



By PLY GEM



Manufacturer's Certification Penguin Windows Window & Door Products

Great Lakes Window by Ply Gem manufactures Penguin Windows custom vinyl replacement windows and patio doors that, when purchased with optional Low-E glass and argon or krypton gas fill in a double or triple glazed unit, meet or exceed the prescriptive criteria established by the IECC for all climate zones in which the window or doors are installed.

In accordance with Internal Revenue Notice, and to certify the Penguin Windows products for purposes of the tax credits available under the relevant Internal Revenue Code ("IRC"), **Great Lakes Window by Ply Gem represents that Penguin Windows replacement products, when purchased with one of the optional glass packages (*all applicable combinations are listed on the subsequent NFRC test data summaries*), are "Eligible Building Envelope Component(s)" that qualify for the federal income tax credit allowed under the relevant IRC code.**

Qualifying replacement windows and/or patio doors must have both a U-Factor rating of .30 or lower and a Solar Heat Gain Coefficient (SHGC) rating of .30 or lower. Homeowners should purchase and install the qualifying Penguin Windows products between January 1, 2009 and December 31, 2010.

This certificate is intended to show that Penguin Windows are Eligible Building Envelope Components under the relevant IRC sections. Homeowners should consult their tax advisor to determine whether they qualify for any potential income tax credits.

March, 2009

www.greatlakeswindow.com



				NFRC Certified Values						
Product Type / Popular Glazing Options	U-Factor (Center of Glass)	R-value (Center of Glass)	Total Unit R-value	NFRC	Total			ENERGY STAR QUALIFIED		
				CPD Number	Unit U-Factor	SHGC	VT		CR	
Double Hung				PWG-M-27						
Clear IGU	0.49	2.0	2.3			0.43	0.53	0.55	41	No
Grids (Width<1")	0.49	2.0	2.3			0.43	0.47	0.49	41	No
Georgian Grids (Width>1")	0.49	2.0	2.3			0.43	0.41	0.43	41	No
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.4			0.29	0.26	0.49	51	Yes
Grids (Width<1")	0.26	3.8	3.4			0.29	0.24	0.43	51	Yes
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.21	0.38	51	Yes
Maxuus (Double Low E Argon IGU)	0.25	4.0	3.6			0.28	0.25	0.43	51	Yes
Grids (Width<1")	0.25	4.0	3.6			0.28	0.22	0.38	51	Yes
Georgian Grids (Width>1")	0.25	4.0	3.6			0.28	0.20	0.34	51	Yes
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.7			0.27	0.25	0.43	53	Yes
Grids (Width<1")	0.23	4.3	3.7			0.27	0.22	0.38	53	Yes
Georgian Grids (Width>1")	0.23	4.3	3.7			0.27	0.20	0.34	53	Yes
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.18	5.6	4.3			0.23	0.23	0.40	60	Yes
Grids (Width<1")	0.18	5.6	4.2			0.24	0.21	0.35	60	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.12	8.3	5.3			0.19	0.23	0.40	62	Yes
Grids (Width<1")	0.12	8.3	5.0			0.20	0.20	0.35	62	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A
Slider					PWG-M-33					
Clear IGU	0.49	2.0	2.3			0.44	0.54	0.57	41	No
Grids (Width<1")	0.49	2.0	2.3			0.44	0.48	0.50	41	No
Georgian Grids (Width>1")	0.49	2.0	2.3			0.44	0.43	0.44	41	No
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.4			0.29	0.27	0.50	53	Yes
Grids (Width<1")	0.26	3.8	3.4			0.29	0.24	0.45	53	Yes
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.22	0.39	53	Yes
Maxuus (Double Low E Argon IGU)	0.25	4.0	3.4			0.29	0.25	0.45	54	Yes
Grids (Width<1")	0.25	4.0	3.4			0.29	0.23	0.40	54	Yes
Georgian Grids (Width>1")	0.25	4.0	3.4			0.29	0.20	0.35	54	Yes
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.7			0.27	0.25	0.45	54	Yes
Grids (Width<1")	0.23	4.3	3.7			0.27	0.23	0.40	54	Yes
Georgian Grids (Width>1")	0.23	4.3	3.7			0.27	0.20	0.35	54	Yes
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.18	5.6	4.3			0.23	0.23	0.41	59	Yes
Grids (Width<1")	0.18	5.6	4.2			0.24	0.21	0.36	59	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.12	8.3	5.0			0.20	0.23	0.41	62	Yes
Grids (Width<1")	0.12	8.3	5.0			0.20	0.21	0.36	62	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A
European Slider				PWG-M-34						
Clear IGU	0.49	2.0	2.3			0.43	0.52	0.54	40	No
Grids (Width<1")	0.49	2.0	2.3			0.43	0.46	0.48	40	No
Georgian Grids (Width>1")	0.49	2.0	2.3			0.43	0.40	0.42	40	No
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.4			0.29	0.26	0.48	53	Yes
Grids (Width<1")	0.26	3.8	3.4			0.29	0.23	0.42	53	Yes
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.20	0.37	53	Yes
Maxuus (Double Low E Argon IGU)	0.25	4.0	3.4			0.29	0.24	0.42	53	Yes
Grids (Width<1")	0.25	4.0	3.4			0.29	0.22	0.37	53	Yes
Georgian Grids (Width>1")	0.25	4.0	3.4			0.29	0.19	0.33	53	Yes
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.7			0.27	0.24	0.42	53	Yes
Grids (Width<1")	0.23	4.3	3.7			0.27	0.22	0.37	53	Yes
Georgian Grids (Width>1")	0.23	4.3	3.7			0.27	0.19	0.33	53	Yes
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.18	5.6	4.3			0.23	0.22	0.39	59	Yes
Grids (Width<1")	0.18	5.6	4.2			0.24	0.20	0.34	59	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.12	8.3	5.0			0.20	0.22	0.39	62	Yes
Grids (Width<1")	0.12	8.3	5.0			0.20	0.20	0.34	62	Yes
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A

-Option does NOT meet .30 U-Factor/.30 SHGC numbers required for the Energy Tax Credit.



				NFRC Certified Values						
Product Type / Popular Glazing Options				NFRC CPD Number	Total Unit U-Factor	SHGC	VT	CR	ENERGY STAR QUALIFIED	
Picture										
Clear IGU				0.49	2.1	2.3				
Grids (Width<1")				0.49	2.1	2.3				
Georgian Grids (Width>1")				0.49	2.1	2.3				
Hi-R Plus (Low E Argon IGU)				0.26	3.9	3.7				
Grids (Width<1")				0.26	3.9	3.7				
Georgian Grids (Width>1")				0.26	3.9	3.7				
Maxuus (Double Low E Argon IGU)				0.25	4.0	3.7				
Grids (Width<1")				0.25	4.0	3.7				
Georgian Grids (Width>1")				0.25	4.0	3.7				
Maxuus 5 (Double Low E Krypton IGU)				0.23	4.3	3.9				
Grids (Width<1")				0.23	4.3	3.9				
Georgian Grids (Width>1")				0.23	4.3	3.9				
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)				0.18	5.6	4.7				
Grids (Width<1")				0.18	5.6	4.6				
Georgian Grids (Width>1")				N/A	N/A	N/A				
Maxuus 10 (Triple Pane Double Low E Krypton IGU)				0.12	8.5	5.9				
Grids (Width<1")				0.12	8.5	5.7				
Georgian Grids (Width>1")				N/A	N/A	N/A				
Casement										
Clear IGU				0.49	2.0	2.3				
Grids (Width<1")				0.49	2.0	2.3				
Georgian Grids (Width>1")				0.49	2.0	2.3				
Hi-R Plus (Low E Argon IGU)				0.26	3.8	3.6				
Grids (Width<1")				0.26	3.8	3.6				
Georgian Grids (Width>1")				0.26	3.8	3.6				
Maxuus (Double Low E Argon IGU)				0.25	4.0	3.6				
Grids (Width<1")				0.25	4.0	3.6				
Georgian Grids (Width>1")				0.25	4.0	3.6				
Maxuus 5 (Double Low E Krypton IGU)				0.23	4.3	3.8				
Grids (Width<1")				0.23	4.3	3.8				
Georgian Grids (Width>1")				0.23	4.3	3.8				
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)				0.18	5.6	4.5				
Grids (Width<1")				0.18	5.6	4.3				
Georgian Grids (Width>1")				N/A	N/A	N/A				
Maxuus 10 (Triple Pane Double Low E Krypton IGU)				0.12	8.3	5.3				
Grids (Width<1")				0.12	8.3	5.3				
Georgian Grids (Width>1")				N/A	N/A	N/A				
Fixed Casement										
Clear IGU				0.49	2.0	2.3				
Grids (Width<1")				0.49	2.0	2.3				
Georgian Grids (Width>1")				0.49	2.0	2.3				
Hi-R Plus (Low E Argon IGU)				0.26	3.8	3.7				
Grids (Width<1")				0.26	3.8	3.7				
Georgian Grids (Width>1")				0.26	3.8	3.7				
Maxuus (Double Low E Argon IGU)				0.25	4.0	3.8				
Grids (Width<1")				0.25	4.0	3.8				
Georgian Grids (Width>1")				0.25	4.0	3.8				
Maxuus 5 (Double Low E Krypton IGU)				0.23	4.3	4.0				
Grids (Width<1")				0.23	4.3	4.0				
Georgian Grids (Width>1")				0.23	4.3	4.0				
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)				0.18	5.6	5.0				
Grids (Width<1")				0.18	5.6	4.8				
Georgian Grids (Width>1")				N/A	N/A	N/A				
Maxuus 10 (Triple Pane Double Low E Krypton IGU)				0.12	8.3	6.3				
Grids (Width<1")				0.12	8.3	6.3				
Georgian Grids (Width>1")				N/A	N/A	N/A				

- Option does NOT meet .30 U-Factor/.30 SHGC numbers required for the Energy Tax Credit.
 - Only configuration that meets is triple strength glass in both panes.



Product Type / Popular Glazing Options	U-Factor (Center of Glass)	R-value (Center of Glass)	Total Unit R-value	NFRC Certified Values					ENERGY STAR QUALIFIED		
				NFRC CPD Number	Total Unit U-Factor	SHGC	VT	CR			
Awning				PWG-M-26							
Clear IGU	0.49	2.0	2.3			0.43	0.54	0.56	43	No	
Grids (Width<1")	0.49	2.0	2.3			0.43	0.49	0.51	43	No	
Georgian Grids (Width>1")	0.49	2.0	2.3			0.43	0.44	0.46	43	No	
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.6			0.28	0.27	0.50	55	Yes	
Grids (Width<1")	0.26	3.8	3.6			0.28	0.25	0.45	55	Yes	
Georgian Grids (Width>1")	0.26	3.8	3.6			0.28	0.22	0.40	55	Yes	
Maxuus (Double Low E Argon IGU)	0.25	4.0	3.6			0.28	0.25	0.44	56	Yes	
Grids (Width<1")	0.25	4.0	3.6			0.28	0.23	0.40	56	Yes	
Georgian Grids (Width>1")	0.25	4.0	3.6			0.28	0.21	0.36	56	Yes	
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.8			0.26	0.25	0.44	59	Yes	
Grids (Width<1")	0.23	4.3	3.8			0.26	0.23	0.40	59	Yes	
Georgian Grids (Width>1")	0.23	4.3	3.8			0.26	0.21	0.36	59	Yes	
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.18	5.6	4.5			0.22	0.23	0.40	66	Yes	
Grids (Width<1")	0.18	5.6	4.3			0.23	0.21	0.36	66	Yes	
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.12	8.3	5.6			0.18	0.23	0.40	70	Yes	
Grids (Width<1")	0.12	8.3	5.3			0.19	0.21	0.36	70	Yes	
Georgian Grids (Width>1")	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A		
Sliding Patio Door				PWG-M-46							
Premier (CPD)											
Clear IGU	0.49	2.0	2.3			0.43	0.52	0.56	43	No	
Grids (Width<1")	0.49	2.0	2.3			0.43	0.46	0.48	43	No	
Georgian Grids (Width>1")	0.49	2.0	2.3			0.43	0.40	0.41	43	No	
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.4			0.29	0.27	0.50	57	Yes	
Grids (Width<1")	0.26	3.8	3.4			0.29	0.24	0.43	57	Yes	
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.21	0.37	57	Yes	
Maxuus (Double Low E Argon IGU)	0.26	3.8	3.4			0.29	0.25	0.44	57	Yes	
Grids (Width<1")	0.26	3.8	3.4			0.29	0.22	0.38	57	Yes	
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.19	0.33	57	Yes	
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.7			0.27	0.25	0.44	57	Yes	
Grids (Width<1")	0.23	4.3	3.7			0.27	0.22	0.38	57	Yes	
Georgian Grids (Width>1")	0.23	4.3	3.7			0.27	0.19	0.33	57	Yes	
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.17	5.9	4.5			0.22	0.23	0.40	64	Yes	
Grids (Width<1")	0.17	5.9	4.3			0.23	0.20	0.35	63	Yes	
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.11	9.1	5.3			0.19	0.23	0.40	67	Yes	
Grids (Width<1")	0.11	9.1	5.3		0.19	0.20	0.35	67	Yes		
Georgian Grids (Width>1")	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A		
Premier with Euroglide (CPPD)				PWG-M-47							
Clear IGU	0.49	2.0	2.3			0.43	0.52	0.56	43	No	
Grids (Width<1")	0.49	2.0	2.3			0.43	0.46	0.48	43	No	
Georgian Grids (Width>1")	0.49	2.0	2.3			0.43	0.40	0.41	43	No	
Hi-R Plus (Low E Argon IGU)	0.26	3.8	3.4			0.29	0.27	0.50	57	Yes	
Grids (Width<1")	0.26	3.8	3.4			0.29	0.24	0.43	57	Yes	
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.21	0.37	57	Yes	
Maxuus (Double Low E Argon IGU)	0.26	3.8	3.4			0.29	0.25	0.44	57	Yes	
Grids (Width<1")	0.26	3.8	3.4			0.29	0.22	0.38	57	Yes	
Georgian Grids (Width>1")	0.26	3.8	3.4			0.29	0.19	0.33	57	Yes	
Maxuus 5 (Double Low E Krypton IGU)	0.23	4.3	3.7			0.27	0.25	0.44	57	Yes	
Grids (Width<1")	0.23	4.3	3.7			0.27	0.22	0.38	57	Yes	
Georgian Grids (Width>1")	0.23	4.3	3.7			0.27	0.19	0.33	57	Yes	
Maxuus 7.6 (Triple Pane Double Low E Argon IGU)	0.17	5.9	4.5			0.22	0.23	0.40	63	Yes	
Grids (Width<1")	0.17	5.9	4.3			0.23	0.20	0.35	63	Yes	
Georgian Grids (Width>1")	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	
Maxuus 10 (Triple Pane Double Low E Krypton IGU)	0.11	9.1	5.3			0.19	0.23	0.40	67	Yes	
Grids (Width<1")	0.11	9.1	5.3			0.19	0.20	0.35	67	Yes	
Georgian Grids (Width>1")	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A		

NFRC (National Fenestration Rating Council)

- CPD - Certified Product Directory
- SHGC - Solar Heat Gain Coefficient
- VT - Visible Light Transmission
- CR - Condensation Resistance

U-Factor - Rate of Heat Loss
R-Value - Resistance to Heat Flow



 - Option does NOT meet .30 U-Factor/.30 SHGC numbers required for the Energy Tax Credit.

Footnotes: Total unit values: Single strength glass for all dual & Triple pane windows with and w/o grids.

Total unit values: Double strength glass for all dual & triple pane doors.