



CASEMENT

GLAZING PERFORMANCE - TOTAL UNIT

Aluminum-Clad Exterior
Vent



Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor ¹	SHGC	VLT	CR	U. S.			Canada ²				
										Zone	ER	Zone	1	2	3		
VENT										N	NC	SC	S				
11/16"	Clear IG	PEL-N-227-00011-00001	3	3	air	0.45	0.57	0.60	45								
	with grilles-between-the-glass	PEL-N-227-00011-00002				0.45	0.52	0.54	45								
	with integral grilles	PEL-N-227-00295-00001				0.45	0.52	0.54	45								
11/16"	Advanced Low-E IG	PEL-N-227-00018-00001	3	3	argon	0.28	0.27	0.51	58						21		
	with grilles-between-the-glass	PEL-N-227-00018-00002				0.28	0.25	0.46	58						19		
	with integral grilles	PEL-N-227-00302-00001				0.29	0.25	0.46	58								
11/16"	SunDefense™ Low-E IG	PEL-N-227-00019-00001	3	3	argon	0.28	0.20	0.47	58						16		
	with grilles-between-the-glass	PEL-N-227-00019-00002				0.28	0.19	0.43	58						16		
	with integral grilles	PEL-N-227-00303-00001				0.28	0.19	0.43	58						16		
11/16"	AdvancedComfort Low-E IG	PEL-N-227-00020-00001	3	3	argon	0.25	0.27	0.50	46						24		
	with grilles-between-the-glass	PEL-N-227-00020-00002				0.25	0.25	0.45	46						23		
	with integral grilles	PEL-N-227-00304-00001				0.26	0.25	0.45	46						22		
11/16"	NaturalSun Low-E IG	PEL-N-227-00017-00001	3	3	argon	0.29	0.50	0.58	57						33		
	with grilles-between-the-glass	PEL-N-227-00017-00002				0.29	0.46	0.52	57						30		
	with integral grilles	PEL-N-227-00301-00001				0.30	0.46	0.52	57						29		
TINTED GLAZING																	
11/16"	Bronze Advanced Low-E IG	PEL-N-227-00064-00001	5	3	argon	0.30	0.24	0.33	56								
	with grilles-between-the-glass	PEL-N-227-00206-00001				0.31	0.22	0.30	56								
	with integral grilles	PEL-N-227-00337-00001				0.31	0.22	0.30	56								
11/16"	Gray Advanced Low-E IG	PEL-N-227-00065-00001	5	3	argon	0.30	0.22	0.28	56								
	with grilles-between-the-glass	PEL-N-227-00207-00001				0.31	0.21	0.26	56								
	with integral grilles	PEL-N-227-00338-00001				0.31	0.21	0.26	56								
11/16"	Green Advanced Low-E IG	PEL-N-227-00066-00001	5	3	argon	0.30	0.27	0.44	56								
	with grilles-between-the-glass	PEL-N-227-00208-00001				0.31	0.25	0.40	56								
	with integral grilles	PEL-N-227-00339-00001				0.31	0.25	0.40	56								
HIGH ALTITUDE GLAZING																	
11/16"	Advanced Low-E IG	PEL-N-227-00013-00001	3	3	air	0.32	0.28	0.51	54								
	with grilles-between-the-glass	PEL-N-227-00013-00002				0.32	0.25	0.46	54								
	with integral grilles	PEL-N-227-00297-00001				0.33	0.25	0.46	54								
11/16"	SunDefense Low-E IG	PEL-N-227-00014-00001	3	3	air	0.31	0.21	0.47	54								
	with grilles-between-the-glass	PEL-N-227-00014-00002				0.31	0.19	0.43	54								
	with integral grilles	PEL-N-227-00298-00001				0.32	0.19	0.43	55								
11/16"	AdvancedComfort Low-E IG	PEL-N-227-00015-00001	3	3	air	0.27	0.27	0.50	42						22		
	with grilles-between-the-glass	PEL-N-227-00015-00002				0.27	0.25	0.45	42						21		
	with integral grilles	PEL-N-227-00299-00001				0.29	0.25	0.45	42								
11/16"	NaturalSun Low-E IG	PEL-N-227-00012-00001	3	3	air	0.33	0.50	0.58	54						28		
	with grilles-between-the-glass	PEL-N-227-00012-00002				0.33	0.46	0.52	54						25		
	with integral grilles	PEL-N-227-00296-00001				0.33	0.46	0.52	54						25		

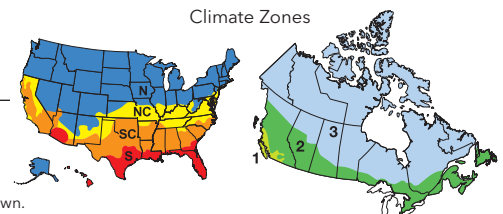
R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
 CR = Condensation Resistance
 ER = Canadian Energy Rating

(1) Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2016 (Version 6) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative.

Based on unit size, some products will use 2.5 mm glass that will have equivalent or improved performance from what is shown.

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.





CASEMENT

GLAZING PERFORMANCE - TOTAL UNIT

Aluminum-Clad Exterior
Fixed



Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor ¹	SHGC	VLT	CR	U. S.				Canada ²			
										Zone				ER	Zone		
FIXED										N	NC	SC	S	1	2	3	
11/16"	Clear IG	PEL-N-229-00011-00001	3	3	air	0.46	0.64	0.68	47								
	with grilles-between-the-glass	PEL-N-229-00011-00002				0.46	0.58	0.60	47								
	with integral grilles	PEL-N-229-00295-00001				0.46	0.58	0.60	47								
11/16"	Advanced Low-E IG	PEL-N-229-00018-00001	3	3	argon	0.27	0.31	0.58	57					24			
	with grilles-between-the-glass	PEL-N-229-00018-00002				0.27	0.28	0.52	57					22			
	with integral grilles	PEL-N-229-00302-00001				0.28	0.28	0.52	57					21			
11/16"	SunDefense™ Low-E IG	PEL-N-229-00019-00001	3	3	argon	0.26	0.23	0.53	58					21			
	with grilles-between-the-glass	PEL-N-229-00019-00002				0.26	0.21	0.48	58					19			
	with integral grilles	PEL-N-229-00303-00001				0.27	0.21	0.48	58					18			
11/16"	AdvancedComfort Low-E IG	PEL-N-229-00020-00001	3	3	argon	0.23	0.30	0.56	45					28			
	with grilles-between-the-glass	PEL-N-229-00020-00002				0.23	0.27	0.50	45					27			
	with integral grilles	PEL-N-229-00304-00001				0.25	0.27	0.50	45					24			
11/16"	NaturalSun Low-E IG	PEL-N-229-00017-00001	3	3	argon	0.28	0.57	0.65	57					38			
	with grilles-between-the-glass	PEL-N-229-00017-00002				0.28	0.51	0.58	57					34			
	with integral grilles	PEL-N-229-00301-00001				0.29	0.51	0.58	57					33			
TINTED GLAZING										N	NC	SC	S	1	2	3	
11/16"	Bronze Advanced Low-E	PEL-N-229-00064-00001	5	3	argon	0.28	0.27	0.37	56					21			
	with grilles-between-the-glass	PEL-N-229-00206-00001				0.30	0.25	0.33	56								
	with integral grilles	PEL-N-229-00337-00001				0.30	0.25	0.33	56								
11/16"	Gray Advanced Low-E IG	PEL-N-229-00065-00001	5	3	argon	0.28	0.25	0.32	56					19			
	with grilles-between-the-glass	PEL-N-229-00207-00001				0.30	0.23	0.29	56								
	with integral grilles	PEL-N-229-00338-00001				0.30	0.23	0.29	56								
11/16"	Green Advanced Low-E IG	PEL-N-229-00066-00001	5	3	argon	0.28	0.30	0.50	56					22			
	with grilles-between-the-glass	PEL-N-229-00208-00001				0.30	0.27	0.45	56								
	with integral grilles	PEL-N-229-00339-00001				0.30	0.27	0.45	56								
HIGH ALTITUDE GLAZING										N	NC	SC	S	1	2	3	
11/16"	Advanced Low-E IG	PEL-N-229-00013-00001	3	3	air	0.31	0.31	0.58	54								
	with grilles-between-the-glass	PEL-N-229-00013-00002				0.31	0.28	0.52	54								
	with integral grilles	PEL-N-229-00297-00001				0.33	0.28	0.52	54								
11/16"	SunDefense Low-E IG	PEL-N-229-00014-00001	3	3	air	0.31	0.23	0.53	54								
	with grilles-between-the-glass	PEL-N-229-00014-00002				0.31	0.21	0.48	54								
	with integral grilles	PEL-N-229-00298-00001				0.32	0.21	0.48	54								
11/16"	AdvancedComfort Low-E IG	PEL-N-229-00015-00001	3	3	air	0.26	0.30	0.56	42					25			
	with grilles-between-the-glass	PEL-N-229-00015-00002				0.26	0.27	0.50	42					23			
	with integral grilles	PEL-N-229-00299-00001				0.28	0.27	0.50	42					21			
11/16"	NaturalSun Low-E IG	PEL-N-229-00012-00001	3	3	air	0.32	0.56	0.65	53					32			
	with grilles-between-the-glass	PEL-N-229-00012-00002				0.32	0.51	0.58	53					29			
	with integral grilles	PEL-N-229-00296-00001				0.33	0.51	0.58	53					28			

R-Value = 1/U-Factor
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