

ENERGY PERFORMANCE DATA



TEST METHODS: NFRC 100 (U-Factor), NFRC 200 (SHGC & VT), NFRC 500 (CR)

DUE TO CONTINUOUS PRODUCT DEVELOPMENT THE DATA INCLUDED IN THIS DOCUMENT IS SUBJECT TO CHANGE AT ANY TIME.

PRODUCT SERIES - TYPE	IG THICKNESS	PANE THICKNESS	GRIDS / DIVIDERS	NFRC CPD#	EXTERIOR PANE	GAP FILL	INTERIOR PANE	U-FACTOR	SHGC	VT	CR
S800 - HEAVY PICTURE WINDOW	1"	1/4" [6mm]	None	RAM-A-1-00547-00001	LoE ³ -366 - Argon - Clear			0.32	0.24	0.56	30
				RAM-A-1-00591-00001	LoE ³ -366 - Argon - LoE-i89			0.27	0.24	0.55	28
				RAM-A-1-00539-00001	LoE-180 - Argon - Clear			0.34	0.54	0.68	30
				RAM-A-1-00583-00001	LoE-180 - Argon - LoE-i89			0.28	0.52	0.67	28
				RAM-A-1-00541-00001	LoE ² -270 - Argon - Clear			0.32	0.32	0.60	30
				RAM-A-1-00585-00001	LoE ² -270 - Argon - LoE-i89			0.28	0.31	0.59	28
				RAM-A-1-00543-00001	LoE ² -272 - Argon - Clear			0.33	0.36	0.62	30
				RAM-A-1-00587-00001	LoE ² -272 - Argon - LoE-i89			0.28	0.35	0.61	28
				RAM-A-1-00545-00001 ²	LoE ³ -340 - Argon - Clear			0.32	0.16	0.34	30
				RAM-A-1-00589-00001 ³	LoE ³ -340 - Argon - LoE-i89			0.27	0.16	0.33	28
				RAM-A-1-00549-00001 ²	LoE-452 - Argon - Clear			0.32	0.20	0.45	30
				RAM-A-1-00593-00001 ³	LoE-452 - Argon - LoE-i89			0.27	0.19	0.44	28
				RAM-A-1-00551-00001	SB60 - Argon - Clear			0.34	0.35	0.63	26
				RAM-A-1-00553-00001	SB70 - Argon - Clear			0.33	0.24	0.57	26
				RAM-A-1-00555-00001	SB90 - Argon - Clear			0.34	0.21	0.46	26
				RAM-A-1-00559-00001	SNX51/23 - Argon - Clear			0.33	0.20	0.45	26
				RAM-A-1-00557-00001	SNX62/27 - Argon - Clear			0.33	0.24	0.55	26
S840 - HEAVY PICTURE WINDOW	1"	1/4" [6mm]	None	RAM-A-4-00381-00001	LoE ³ -366 - Argon - Clear			0.34	0.25	0.56	43
				RAM-A-4-00425-00001	LoE ³ -366 - Argon - LoE-i89			0.29	0.24	0.55	43
				RAM-A-4-00373-00001	LoE-180 - Argon - Clear			0.35	0.54	0.68	43
				RAM-A-4-00417-00001	LoE-180 - Argon - LoE-i89			0.31	0.52	0.67	42
				RAM-A-4-00375-00001	LoE ² -270 - Argon - Clear			0.34	0.33	0.60	43
				RAM-A-4-00419-00001	LoE ² -270 - Argon - LoE-i89			0.30	0.32	0.59	42
				RAM-A-4-00377-00001	LoE ² -272 - Argon - Clear			0.34	0.36	0.62	43
				RAM-A-4-00421-00001	LoE ² -272 - Argon - LoE-i89			0.30	0.35	0.61	42
				RAM-A-4-00379-00001	LoE ³ -340 - Argon - Clear			0.34	0.17	0.34	43
				RAM-A-4-00423-00001 ²	LoE ³ -340 - Argon - LoE-i89			0.30	0.16	0.33	43
				RAM-A-4-00383-00001	LoE-452 - Argon - Clear			0.33	0.21	0.45	43
				RAM-A-4-00427-00001 ²	LoE-452 - Argon - LoE-i89			0.29	0.20	0.44	43
				RAM-A-4-00385-00001	SB60 - Argon - Clear			0.36	0.35	0.63	39
				RAM-A-4-00387-00001	SB70 - Argon - Clear			0.35	0.25	0.57	39
				RAM-A-4-00389-00001	SB90 - Argon - Clear			0.35	0.21	0.46	39
				RAM-A-4-00393-00001	SNX51/23 - Argon - Clear			0.35	0.21	0.45	39
				RAM-A-4-00391-00001	SNX62/27 - Argon - Clear			0.35	0.24	0.55	39

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PRODUCT SERIES - TYPE	IG THICKNESS	PANE THICKNESS	GRIDS / DIVIDERS	NFRC CPD#	EXTERIOR PANE	GAP FILL	INTERIOR PANE	U-FACTOR	SHGC	VT	CR
S900 - CASEMENT	7/8"	1/8" [3mm]	None	RAM-A-2-00342-00001	LoE ³ -366 - Argon - Clear			0.47	0.20	0.44	33
				RAM-A-2-00362-00001	LoE ³ -366 - Argon - LoE-i89			0.43	0.19	0.43	33
				RAM-A-2-00338-00001	LoE-180 - Argon - Clear			0.48	0.45	0.53	33
				RAM-A-2-00358-00001	LoE-180 - Argon - LoE-i89			0.44	0.43	0.52	33
				RAM-A-2-00339-00001	LoE ² -270 - Argon - Clear			0.47	0.26	0.47	33
				RAM-A-2-00359-00001	LoE ² -270 - Argon - LoE-i89			0.43	0.26	0.46	33
				RAM-A-2-00340-00001	LoE ² -272 - Argon - Clear			0.47	0.29	0.48	33
				RAM-A-2-00360-00001	LoE ² -272 - Argon - LoE-i89			0.43	0.29	0.47	33
				RAM-A-2-00341-00001	LoE ³ -340 - Argon - Clear			0.47	0.13	0.26	33
				RAM-A-2-00361-00001	LoE ³ -340 - Argon - LoE-i89			0.43	0.13	0.25	33
				RAM-A-2-00343-00001	LoE-452 - Argon - Clear			0.47	0.16	0.35	33
				RAM-A-2-00363-00001	LoE-452 - Argon - LoE-i89			0.43	0.16	0.34	33
				RAM-A-2-00344-00001	SB60 - Argon - Clear			0.49	0.28	0.49	31
				RAM-A-2-00345-00001	SB70 - Argon - Clear			0.49	0.19	0.42	31
				RAM-A-2-00346-00001	SB90 - Argon - Clear			0.49	0.17	0.35	31
				RAM-A-2-00380-00001 ¹	SNX51/23 - Argon - Clear			0.49	0.17	0.35	32
				RAM-A-2-00347-00001	SNX62/27 - Argon - Clear			0.49	0.19	0.42	31
S990 - AWNING	7/8"	1/8" [3mm]	None	RAM-A-3-00344-00001	LoE ³ -366 - Argon - Clear			0.48	0.20	0.44	33
				RAM-A-3-00364-00001	LoE ³ -366 - Argon - LoE-i89			0.44	0.19	0.43	32
				RAM-A-3-00340-00001	LoE-180 - Argon - Clear			0.49	0.45	0.53	32
				RAM-A-3-00360-00001	LoE-180 - Argon - LoE-i89			0.45	0.44	0.52	32
				RAM-A-3-00341-00001	LoE ² -270 - Argon - Clear			0.48	0.26	0.47	33
				RAM-A-3-00361-00001	LoE ² -270 - Argon - LoE-i89			0.44	0.26	0.46	32
				RAM-A-3-00342-00001	LoE ² -272 - Argon - Clear			0.48	0.29	0.48	32
				RAM-A-3-00362-00001	LoE ² -272 - Argon - LoE-i89			0.44	0.29	0.47	32
				RAM-A-3-00343-00001	LoE ³ -340 - Argon - Clear			0.48	0.13	0.26	33
				RAM-A-3-00363-00001	LoE ³ -340 - Argon - LoE-i89			0.44	0.13	0.25	32
				RAM-A-3-00345-00001	LoE-452 - Argon - Clear			0.47	0.16	0.35	33
				RAM-A-3-00365-00001	LoE-452 - Argon - LoE-i89			0.44	0.16	0.34	32
				RAM-A-3-00346-00001	SB60 - Argon - Clear			0.50	0.28	0.49	31
				RAM-A-3-00347-00001	SB70 - Argon - Clear			0.49	0.19	0.42	31
				RAM-A-3-00348-00001	SB90 - Argon - Clear			0.49	0.17	0.35	31
				RAM-A-3-00382-00001 ¹	SNX51/23 - Argon - Clear			0.49	0.17	0.35	31
				RAM-A-3-00349-00001	SNX62/27 - Argon - Clear			0.49	0.19	0.42	31

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PRODUCT SERIES - TYPE	IG THICKNESS	PANE THICKNESS	GRIDS / DIVIDERS	NFRC CPD#	EXTERIOR PANE	GAP FILL	INTERIOR PANE	U-FACTOR	SHGC	VT	CR
S1100 - SINGLE HUNG	1"	1/4" [6mm]	None	RAM-A-5-00109-00001	LoE ³ -366 - Argon - Clear			0.34	0.22	0.48	51
				RAM-A-5-00153-00001 ²	LoE ³ -366 - Argon - LoE-i89			0.31	0.21	0.47	46
				RAM-A-5-00101-00001	LoE-180 - Argon - Clear			0.36	0.47	0.59	51
				RAM-A-5-00145-00001	LoE-180 - Argon - LoE-i89			0.32	0.45	0.57	45
				RAM-A-5-00103-00001	LoE ² -270 - Argon - Clear			0.35	0.28	0.52	51
				RAM-A-5-00147-00001	LoE ² -270 - Argon - LoE-i89			0.31	0.27	0.50	45
				RAM-A-5-00105-00001	LoE ² -272 - Argon - Clear			0.35	0.31	0.53	51
				RAM-A-5-00149-00001	LoE ² -272 - Argon - LoE-i89			0.31	0.31	0.52	45
				RAM-A-5-00107-00001	LoE ³ -340 - Argon - Clear			0.35	0.15	0.29	51
				RAM-A-5-00151-00001 ²	LoE ³ -340 - Argon - LoE-i89			0.31	0.14	0.28	46
				RAM-A-5-00111-00001	LoE-452 - Argon - Clear			0.34	0.18	0.39	51
				RAM-A-5-00155-00001 ²	LoE-452 - Argon - LoE-i89			0.31	0.17	0.38	46
				RAM-A-5-00113-00001	SB60 - Argon - Clear			0.37	0.30	0.54	47
				RAM-A-5-00115-00001	SB70 - Argon - Clear			0.37	0.21	0.49	47
				RAM-A-5-00117-00001	SB90 - Argon - Clear			0.37	0.18	0.39	47
				RAM-A-5-00121-00001	SNX51/23 - Argon - Clear			0.37	0.18	0.39	47
				RAM-A-5-00119-00001	SNX62/27 - Argon - Clear			0.37	0.21	0.47	47
S1200 - HORIZONTAL SLIDER	1"	1/4" [6mm]	None	RAM-A-6-00109-00001	LoE ³ -366 - Argon - Clear			0.36	0.21	0.48	47
				RAM-A-6-00153-00001	LoE ³ -366 - Argon - LoE-i89			0.32	0.21	0.46	46
				RAM-A-6-00101-00001	LoE-180 - Argon - Clear			0.37	0.47	0.58	47
				RAM-A-6-00145-00001	LoE-180 - Argon - LoE-i89			0.33	0.45	0.57	45
				RAM-A-6-00103-00001	LoE ² -270 - Argon - Clear			0.36	0.28	0.51	47
				RAM-A-6-00147-00001	LoE ² -270 - Argon - LoE-i89			0.33	0.27	0.50	46
				RAM-A-6-00105-00001	LoE ² -272 - Argon - Clear			0.36	0.31	0.53	47
				RAM-A-6-00149-00001	LoE ² -272 - Argon - LoE-i89			0.33	0.30	0.52	46
				RAM-A-6-00107-00001	LoE ³ -340 - Argon - Clear			0.36	0.15	0.29	47
				RAM-A-6-00151-00001	LoE ³ -340 - Argon - LoE-i89			0.32	0.14	0.28	46
				RAM-A-6-00111-00001	LoE-452 - Argon - Clear			0.36	0.18	0.38	47
				RAM-A-6-00155-00001	LoE-452 - Argon - LoE-i89			0.32	0.17	0.37	46
				RAM-A-6-00113-00001	SB60 - Argon - Clear			0.39	0.30	0.53	44
				RAM-A-6-00115-00001	SB70 - Argon - Clear			0.39	0.21	0.49	44
				RAM-A-6-00117-00001	SB90 - Argon - Clear			0.39	0.18	0.39	44
				RAM-A-6-00121-00001	SNX51/23 - Argon - Clear			0.39	0.18	0.38	44
				RAM-A-6-00119-00001	SNX62/27 - Argon - Clear			0.39	0.21	0.46	44

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S3000/S4000 - SLIDING GLASS DOOR <i>FLUSH, HYBRID, PERFORMANCE SILLS</i>	1"	1/4" [6mm]	None	RAM-A-7-01149-00001	LoE ³ -366 - Argon - Clear			0.36	0.22	0.49	48
				RAM-A-7-01150-00001	LoE ³ -366 - Argon - LoE-i89			0.31	0.21	0.48	46
				RAM-A-7-01153-00001	LoE-180 - Argon - Clear			0.37	0.48	0.60	48
				RAM-A-7-01154-00001	LoE-180 - Argon - LoE-i89			0.32	0.46	0.59	45
				RAM-A-7-01157-00001	LoE ² -270 - Argon - Clear			0.36	0.29	0.53	48
				RAM-A-7-01158-00001	LoE ² -270 - Argon - LoE-i89			0.32	0.28	0.52	46
				RAM-A-7-01161-00001	LoE ² -272 - Argon - Clear			0.36	0.32	0.54	48
				RAM-A-7-01162-00001	LoE ² -272 - Argon - LoE-i89			0.32	0.31	0.53	45
				RAM-A-7-01165-00001	LoE ³ -340 - Argon - Clear			0.36	0.15	0.29	48
				RAM-A-7-01166-00001	LoE ³ -340 - Argon - LoE-i89			0.32	0.14	0.29	46
				RAM-A-7-01196-00001	SB60 - Argon - Clear			0.39	0.31	0.55	43
				RAM-A-7-01198-00001	SB70 - Argon - Clear			0.38	0.22	0.50	43
				RAM-A-7-01200-00001	SB90 - Argon - Clear			0.38	0.18	0.40	43
				RAM-A-7-01202-00001	SNX51/23 - Argon - Clear			0.38	0.18	0.39	43
				RAM-A-7-01204-00001	SNX62/27 - Argon - Clear			0.38	0.21	0.48	43
S3100/S4100 - SWING DOOR <i>INSWING WITH PERFORMANCE SILL</i>	1"	1/4" [6mm]	None	RAM-A-8-08639-00001	LoE ³ -366 - Argon - Clear			0.36	0.20	0.45	42
				RAM-A-8-08640-00001	LoE ³ -366 - Argon - LoE-i89			0.32	0.20	0.44	40
				RAM-A-8-08643-00001	LoE-180 - Argon - Clear			0.38	0.44	0.55	42
				RAM-A-8-08644-00001	LoE-180 - Argon - LoE-i89			0.33	0.42	0.54	40
				RAM-A-8-08647-00001	LoE ² -270 - Argon - Clear			0.37	0.26	0.48	42
				RAM-A-8-08648-00001	LoE ² -270 - Argon - LoE-i89			0.32	0.26	0.47	40
				RAM-A-8-08651-00001	LoE ² -272 - Argon - Clear			0.37	0.29	0.50	42
				RAM-A-8-08652-00001	LoE ² -272 - Argon - LoE-i89			0.33	0.29	0.49	40
				RAM-A-8-08655-00001	LoE ³ -340 - Argon - Clear			0.36	0.14	0.27	42
				RAM-A-8-08656-00001	LoE ³ -340 - Argon - LoE-i89			0.32	0.13	0.26	40
				RAM-A-8-08686-00001	SB60 - Argon - Clear			0.39	0.28	0.51	36
				RAM-A-8-08688-00001	SB70 - Argon - Clear			0.39	0.20	0.46	36
				RAM-A-8-08690-00001	SB90 - Argon - Clear			0.39	0.17	0.37	36
				RAM-A-8-08692-00001	SNX51/23 - Argon - Clear			0.39	0.17	0.36	36
				RAM-A-8-08694-00001	SNX62/27 - Argon - Clear			0.39	0.19	0.44	36

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S3100/S4100 - SWING DOOR <i>OUTSWING WITH PERFORMANCE SILL</i>	1"	1/4" [6mm]	None	RAM-A-8-12919-00001	LoE ³ -366 - Argon - Clear			0.37	0.21	0.45	53
				RAM-A-8-12920-00001	LoE ³ -366 - Argon - LoE-i89			0.34	0.20	0.44	48
				RAM-A-8-12923-00001	LoE-180 - Argon - Clear			0.39	0.44	0.55	53
				RAM-A-8-12924-00001	LoE-180 - Argon - LoE-i89			0.34	0.43	0.54	46
				RAM-A-8-12927-00001	LoE ² -270 - Argon - Clear			0.38	0.27	0.48	53
				RAM-A-8-12928-00001	LoE ² -270 - Argon - LoE-i89			0.34	0.26	0.47	47
				RAM-A-8-12931-00001	LoE ² -272 - Argon - Clear			0.38	0.30	0.50	53
				RAM-A-8-12932-00001	LoE ² -272 - Argon - LoE-i89			0.34	0.29	0.49	47
				RAM-A-8-12935-00001	LoE ³ -340 - Argon - Clear			0.38	0.14	0.27	53
				RAM-A-8-12936-00001	LoE ³ -340 - Argon - LoE-i89			0.34	0.14	0.26	47
				RAM-A-8-12966-00001	SB60 - Argon - Clear			0.40	0.29	0.51	49
				RAM-A-8-12968-00001	SB70 - Argon - Clear			0.40	0.20	0.46	49
				RAM-A-8-12970-00001	SB90 - Argon - Clear			0.40	0.17	0.37	49
				RAM-A-8-12972-00001	SNX51/23 - Argon - Clear			0.40	0.17	0.36	49
				RAM-A-8-12974-00001	SNX62/27 - Argon - Clear			0.40	0.20	0.44	49

¹ PERFORMANCE DATA FOR [4mm] PANE THICKNESS. [3mm] DATA NOT AVAILABLE.

² QUALIFIED FOR ENERGY STAR® SOUTHERN CLIMATE ZONE

³ QUALIFIED FOR ENERGY STAR® SOUTHERN & SOUTH-CENTRAL CLIMATE ZONES

ENERGY STAR® Certification Criteria for Residential Windows, Doors, and Skylights

WINDOWS			
Climate Zone	U-Factor ¹	SHGC ²	
Northern	≤ 0.22	≥ 0.17	Prescriptive
	= 0.23	≥ 0.35	Equivalent Energy Performance
	= 0.24		
	= 0.25		
	= 0.26		
North-Central	≤ 0.25	≤ 0.40	
South-Central	≤ 0.28	≤ 0.23	
Southern	≤ 0.32	≤ 0.23	

Air Leakage ≤ 0.3 cfm/ft²

¹ Btu/h-ft²-°F

² Solar Heat Gain Coefficient

DOORS			
Glazing Level	Climate Zone	U-Factor ¹	SHGC ²
Opaque	All Zones	≤ 0.17	No Rating
≤ ½-Lite	All Zones	≤ 0.23	≤ 0.23
> ½-Lite	Northern	≤ 0.26	≤ 0.40
	North-Central		
	South-Central	≤ 0.28	≤ 0.23
	Southern		

Air Leakage for Sliding Doors ≤ 0.3 cfm/ft²

Air Leakage for Swinging Doors ≤ 0.5 cfm/ft²

¹ Btu/h-ft²-°F

² Solar Heat Gain Coefficient

