	0.49	2.04	0.28	0.22	39	None
			LowE Clear	0.37	2.70	0.21	0.35	47	S
			LowE Bronze	0.37	2.70	0.18	0.22	47	S
			LowE Gray	0.37	2.70	0.17	0.19	47	S
	Argon-Filled	No GIAS	Insul Clear	0.48	2.08	0.48	0.56	41	None
			Bronze Insul Clear	0.48	2.08	0.36	0.32	41	None
			Gray Insul Clear	0.48	2.08	0.35	0.29	41	None
			LowE Clear	0.33	3.03	0.26	0.45	51	S/C and S
			LowE Bronze	0.33	3.03	0.22	0.28	51	S/C and S
			LowE Gray	0.33	3.03	0.21	0.25	51	S/C and S
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.48	2.08	0.43	0.50	41	None	
		Bronze Insul Clear	0.48	2.08	0.33	0.29	41	None	
		Gray Insul Clear	0.48	2.08	0.32	0.25	41	None	
		LowE Clear	0.34	2.94	0.24	0.40	51	S/C and S	
		LowE Bronze	0.34	2.94	0.20	0.25	51	S/C and S	
		LowE Gray	0.34	2.94	0.19	0.22	51	S/C and S	
w/ GIAS or CHDL $> 1"$		Insul Clear	0.48	2.08	0.38	0.44	41	None	
		Bronze Insul Clear	0.48	2.08	0.29	0.25	41	None	
		Gray Insul Clear	0.48	2.08	0.28	0.22	41	None	
		LowE Clear	0.34	2.94	0.21	0.35	51	S/C and S	
		LowE Bronze	0.34	2.94	0.18	0.22	51	S/C and S	
		LowE Gray	0.34	2.94	0.17	0.19	51	S/C and S	

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NFRC Thermal Performance Values									
FeelSafe Monolithic Monument SH/DH Operator	No Airspace	Glazing Description						Energy Star Rating	
		U- Factor	R- Value	SHGC	VT	CR			
		No GIAS OR CHDL	Clear Lami	0.84	1.19	0.55	0.62	14	None
			LowE Lami	0.84	1.19	0.32	0.49	14	None
			Bronze Lami	0.84	1.19	0.44	0.36	14	None
			LowE Bronze Lami	0.84	1.19	0.28	0.28	13	None
			Gray Lami	0.84	1.19	0.43	0.31	13	None
			LowE Gray Lami	0.84	1.19	0.28	0.25	13	None
		w/CHDL ≤ 1"	Clear Lami	0.84	1.19	0.49	0.55	14	None
			LowE Lami	0.84	1.19	0.29	0.43	14	None
Bronze Lami	0.84		1.19	0.40	0.31	14	None		
LowE Bronze Lami	0.84		1.19	0.25	0.25	13	None		
Gray Lami	0.84		1.19	0.39	0.28	13	None		
LowE Gray Lami	0.84		1.19	0.25	0.22	13	None		
w/CHDL > 1"	Clear Lami	0.84	1.19	0.44	0.48	14	None		
	LowE Lami	0.84	1.19	0.26	0.38	14	None		
	Bronze Lami	0.84	1.19	0.35	0.28	14	None		
	LowE Bronze Lami	0.84	1.19	0.23	0.22	13	None		
	Gray Lami	0.84	1.19	0.35	0.24	13	None		
	LowE Gray Lami	0.84	1.19	0.22	0.19	13	None		

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NFRC Thermal Performance Values									
		Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
FeelSafe IG Monument SH/DH Picture	Air-Filled	No GIAS	Insul Clear	0.47	2.13	0.51	0.59	43	None
			Bronze Insul Clear	0.47	2.13	0.38	0.34	43	None
			Gray Insul Clear	0.47	2.13	0.37	0.30	43	None
			LowE Clear	0.34	2.94	0.28	0.47	53	S/C and S
			LowE Bronze	0.34	2.94	0.24	0.29	53	S/C and S
			LowE Gray	0.34	2.94	0.22	0.26	53	S/C and S
		w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.47	2.13	0.46	0.53	43	None
			Bronze Insul Clear	0.47	2.13	0.34	0.30	43	None
			Gray Insul Clear	0.47	2.13	0.34	0.27	43	None
			LowE Clear	0.34	2.94	0.25	0.42	53	S/C and S
			LowE Bronze	0.34	2.94	0.21	0.26	53	S/C and S
			LowE Gray	0.34	2.94	0.20	0.23	53	S/C and S
		w/ GIAS or CHDL $> 1"$	Insul Clear	0.47	2.13	0.41	0.47	43	None
			Bronze Insul Clear	0.47	2.13	0.31	0.27	43	None
			Gray Insul Clear	0.47	2.13	0.30	0.24	43	None
			LowE Clear	0.34	2.94	0.22	0.37	53	S/C and S
			LowE Bronze	0.34	2.94	0.19	0.23	53	S/C and S
			LowE Gray	0.34	2.94	0.18	0.20	53	S/C and S
	Argon-Filled	No GIAS	Insul Clear	0.45	2.22	0.51	0.59	44	None
			Bronze Insul Clear	0.45	2.22	0.38	0.34	44	None
			Gray Insul Clear	0.45	2.22	0.37	0.30	44	None
			LowE Clear	0.30	3.33	0.27	0.47	56	All Zones
			LowE Bronze	0.30	3.33	0.23	0.29	56	All Zones
			LowE Gray	0.30	3.33	0.22	0.26	56	All Zones
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.45	2.22	0.46	0.53	44	None	
		Bronze Insul Clear	0.45	2.22	0.34	0.30	44	None	
		Gray Insul Clear	0.45	2.22	0.34	0.27	44	None	
		LowE Clear	0.31	3.23	0.25	0.42	55	N/C,S/C, S	
		LowE Bronze	0.31	3.23	0.21	0.26	55	N/C,S/C, S	
		LowE Gray	0.31	3.23	0.20	0.23	55	N/C,S/C, S	
w/ GIAS or CHDL $> 1"$		Insul Clear	0.45	2.22	0.41	0.47	44	None	
		Bronze Insul Clear	0.45	2.22	0.31	0.27	44	None	
		Gray Insul Clear	0.45	2.22	0.30	0.24	44	None	
		LowE Clear	0.31	3.23	0.22	0.37	55	N/C,S/C, S	
		LowE Bronze	0.31	3.23	0.19	0.23	55	N/C,S/C, S	
		LowE Gray	0.31	3.23	0.18	0.20	55	N/C,S/C, S	

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NFRC Thermal Performance Values									
FeelSafe Monolithic Monument SH/DH Picture	No Airspace	No GIAS OR CHDL	Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating
			Clear Lami	0.84	1.19	0.58	0.66	14	None
		LowE Lami	0.84	1.19	0.34	0.52	14	None	
		Bronze Lami	0.84	1.19	0.46	0.36	14	None	
		LowE Bronze Lami	0.84	1.19	0.30	0.3	14	None	
		Gray Lami	0.84	1.19	0.46	0.33	14	None	
		LowE Gray Lami	0.84	1.19	0.29	0.26	14	None	
		w/CHDL ≤ 1"	Clear Lami	0.84	1.19	0.52	0.58	14	None
		LowE Lami	0.84	1.19	0.30	0.46	14	None	
		Bronze Lami	0.84	1.19	0.42	0.33	14	None	
LowE Bronze Lami	0.84	1.19	0.27	0.26	14	None			
Gray Lami	0.84	1.19	0.41	0.30	14	None			
LowE Gray Lami	0.84	1.19	0.26	0.23	14	None			
w/CHDL > 1"	Clear Lami	0.84	1.19	0.46	0.51	14	None		
LowE Lami	0.84	1.19	0.27	0.41	14	None			
Bronze Lami	0.84	1.19	0.37	0.30	14	None			
LowE Bronze Lami	0.84	1.19	0.24	0.23	14	None			
Gray Lami	0.84	1.19	0.37	0.26	14	None			
LowE Gray Lami	0.84	1.19	0.23	0.21	14	None			

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NFRC Thermal Performance Values								
FeelSafe IG Monument SH/DH Sash & Frame	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating
	Air-Filled	No GIAS	Insul Clear	0.47	2.13	0.53	0.61	42
Bronze Insul Clear			0.47	2.13	0.40	0.35	42	None
Gray Insul Clear			0.47	2.13	0.39	0.31	42	None
LowE Clear			0.33	3.03	0.29	0.49	53	S/C and S
LowE Bronze			0.33	3.03	0.24	0.30	53	S/C and S
LowE Gray			0.33	3.03	0.23	0.27	53	S/C and S
w/ GIAS or CHDL $\leq 1"$		Insul Clear	0.47	2.13	0.47	0.55	42	None
		Bronze Insul Clear	0.47	2.13	0.36	0.31	42	None
		Gray Insul Clear	0.47	2.13	0.35	0.38	42	None
		LowE Clear	0.33	3.03	0.26	0.43	53	S/C and S
		LowE Bronze	0.33	3.03	0.22	0.27	53	S/C and S
		LowE Gray	0.33	3.03	0.21	0.24	53	S/C and S
w/ GIAS or CHDL $> 1"$		Insul Clear	0.47	2.13	0.42	0.48	42	None
		Bronze Insul Clear	0.47	2.13	0.32	0.28	42	None
		Gray Insul Clear	0.47	2.13	0.31	0.25	42	None
		LowE Clear	0.33	3.03	0.23	0.38	53	S/C and S
		LowE Bronze	0.33	3.03	0.20	0.24	53	S/C and S
		LowE Gray	0.33	3.03	0.19	0.21	53	S/C and S
Argon-Filled	No GIAS	Insul Clear	0.45	2.22	0.53	0.61	44	None
		Bronze Insul Clear	0.45	2.22	0.39	0.35	44	None
		Gray Insul Clear	0.45	2.22	0.39	0.31	44	None
		LowE Clear	0.30	3.33	0.28	0.49	56	S/C and S
		LowE Bronze	0.30	3.33	0.24	0.30	56	All Zones
		LowE Gray	0.30	3.33	0.23	0.27	56	All Zones
	w/ GIAS or CHDL $\leq 1"$	Insul Clear	0.46	2.17	0.47	0.55	43	None
		Bronze Insul Clear	0.46	2.17	0.36	0.31	43	None
		Gray Insul Clear	0.46	2.17	0.35	0.28	43	None
		LowE Clear	0.31	3.23	0.26	0.43	55	N/C,S/C, S
		LowE Bronze	0.31	3.23	0.22	0.27	55	N/C,S/C, S
		LowE Gray	0.31	3.23	0.21	0.24	55	N/C,S/C, S
	w/ GIAS or CHDL $> 1"$	Insul Clear	0.46	2.17	0.42	0.48	44	None
		Bronze Insul Clear	0.45	2.22	0.32	0.28	44	None
		Gray Insul Clear	0.45	2.22	0.31	0.25	44	None
		LowE Clear	0.31	3.23	0.23	0.38	55	N/C,S/C, S
		LowE Bronze	0.31	3.23	0.20	0.24	55	N/C,S/C, S
		LowE Gray	0.31	3.23	0.19	0.21	55	N/C,S/C, S

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NFRC Thermal Performance Values									
FeelSafe Monolithic Kingsview Sash & Frame	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
	No Airspace	No GIAS OR CHDL	Clear Lami	0.85	1.18	0.60	0.68	13	None
			LowE Lami	0.85	1.18	0.35	0.53	13	None
			Bronze Lami	0.85	1.18	0.48	0.39	13	None
			LowE Bronze Lami	0.85	1.18	0.31	0.31	13	None
			Gray Lami	0.85	1.18	0.47	0.34	13	None
			LowE Gray Lami	0.85	1.18	0.30	0.27	13	None
	w/CHDL ≤ 1"	Clear Lami	0.85	1.18	0.54	0.60	13	None	
		LowE Lami	0.85	1.18	0.32	0.48	13	None	
		Bronze Lami	0.85	1.18	0.43	0.35	13	None	
LowE Bronze Lami		0.85	1.18	0.28	0.27	13	None		
Gray Lami		0.85	1.18	0.42	0.31	13	None		
LowE Gray Lami		0.85	1.18	0.27	0.24	13	None		
w/CHDL > 1"	Clear Lami	0.85	1.18	0.48	0.53	13	None		
	LowE Lami	0.85	1.18	0.28	0.42	13	None		
	Bronze Lami	0.85	1.18	0.39	0.31	13	None		
	LowE Bronze Lami	0.85	1.18	0.25	0.24	13	None		
	Gray Lami	0.85	1.18	0.38	0.27	13	None		
	LowE Gray Lami	0.85	1.18	0.24	0.21	13	None		

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NFRC Thermal Performance Values									
		Glazing Description	U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
FeelSafe IG Energy Saver French Sliding Patio Door	Air-Filled	No GIAS	Insul Clear	0.47	2.13	0.51	0.60	38	None
			Bronze Insul Clear	0.47	2.13	0.28	0.30	38	None
			Gray Insul Clear	0.47	2.13	0.28	0.26	38	None
			LowE Clear	0.36	2.78	0.30	0.54	53	None
			LowE Bronze	0.36	2.78	0.28	0.37	53	None
			LowE Gray	0.36	2.78	0.28	0.36	53	None
		w/ GIAS or CHDL ≤ 1"	Insul Clear	0.47	2.13	0.45	0.52	38	None
			Bronze Insul Clear	0.47	2.13	0.25	0.26	38	S
			Gray Insul Clear	0.47	2.13	0.24	0.23	38	S
			LowE Clear	0.37	2.70	0.27	0.47	53	S
			LowE Bronze	0.37	2.70	0.26	0.33	53	S
			LowE Gray	0.37	2.70	0.25	0.29	53	S
		w/ GIAS or CHDL > 1"	Insul Clear	0.47	2.13	0.42	0.48	42	None
			Bronze Insul Clear	0.47	2.13	0.32	0.28	42	None
			Gray Insul Clear	0.47	2.13	0.31	0.25	42	None
			LowE Clear	0.37	2.70	0.24	0.40	53	S
			LowE Bronze	0.37	2.70	0.23	0.28	53	S
			LowE Gray	0.37	2.70	0.22	0.25	53	S
	Argon-Filled	No GIAS	Insul Clear	0.45	2.22	0.51	0.60	39	None
			Bronze Insul Clear	0.45	2.22	0.28	0.30	39	None
			Gray Insul Clear	0.45	2.22	0.28	0.26	39	None
			LowE Clear	0.33	3.03	0.34	0.52	47	None
			LowE Bronze	0.33	3.03	0.26	0.33	47	S/C and S
			LowE Gray	0.33	3.03	0.25	0.29	47	S/C and S
w/ GIAS or CHDL ≤ 1"		Insul Clear	0.45	2.22	0.45	0.52	43	None	
		Bronze Insul Clear	0.45	2.22	0.25	0.26	43	S	
		Gray Insul Clear	0.45	2.22	0.24	0.23	43	S	
		LowE Clear	0.34	2.94	0.26	0.43	47	S/C and S	
		LowE Bronze	0.34	2.94	0.22	0.27	47	S/C and S	
		LowE Gray	0.34	2.94	0.21	0.24	47	S/C and S	
w/ GIAS or CHDL > 1"		Insul Clear	0.45	2.22	0.42	0.48	44	None	
		Bronze Insul Clear	0.45	2.22	0.32	0.28	44	None	
		Gray Insul Clear	0.45	2.22	0.31	0.25	44	None	
		LowE Clear	0.34	2.94	0.23	0.38	47	S/C and S	
		LowE Bronze	0.34	2.94	0.20	0.24	47	S/C and S	
		LowE Gray	0.34	2.94	0.19	0.21	47	S/C and S	

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NFRC Thermal Performance Values									
FeelSafe Monolithic Energy Saver French Sliding Patio Door	Glazing Description		U- Factor	R- Value	SHGC	VT	CR	Energy Star Rating	
			No Airspace	No GIAS OR CHDL	Clear Lami	0.76	1.32	0.58	0.66
	LowE Lami	0.76			1.32	0.30	0.54	14	None
	Bronze Lami	0.76			1.32	0.47	0.38	14	None
	LowE Bronze Lami	0.76			1.32	0.30	0.40	14	None
	Gray Lami	0.76			1.32	0.30	0.27	14	None
	LowE Gray Lami	0.76			1.32	0.28	0.36	14	None
	w/CHDL ≤ 1"	Clear Lami	0.76	1.32	0.52	0.54	14	None	
		LowE Lami	0.76	1.32	0.27	0.47	14	None	
		Bronze Lami	0.76	1.32	0.42	0.40	14	None	
LowE Bronze Lami		0.76	1.32	0.26	0.35	14	None		
Gray Lami		0.76	1.32	0.39	0.36	14	None		
LowE Gray Lami		0.76	1.32	0.25	0.31	14	None		
w/CHDL > 1"	Clear Lami	0.76	1.32	0.46	0.47	14	None		
	LowE Lami	0.76	1.32	0.24	0.41	14	None		
	Bronze Lami	0.76	1.32	0.37	0.35	14	None		
	LowE Bronze Lami	0.76	1.32	0.23	0.28	14	None		
	Gray Lami	0.76	1.32	0.34	0.31	14	None		
	LowE Gray Lami	0.76	1.32	0.22	0.25	14	None		

Energy Terminology:

U-VALUE -- The heat flow rate through a given construction expressed in Btu/hr/ft²/F. Values are normally given for NFRC/ASHRAE winter conditions of 0 degrees outdoor temperature, 70 degrees indoor temperature, 15 mph wind and no solar load. U-values

SHADING COEFFICIENT (SC) -- The ratio of solar heat gain through a glazing to the solar heat gain through a single lite of 1/8" (3.0mm) glass. Dimensionless and varying between 0 and 1, the smaller the number, the better the glazing is at preventing so

SOLAR HEAT GAIN COEFFICIENT (SHGC) -- The fraction of incident solar radiation which enters a building as heat. It is based on the sum of the solar energy transmittance + the inwardly flowing fraction of absorbed solar energy on all lites of the glazing

RELATIVE-HEAT GAIN (RHG) -- The total amount of heat gain through a glazing system at NFRC/ASHRAE specified summer conditions, incorporating the U-value and the Solar Heat Gain Coefficient. The conditions are 230 Btu/hr/ft², outdoor temperature of 89 d




VISIBLE LIGHT TRANSMITTANCE -- In the visible spectrum (380 to 720 nanometers), the percentage of light that is transmitted through the glazing relative to the C.I.E. [Commission International de l'Eclairage (International Commission on Illumination)] s

UV TRANSMISSIONS (Tuv) -- The percentage of ultra violet rays that enter a room through the glazing system. It is a predictor of potential fading damage. Lower percentages indicate less fading potential. (UV rays are those with a wavelength ranging f

LBL DAMAGE FUNCTION (Tdw-K) -- This function is another way of expressing UV Transmission. It is a better predictor of potential fading damage than UV Transmission. Lower values indicate less fading potential. The LBL Damage Function is a weighted va

Sample NFRC Temporary Label

(not to scale)

 <p>HURD WINDOWS AND DOORS H-3 CASEMENT LE CLR W/SS SPCR (GIA&CHDL<1") CPD HUR-N-083 GAS FILLED TP</p>	
ENERGY Performance Ratings	
U-Factor (U.S./I-P) 0.30	Solar Heat Gain Coefficient 0.27
ADDITIONAL PERFORMANCE RATINGS	
Visible Transmittance 0.48	_____
<p>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and specific product sizes. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information.</p>	
<p>ENERGY STAR® Qualified in All 50 States</p>   <p>ENERGY STAR® Qualified</p>	

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Rely on Hurd Performance

All Hurd products are manufactured to some of the most exacting standards in the industry. And now, you have even more assurance that the Hurd products you select will perform to the standards you require. The reason? All Hurd windows and patio doors have been independently certified by the National Fenestration Rating Council (NFRC) and carry the NFRC label.

Your product may contain inert gas to improve the thermal performance of the product. The best manufacturing techniques cannot guarantee that the initial fill rate of inert gas will be maintained during the product lifetime and Hurd makes no such guarantee.

NFRC Ratings

The National Fenestration Rating Council (NFRC) is an organization formed for the purpose of creating a uniform set of procedures to test thermal performance of windows and doors.

The testing and rating methods the NFRC has designed make window comparisons easy and accurate. Look for the NFRC labels on windows and doors. Use the U-factor rating to compare products, and to determine whether they meet your energy efficiency needs. U-factor is a thermal performance rating; the lower the U-factor, the better energy performance. Hurd is a founding member of the NFRC and supports work of the council on behalf of homeowners and the building industry.

- R-value is calculated as the reciprocal of the U-value
- Insulated Units (Insul) are not gas filled

For more information on performance characteristics of our products contact your local Hurd Distributor.



ENERGY STAR CRITERIA FOR WINDOWS

<u>Climate/Region</u>	<u>U-Factor</u>	<u>SHGC</u>
All Zones	.30 or lower	.27 or lower
Northern	.30 or lower	Any
North/Central	.32 or lower	.40 or lower
South/Central	.35 or lower	.30 or lower
Southern	.60 or lower	.27 or lower

ENERGY STAR CRITERIA FOR DOORS WITH GLAZING OF 1/2-LITE OR GREATER

<u>Climate/Region</u>	<u>U-Factor</u>	<u>SHGC</u>
All Zones	.32 or lower	.30 or lower

The Energy Star program was developed by the U.S. Department of Energy and the Environmental Protection Agency to assist consumers and businesses to identify products that shall help them save money and protect the environment. Hurd is proud to be an Ener

Total Unit Thermal Ratings

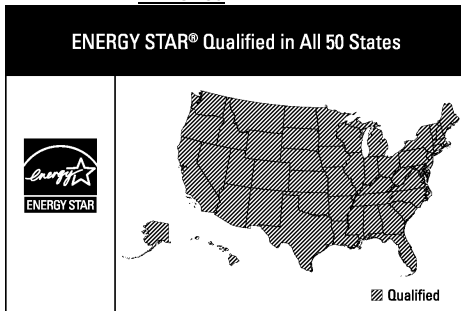
U-Factor R-Value SHGC VT

All thermal data was calculated using the latest NFRC approved computer programs and standard NFRC/ASHRAE winter conditions of 0° F outside temperature, 15 mph wind and 70° F inside temperature. Total unit thermal values are based on NFRC model sizes. See the listing shown below.

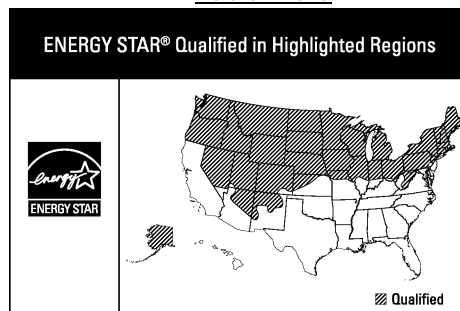
Product Type	Model Size	Product Type	Model Size
Casement	24" x 59"	Sliding Patio Door	79" x 79"
Fixed	47" x 59"	Swinging Patio Door	39" x 79"
Horizontal Slider	59" x 47"	Transom	79" x 24"
Awning	59" x 24"	Vertical Slider	47" x 59"
Sidelite	24" x 79"		

Energy Star® Maps

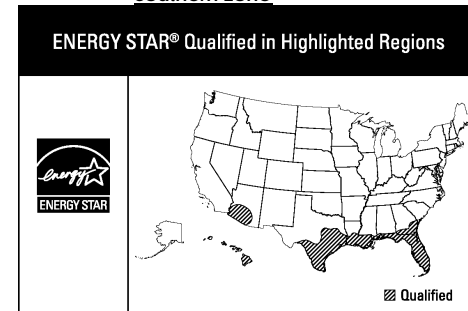
All Zones



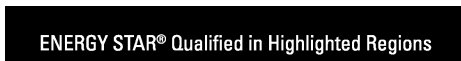
Northern Zone



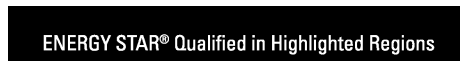
Southern Zone



North Central Zone



Northern and North Central Zone



Performance ratings are based on individual units only. Hurd is constantly working to refine and improve our products. For this reason specifications may change without notice.

Hurd Product Performance Guide

11/2/2010



North Central/South Central/Southern Zone



South Central & Southern Zone

