

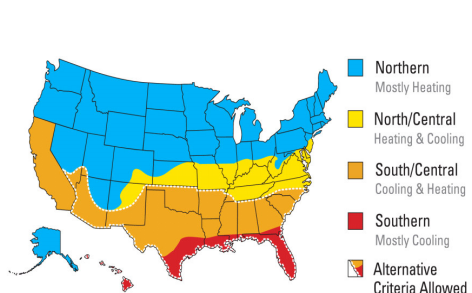
This document provides NFRC certified U-Factor, Solar Heat Gain Coefficient (SHGC) and Visible Transmittance (VT) values for Andersen products along with the corresponding ENERGY STAR climates zones that the product and glass type meet.



These products rated, certified, and labeled by National Fenestration Rating Council® (NFRC) - a non-profit organization that provides fair, accurate and credible energy performance ratings for windows and doors.



These products meet stringent energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. These guidelines are based on the heat gain and loss of each product in various regions of the country.



Windows & Doors

Climate Zone	U-Factor ¹	SHGC ²	
Northern	≤ 0.35	Any	
North/Central	≤ 0.40	≤ 0.55	
South/Central	≤ 0.40	≤ 0.40	Prescriptive
	≤ 0.41	≤ 0.38	Equivalent Performance (Excluding CA)
	≤ 0.42	≤ 0.31	
	≤ 0.43	≤ 0.24	
Southern	≤ 0.65	≤ 0.40	Prescriptive
	≤ 0.66	≤ 0.39	Equivalent Performance
	≤ 0.67	≤ 0.33	
	≤ 0.68	≤ 0.38	
	≤ 0.69	≤ 0.37	
	≤ 0.70	≤ 0.37	
	≤ 0.71	≤ 0.38	
	≤ 0.72	≤ 0.35	
	≤ 0.73	≤ 0.34	
	≤ 0.74	≤ 0.34	
	≤ 0.75	≤ 0.33	

Skylights

Climate Zone	U-Factor ¹		SHGC ²
	2001 and 2004 NFRC rated at 90° ³	RES97 rated at 90° ⁴	
Northern	≤ 0.60	≤ 0.45	Any
North/Central	≤ 0.60	≤ 0.45	≤ 0.40
South/Central	≤ 0.60	≤ 0.45	≤ 0.40
Southern	≤ 0.75	≤ 0.75	≤ 0.40

¹ Btu/hr·ft²·°F
² Fraction of incident solar radiation.
³ U-Factor qualification criteria based on 2001 or 2004 NFRC simulation and certification procedures that rate skylights at a 20-degree angle. Although reported U-Factor is higher than RES97 rated products, energy performance at the ENERGY STAR minimum qualifying level is equivalent.
⁴ NFRC certification using the 1997 NFRC procedures for residential windows (RES-97) that rated skylights at a 90-degree angle. Skylights rated under this procedure may be present in the marketplace until March 31, 2008. NFRC labels for products using this procedure state: "RES97 rated at 90 degrees."

For NFRC certified total unit performance for units with capillary breather tubes, please refer to the High Altitude information on page 8.

"High-Performance Low-E4" (HP Low-E4) and "High-Performance Low-E4 Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

1 U-Factor defines the amount of heat loss through the total unit in BTU/hr sq. ft2.°F. The lower the value, the less heat is lost through the entire product.

2 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the product.

3 Visible Transmittance (VT) measures how much light comes through a product (glass and frame). The higher the value, from 0 to 1, the more daylight the product lets in over the product's total unit area. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

NFRC ratings are based on modeling by a third party agency and validated by an independent test lab in compliance with NFRC program and procedural requirements.

This data is accurate as of May 1, 2009. Due to ongoing product changes, updated test results, or new industry standards or requirements, this data may change over time. Ratings are for sizes specified by NFRC for testing and certification. Ratings may vary depending on use of tempered glass, different grille options, glass for high altitudes, etc.

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Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³		
200 Series	Casement Window	Non-Tempered (2.2mm) Glass: All Casement Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1 mm) Glass)					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.60	0.62	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.45	0.54	0.57	- - - -	
		Non-Tempered (3.1mm) Glass: Casement Window Sizes CX16, CXW15, CXW25, CXW155, CXW16					
		Patterned Glass: All Casement Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.62	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.56	- - - -	
		Tempered (3.1mm) Glass (Including Tempered Patterned): All Casement Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.62	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.46	0.53	0.56	- - - -	
200 Series	Awning Window	Non-Tempered (2.2mm) Glass: All Awning Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.59	0.61	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.45	0.53	0.55	- - - -	
		Non-Tempered (3.1mm) Glass: Awning Window Sizes AX61, AXW51, AXW551, AXW61, AP32V, AP352V, AP42V					
		Patterned Glass: All Awning Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.57	0.60	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.46	0.52	0.55	- - - -	
		All Tempered (3.1mm) Glass (Including Tempered Patterned): All Awning Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.57	0.60	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.46	0.52	0.55	- - - -	
200 Series	Tilt-Wash Double-Hung Window	Non-Tempered (2.2mm) Glass: All Tilt-Wash Double-Hung Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.60	0.63	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.56	- - - -	
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.32	0.59	■ ■ ■ ■ ■	
		Low-E with Finelight™ Grilles	0.30	0.29	0.49	■ ■ ■ ■ ■	
		Tempered (3.0mm) Glass: All Tilt-Wash Double-Hung Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.59	0.62	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.48	0.53	0.55	- - - -	
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.32	0.54	■ ■ ■ ■ ■	
		Low-E Tempered with Finelight™ Grilles	0.32	0.29	0.48	■ ■ ■ ■ ■	
		Patterned (3.9mm) Glass: All Tilt-Wash Double-Hung Window Sizes					
		Clear Dual Pane Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.49	0.57	0.61	- - - -	
		Clear Dual Pane Patterned with Finelight™ Grilles	0.50	0.51	0.55	- - - -	
		Low-E Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.54	■ ■ ■ ■ ■	
		Low-E Patterned with Finelight™ Grilles	0.35	0.28	0.48	■ ■ ■ ■ ■	
200 Series	Narroline® Double-Hung Window	Non-Tempered (2.2mm) Glass: All Narroline® Double-Hung Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.61	0.64	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.57	- - - -	
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.32	0.56	■ ■ ■ ■ ■	
		Low-E with Finelight™ Grilles	0.31	0.29	0.50	■ ■ ■ ■ ■	
		Tempered and Patterned (3.1mm) Glass: All Narroline® Double-Hung Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.60	0.63	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.48	0.53	0.56	- - - -	
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.32	0.55	■ ■ ■ ■ ■	
		Low-E Tempered with Finelight™ Grilles	0.32	0.29	0.49	■ ■ ■ ■ ■	
		Patterned (3.9mm) Glass: All Narroline® Double-Hung Window Sizes					
		Clear Dual Pane Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.49	0.58	0.63	- - - -	
		Clear Dual Pane Patterned with Finelight™ Grilles	0.50	0.52	0.56	- - - -	
		Low-E Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.55	■ ■ ■ ■ ■	
		Low-E Patterned with Finelight™ Grilles	0.34	0.29	0.49	■ ■ ■ ■ ■	
200 Series	Narroline® Transom Window	Non-Tempered (2.2mm) Glass: All Narroline® Transom Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.63	0.66	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.46	0.57	0.59	- - - -	
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.34	0.58	■ ■ ■ ■ ■	
		Low-E with Finelight™ Grilles	0.28	0.30	0.52	■ ■ ■ ■ ■	
		Tempered (3.1mm) Glass: All Narroline® Transom Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.62	0.65	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.47	0.56	0.58	- - - -	
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.33	0.57	■ ■ ■ ■ ■	
		Low-E Tempered with Finelight™ Grilles	0.30	0.30	0.51	■ ■ ■ ■ ■	
		Patterned (3.9mm) Glass: All Narroline® Transom Window Sizes					
		Clear Dual Pane Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.60	0.65	- - - -	
		Clear Dual Pane Patterned with Finelight™ Grilles	0.49	0.54	0.58	- - - -	
		Low-E Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.57	■ ■ ■ ■ ■	
		Low-E Patterned with Finelight™ Grilles	0.32	0.30	0.51	■ ■ ■ ■ ■	
200 Series	Narroline® Circle Top™ Window	Non-Tempered (2.2mm) Glass: Narroline® Circle Top™ Window Sizes: CTN20, CTN24, CTN28, CTN30, CTN34					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.65	0.68	- - - -	
		Clear Dual Pane with Finelight™ Grilles	0.45	0.58	0.61	- - - -	
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.59	■ ■ ■ ■ ■	
		Low-E with Finelight™ Grilles	0.27	0.31	0.53	■ ■ ■ ■ ■	
		Non-Tempered (3.1mm) Glass: Narroline® Circle Top™ Window Sizes: CTN28-2, CTN30-2					
		Patterned Glass: All Narroline® Circle Top™ Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.63	0.67	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.45	0.57	0.60	- - - -	
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.59	■ ■ ■ ■ ■	
		Low-E Tempered with Finelight™ Grilles	0.27	0.31	0.52	■ ■ ■ ■ ■	
		Tempered and Tempered Patterned (3.1mm) Glass: All Narroline® Circle Top™ Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.63	0.67	- - - -	
		Clear Dual Pane Tempered with Finelight™ Grilles	0.45	0.57	0.60	- - - -	
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.59	■ ■ ■ ■ ■	
Low-E Tempered with Finelight™ Grilles	0.27	0.31	0.52	■ ■ ■ ■ ■			

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³		
200 Series	Gliding Window	Non-Tempered (2.2mm) Glass: All Gliding Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.60	0.63	-	-
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.56	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.32	0.55	■	■
		Low-E with Finelight™ Grilles	0.30	0.29	0.49	■	■
		Tempered and Patterned (3.1mm) Glass: All Gliding Window Sizes					
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.59	0.62	-	-
		Clear Dual Pane Tempered with Finelight™ Grilles	0.49	0.53	0.55	-	-
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.32	0.54	■	■
		Low-E Tempered with Finelight™ Grilles	0.32	0.29	0.48	■	■
		Patterned (3.9mm) Glass: All Gliding Window Sizes					
		Clear Dual Pane Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.50	0.57	0.62	-	-
		Clear Dual Pane Patterned with Finelight™ Grilles	0.50	0.51	0.55	-	-
		Low-E Patterned (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.54	■	■
Low-E Patterned with Finelight™ Grilles	0.34	0.28	0.48	■	■		
200 Series	Fixed, Transom, Circle Top™ Window	Non-Tempered (3.1mm) Glass: Fixed Window Sizes: FX3030, FX3040/4030, FX3046/4630, FX3049/4930, FX3050/5030, FX3056/5630, FX3060/6030, FX4040, FX4046/4640, FX4049/4940, FX4050/5040, FX4056/5640, FX4646, FX4649/4946, FX4650/5046, FX 4949, FX4950/5049					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	-	-
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.56	■	■
		Low-E with Finelight™ Grilles	0.28	0.30	0.50	■	■
		Tempered and Patterned (3.1mm) Glass: Fixed Window Sizes: FX3030, FX3040/4030, FX3046/4630, FX3049/4930, FX3050/5030, FX3056/5630, FX3060/6030					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	-	-
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.56	■	■
		Low-E with Finelight™ Grilles	0.28	0.30	0.50	■	■
		Non-Tempered (3.9mm) Glass: Fixed Window Sizes: FX4060/6040, FX4656/5646, FX4660/6046, FX4956/5649, FX4960/6049, FX5050, FX5056/5650, FX5060/6050					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.59	0.64	-	-
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.57	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.56	■	■
		Low-E with Finelight™ Grilles	0.29	0.29	0.50	■	■
		Tempered and Patterned (3.9mm) Glass: Fixed Window Sizes: FX4040, FX4046/4640, FX4049/4940, FX4050/5040, FX4056/5640, FX4060/6040, FX4646, FX4649/4946, FX4650/5046, FX4656/5646, FX4660/6046, FX4949, FX4950/5049, FX4956/5649, FX4960/6049, FX5050, FX5056/5650, FX5060/6050					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.59	0.64	-	-
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.57	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.56	■	■
		Low-E with Finelight™ Grilles	0.29	0.29	0.50	■	■
		Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Transom Window Sizes All Circle Top™ Window Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	-	-
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.56	■	■
Low-E with Finelight™ Grilles	0.28	0.30	0.50	■	■		
200 Series	Narroline® Gliding Patio Door	Tempered and Patterned (3.1mm) Glass: All Narroline® Gliding Patio Door Sizes (Except Sizes Listed Below for Tempered (3.9 mm) Glass)					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.61	0.64	-	-
		Clear Dual Pane with Finelight™ Grilles	0.47	0.53	0.56	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.56	■	■
		Low-E with Finelight™ Grilles	0.31	0.29	0.49	■	■
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.31	■	■
		Low-E Sun with Finelight™ Grilles	0.31	0.18	0.27	■	■
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.50	■	■
		Low-E SmartSun™ with Finelight™ Grilles	0.30	0.19	0.44	■	■
		Tempered and Patterned (3.9mm) Glass for the Following Narroline® Gliding Patio Door Sizes: NLGD2980, NLGD3380, NLGD4380, NLGD5080, NLGD6080, NLGD8080, NLGD10080, NLGD12080, NLGD16080					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.63	-	-
		Clear Dual Pane with Finelight™ Grilles	0.47	0.52	0.55	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.55	■	■
		Low-E with Finelight™ Grilles	0.31	0.28	0.48	■	■
Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.30	■	■		
Low-E Sun with Finelight™ Grilles	0.31	0.17	0.26	■	■		
Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.22	0.50	■	■		
Low-E SmartSun™ with Finelight™ Grilles	0.30	0.19	0.44	■	■		
200 Series	Perma-Shield® Gliding Patio Door	Tempered and Patterned (3.1mm) Glass: All Perma-Shield® Gliding Patio Door Sizes					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.64	-	-
		Clear Dual Pane with Finelight™ Grilles	0.45	0.54	0.56	-	-
		Tempered and Patterned (3.9mm) Glass: All Perma-Shield® Gliding Patio Door Sizes					
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.56	■	■
		Low-E with Finelight™ Grilles	0.30	0.29	0.49	■	■
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.30	■	■
		Low-E Sun with Finelight™ Grilles	0.31	0.17	0.27	■	■
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.22	0.50	■	■
		Low-E SmartSun™ with Finelight™ Grilles	0.30	0.19	0.44	■	■
200 Series	Hinged Patio Door	Tempered and Patterned (3.1mm) Glass: All Hinged Patio Door Sizes (Standard Sill)					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.44	0.45	0.47	-	-
		Clear Dual Pane with Finelight™ Grilles	0.45	0.39	0.40	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.24	0.41	■	■
		Low-E with Finelight™ Grilles	0.33	0.21	0.35	■	■
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.15	0.23	■	■
		Low-E Sun with Finelight™ Grilles	0.34	0.13	0.19	■	■
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.16	0.37	■	■
		Low-E SmartSun™ with Finelight™ Grilles	0.33	0.14	0.31	■	■
		Tempered and Patterned (3.1mm) Glass: All Hinged Patio Door Sizes (HC Sill)					
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.45	0.47	-	-
		Clear Dual Pane with Finelight™ Grilles	0.46	0.39	0.40	-	-
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.24	0.41	■	■
		Low-E with Finelight™ Grilles	0.34	0.21	0.35	■	■
Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.15	0.23	■	■		
Low-E Sun with Finelight™ Grilles	0.34	0.13	0.19	■	■		
Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.16	0.37	■	■		
Low-E SmartSun™ with Finelight™ Grilles	0.34	0.14	0.31	■	■		

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Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³											
400 Series	Casement Window	Non-Tempered (2.2mm) Glass: All Casement Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)														
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.54											
		HP Low-E4® with Finelight™ Grilles	0.28	0.29	0.49											
		HP Low-E4® with Full Divided Light Grilles	0.29	0.29	0.49											
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.30											
		HP Low-E4® Sun with Finelight™ Grilles	0.29	0.18	0.27											
		HP Low-E4® Sun with Full Divided Light Grilles	0.30	0.18	0.27											
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.49											
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28	0.19	0.45											
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.45											
		Non-Tempered and Patterned (3.1mm) Glass: Casement Window Sizes CX16, CXW15, CXW25, CXW155, CXW16														
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.54											
		HP Low-E4® with Finelight™ Grilles	0.30	0.29	0.49											
		HP Low-E4® with Full Divided Light Grilles	0.30	0.29	0.49											
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.30											
		HP Low-E4® Sun with Finelight™ Grilles	0.30	0.18	0.27											
		HP Low-E4® Sun with Full Divided Light Grilles	0.30	0.18	0.27											
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48											
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.19	0.44											
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.44											
		Tempered (3.1mm) Glass: All Casement Window Sizes														
		HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.54											
		HP Low-E4® Tempered with Finelight™ Grilles	0.30	0.29	0.49											
		HP Low-E4® Tempered with Full Divided Light Grilles	0.30	0.29	0.49											
		HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.30											
		HP Low-E4® Sun Tempered with Finelight™ Grilles	0.30	0.18	0.27											
		HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.30	0.18	0.27											
		HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48											
		HP Low-E4® SmartSun™ Tempered Finelight™ Grilles	0.29	0.19	0.44											
		HP Low-E4® SmartSun™ Tempered Full Divided Light Grilles	0.29	0.19	0.44											
		Non-Tempered (2.2mm) Glass: All Awning Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)														
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.31	0.53											
HP Low-E4® with Finelight™ Grilles	0.28	0.29	0.49													
HP Low-E4® with Full Divided Light Grilles	0.29	0.29	0.49													
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.19	0.30													
HP Low-E4® Sun with Finelight™ Grilles	0.29	0.18	0.27													
HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.18	0.27													
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.48													
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28	0.19	0.44													
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.28	0.19	0.44													
Non-Tempered and Patterned (3.1mm) Glass: Awning Window Sizes AX61, AXW51, AXW551, AXW61, AP32V, AP352V, AP42V																
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.31	0.53													
HP Low-E4® with Finelight™ Grilles	0.30	0.28	0.48													
HP Low-E4® with Full Divided Light Grilles	0.30	0.28	0.48													
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.19	0.29													
HP Low-E4® Sun with Finelight™ Grilles	0.30	0.18	0.27													
HP Low-E4® Sun with Full Divided Light Grilles	0.30	0.18	0.27													
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48													
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.19	0.43													
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.43													
All Tempered (3.1mm) Glass: All Awning Window Sizes																
HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.31	0.53													
HP Low-E4® Tempered with Finelight™ Grilles	0.30	0.28	0.48													
HP Low-E4® Tempered with Full Divided Light Grilles	0.30	0.28	0.48													
HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.19	0.29													
HP Low-E4® Sun Tempered with Finelight™ Grilles	0.30	0.18	0.27													
HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.30	0.18	0.27													
HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48													
HP Low-E4® SmartSun™ Tempered Finelight™ Grilles	0.29	0.19	0.43													
HP Low-E4® SmartSun™ Tempered Full Divided Light Grilles	0.29	0.19	0.43													
Non-Tempered, Tempered and Patterned (3.1mm) Glass:																
All Casement One Foot Transom (CTR and PTR) Windows																
All Casement/Awning Picture Window Sizes (Except Sizes Listed Below for (3.9mm) Glass)																
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.60													
HP Low-E4® with Finelight™ Grilles	0.27	0.31	0.53													
HP Low-E4® with Full Divided Light Grilles	0.28	0.31	0.53													
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.33													
HP Low-E4® Sun with Finelight™ Grilles	0.27	0.19	0.30													
HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.19	0.30													
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.26	0.23	0.54													
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.26	0.21	0.48													
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.48													
Non-Tempered, Tempered and Patterned (3.9mm) Glass: Casement/Awning Picture Window Sizes: P4060/6040, P4555/5545, P4560/6045, P5050, P5055/5550, P5060/6050.																
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.59													
HP Low-E4® with Finelight™ Grilles	0.27	0.31	0.53													
HP Low-E4® with Full Divided Light Grilles	0.28	0.31	0.53													
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.32													
HP Low-E4® Sun with Finelight™ Grilles	0.27	0.19	0.29													
HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.19	0.29													
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.26	0.23	0.53													
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.26	0.21	0.48													
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.48													

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Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³					
400 Series	Woodwright® Full-Frame Double-Hung Window (Rectangle Shapes Only)	Non-Tempered and Tempered (3.1mm) Glass: All Rectangular Woodwright® Full-Frame Double-Hung Window Sizes (Except for Patterned (3.9mm) Glass Listed Below)								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.31	0.53					
		HP Low-E4® with Finelight™ Grilles	0.30	0.28	0.47					
		HP Low-E4® with Full Divided Light Grilles	0.31	0.28	0.47					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.19	0.29					
		HP Low-E4® Sun with Finelight™ Grilles	0.30	0.17	0.26					
		HP Low-E4® Sun with Full Divided Light Grilles	0.31	0.17	0.26					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.47					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.18	0.42					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30	0.18	0.42					
		Patterned (3.9mm) Glass (Both Non-Tempered and Tempered): All Rectangular Woodwright® Full-Frame Double-Hung Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.30	0.52					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.19	0.29					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.21	0.47					
400 Series	Woodwright® Full-Frame Picture Window	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Full-Frame Picture Window Sizes up to 15 Square Feet								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.55					
		HP Low-E4® with Finelight™ Grilles	0.28	0.29	0.49					
		HP Low-E4® with Full Divided Light Grilles	0.29	0.29	0.49					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.19	0.31					
		HP Low-E4® Sun with Finelight™ Grilles	0.28	0.18	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.18	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.50					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.27	0.19	0.44					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.44					
		Non-Tempered and Tempered (3.9mm) Glass: All Woodwright® Full-Frame Picture Window Sizes between 15 Square Feet and 24 Square Feet								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.55					
		HP Low-E4® with Finelight™ Grilles	0.28	0.28	0.49					
		HP Low-E4® with Full Divided Light Grilles	0.29	0.28	0.49					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.19	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.28	0.17	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.17	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.49					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.27	0.19	0.44					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.44					
		Non-Tempered and Tempered (4.7mm) Glass: All Woodwright® Full-Frame Picture Window Sizes Between 24 Square Feet and 36 Square Feet								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.31	0.54					
		HP Low-E4® with Finelight™ Grilles	0.28	0.28	0.48					
		HP Low-E4® with Full Divided Light Grilles	0.29	0.28	0.48					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.19	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.28	0.17	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.17	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.49					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.27	0.19	0.43					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.43					
		Patterned (Non-Tempered and Tempered) Glass: All Woodwright® Full-Frame Picture Window Sizes								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.32	0.55					
		HP Low-E4® with Finelight™ Grilles	0.28	0.28	0.49					
		HP Low-E4® with Full Divided Light Grilles	0.29	0.28	0.49					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.19	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.28	0.17	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.17	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.21	0.49					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.27	0.19	0.44					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29	0.19	0.44					
		400 Series	Woodwright® Full-Frame Transom Window	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Full-Frame Transom Window Sizes						
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33		0.57		
HP Low-E4® with Finelight™ Grilles	0.28			0.30	0.51					
HP Low-E4® with Full Divided Light Grilles	0.29			0.30	0.51					
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.20	0.32					
HP Low-E4® Sun with Finelight™ Grilles	0.28			0.18	0.29					
HP Low-E4® Sun with Full Divided Light Grilles	0.30			0.18	0.29					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27			0.22	0.52					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.27			0.20	0.46					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29			0.20	0.46					
Patterned (3.9mm) Glass (Non-Tempered and Tempered): All Woodwright® Full-Frame Transom Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)										
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.33	0.57					
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.20	0.31					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27			0.22	0.51					

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR		
400 Series	Woodwright® Insert Double-Hung Window	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Insert Double-Hung Window Sizes						
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.31	0.53			
		HP Low-E4® with Finelight™ Grilles	0.30	0.28	0.47			
		HP Low-E4® with Full Divided Light Grilles	0.31	0.28	0.47			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.19	0.30			
		HP Low-E4® Sun with Finelight™ Grilles	0.30	0.17	0.26			
		HP Low-E4® Sun with Full Divided Light Grilles	0.31	0.17	0.26			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48			
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.19	0.43			
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30	0.19	0.43			
		Patterned (Non-Tempered and Tempered) (3.9mm) Glass: All Woodwright® Insert Double-Hung Window Sizes						
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.31	0.53			
		HP Low-E4® with Finelight™ Grilles	0.32	0.28	0.47			
		HP Low-E4® with Full Divided Light Grilles	0.32	0.28	0.47			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.19	0.29			
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.17	0.26			
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.17	0.26			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.21	0.48			
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31	0.19	0.42			
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.19	0.42			
400 Series	Woodwright® Insert Transom Window	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Insert Transom Window Sizes						
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.33	0.56			
		HP Low-E4® with Finelight™ Grilles	0.29	0.30	0.50			
		HP Low-E4® with Full Divided Light Grilles	0.30	0.30	0.50			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.31			
		HP Low-E4® Sun with Finelight™ Grilles	0.30	0.18	0.28			
		HP Low-E4® Sun with Full Divided Light Grilles	0.31	0.18	0.28			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.22	0.51			
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.20	0.45			
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30	0.20	0.45			
		Patterned (3.9mm) Glass (Non-Tempered and Tempered): All Woodwright® Insert Transom Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)						
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.56			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.31			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.22	0.50			
		400 Series	Woodwright® Insert Picture Window	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Insert Picture Window Sizes up to 15 Square feet and smaller				
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.32	0.55	
HP Low-E4® with Finelight™ Grilles	0.29			0.29	0.49			
HP Low-E4® with Full Divided Light Grilles	0.30			0.29	0.49			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.20	0.31			
HP Low-E4® Sun with Finelight™ Grilles	0.29			0.18	0.27			
HP Low-E4® Sun with Full Divided Light Grilles	0.31			0.18	0.27			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.21	0.50			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28			0.19	0.44			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30			0.19	0.44			
Non-Tempered and Tempered (3.9mm) Glass: All Woodwright® Insert Picture Window Sizes Between 15 Square Feet and 24 Square Feet								
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.32	0.55			
HP Low-E4® with Finelight™ Grilles	0.29			0.29	0.49			
HP Low-E4® with Full Divided Light Grilles	0.30			0.29	0.49			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.19	0.30			
HP Low-E4® Sun with Finelight™ Grilles	0.29			0.18	0.27			
HP Low-E4® Sun with Full Divided Light Grilles	0.30			0.18	0.27			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.21	0.49			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28			0.19	0.44			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29			0.19	0.44			
Non-Tempered and Tempered (4.7mm) Glass: All Woodwright® Insert Picture Window Sizes Between 24 Square Feet and 36 Square Feet								
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.32	0.54			
HP Low-E4® with Finelight™ Grilles	0.28			0.29	0.49			
HP Low-E4® with Full Divided Light Grilles	0.30			0.29	0.49			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.19	0.30			
HP Low-E4® Sun with Finelight™ Grilles	0.29			0.18	0.27			
HP Low-E4® Sun with Full Divided Light Grilles	0.30			0.18	0.27			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.21	0.49			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28			0.19	0.44			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29			0.19	0.44			
Patterned Glass (Non-Tempered and Tempered) Glass: All Woodwright® Insert Picture Window Sizes								
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.32	0.55			
HP Low-E4® with Finelight™ Grilles	0.29			0.29	0.49			
HP Low-E4® with Full Divided Light Grilles	0.30			0.29	0.49			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.19	0.30			
HP Low-E4® Sun with Finelight™ Grilles	0.29			0.18	0.27			
HP Low-E4® Sun with Full Divided Light Grilles	0.30			0.18	0.27			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28			0.21	0.49			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28			0.19	0.44			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.29			0.19	0.44			

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR				
400 Series	Tilt-Wash Double-Hung Window	Non-Tempered (2.2mm) Glass: All Tilt-Wash Double-Hung Window Sizes								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.31	0.54					
		HP Low-E4® with Finelight™ Grilles	0.31	0.28	0.48					
		HP Low-E4® with Full Divided Light Grilles	0.31	0.28	0.48					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.19	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.17	0.26					
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.17	0.26					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.21	0.48					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.19	0.43					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.19	0.43					
		Tempered and Patterned (3.1mm) Glass: All Tilt-Wash Double-Hung Window Sizes								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.31	0.53					
		HP Low-E4® with Finelight™ Grilles	0.32	0.28	0.47					
		HP Low-E4® with Full Divided Light Grilles	0.32	0.28	0.47					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.19	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.17	0.26					
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.17	0.26					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.21	0.48					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31	0.19	0.42					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.19	0.42					
		400 Series	Tilt-Wash Double-Hung Picture Window	Non-Tempered, Tempered and Patterned (3.1mm) Glass: Tilt-Wash Double-Hung Picture Window Sizes: DHP 30310, DHP 3042, DHP 3046, DHP 30410, DHP 3052, DHP 3056, DHP 34310, DHP 3442, DHP 3446, DHP 34410, DHP 3452, DHP 3456, DHP 310310, DHP 31042, DHP 31046, DHP 31052, DHP 42310, DHP 4242						
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.30		0.57		
				HP Low-E4® with Finelight™ Grilles	0.30	0.30		0.51		
				HP Low-E4® with Full Divided Light Grilles	0.32	0.30		0.51		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.20	0.32					
HP Low-E4® Sun with Finelight™ Grilles	0.30			0.18	0.28					
HP Low-E4® Sun with Full Divided Light Grilles	0.32			0.18	0.28					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.22	0.51					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29			0.20	0.46					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31			0.20	0.46					
Non-Tempered, Tempered and Patterned (3.9mm) Glass: Includes Tilt-Wash Double-Hung Picture Window Sizes: DHP10310, DHP1042, DHP1046, DHP10410, DHP1052, DHP1056, DHP10510, DHP1062, DHP30510, DHP3062, DHP34510, DHP3462, DHP310410, DHP31056, DHP31062, DHP4246, DHP42410, DHP4252, DHP4256, DHP42510, DHP4262, DHP410310, DHP41042, DHP41046, DHP410410, DHP41052, DHP56310, DHP5642, DHP5646										
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.33	0.56					
HP Low-E4® with Finelight™ Grilles	0.31			0.30	0.50					
HP Low-E4® with Full Divided Light Grilles	0.32			0.30	0.50					
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.20	0.31					
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.18	0.27					
HP Low-E4® Sun with Full Divided Light Grilles	0.32			0.18	0.27					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.22	0.51					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.20	0.45					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31			0.20	0.45					
Non-Tempered, Tempered and Patterned (4.7mm) Glass: Includes Tilt-Wash Double-Hung Picture Window Sizes: DHP41056, DHP410510, DHP41062, DHP56410, DHP5652, DHP5656, DHP56510, DHP5662										
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.33	0.56					
HP Low-E4® with Finelight™ Grilles	0.31			0.30	0.50					
HP Low-E4® with Full Divided Light Grilles	0.31			0.30	0.50					
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.20	0.31					
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.18	0.27					
HP Low-E4® Sun with Full Divided Light Grilles	0.31			0.18	0.27					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.22	0.50					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.20	0.45					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30			0.20	0.45					
400 Series	Tilt-Wash Transom Window			Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Tilt-Wash Unit Sizes						
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.26	0.32	0.55			
				HP Low-E4® with Finelight™ Grilles	0.26	0.29	0.49			
				HP Low-E4® with Full Divided Light Grilles	0.28	0.29	0.49			
				HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.19	0.31			
				HP Low-E4® Sun with Finelight™ Grilles	0.27	0.18	0.27			
		HP Low-E4® Sun with Full Divided Light Grilles	0.28	0.18	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.26	0.21	0.49					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.26	0.19	0.44					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.27	0.19	0.44					
400 Series	Gliding Window	Non-Tempered (2.2mm) Glass: All Gliding Window Sizes								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.29	0.50					
		HP Low-E4® with Finelight™ Grilles	0.31	0.26	0.44					
		HP Low-E4® with Full Divided Light Grilles	0.32	0.26	0.44					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.18	0.27					
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.17	0.24					
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.17	0.24					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.45					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.18	0.40					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.18	0.40					
		Tempered and Patterned (Non-Tempered and Tempered) (3.1mm) Glass: All Gliding Window Sizes								
		HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.29	0.49					
		HP Low-E4® Tempered with Finelight™ Grilles	0.32	0.26	0.43					
		HP Low-E4® Tempered with Full Divided Light Grilles	0.31	0.26	0.43					
		HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.18	0.27					
		HP Low-E4® Sun Tempered with Finelight™ Grilles	0.33	0.16	0.24					
		HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.32	0.16	0.24					
		HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.44					
		HP Low-E4® SmartSun™ Tempered with Finelight™ Grilles	0.32	0.18	0.39					
		HP Low-E4® SmartSun™ Tempered with Full Divided Light Grilles	0.31	0.18	0.39					

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Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR	
400 Series	Elliptical Window	Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Elliptical Window Sizes					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.34	0.59		
		HP Low-E4 [®] with Finelight™ Grilles	0.29	0.31	0.53		
		HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.53		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.30	0.19	0.29		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.30	0.19	0.29		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.53		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.29	0.20	0.48		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.29	0.20	0.48		
400 Series	Circle Top™ Casement Window	Non-Tempered (2.2mm) Glass: Circle Top™ Casement Window Sizes: CTC1, CTCW1, CTCX1, CTCXW1, CTQC1, CTQCW1, CTQCX1, CTQA3					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.35	0.60		
		HP Low-E4 [®] with Finelight™ Grilles	0.27	0.31	0.54		
		HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.54		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.28	0.19	0.30		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.29	0.19	0.30		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.54		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.27	0.21	0.49		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.49		
		Non-Tempered (3.1mm) Glass: Circle Top™ Casement Window Sizes: CTC2, CTCW2, CTCX2, CTC3					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.60		
		HP Low-E4 [®] with Finelight™ Grilles	0.27	0.31	0.53		
		HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.53		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.28	0.19	0.30		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.29	0.19	0.30		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.54		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.27	0.21	0.48		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.48		
Tempered and Patterned (Including Tempered Patterned) (3.1mm) Glass: All Circle Top™ Casement Window Sizes							
HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.60				
HP Low-E4 [®] with Finelight™ Grilles	0.27	0.31	0.53				
HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.53				
HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33				
HP Low-E4 [®] Sun with Finelight™ Grilles	0.28	0.19	0.30				
HP Low-E4 [®] Sun with Full Divided Light Grilles	0.29	0.19	0.30				
HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.54				
HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.27	0.21	0.48				
HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.48				
400 Series	Circle/Oval Window	Non-Tempered (2.2mm) Glass: Circle/Oval Sizes: CIR20, CIR24, CIR30, OVL1824, OVL2030					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.35	0.60		
		HP Low-E4 [®] with Finelight™ Grilles	0.27	0.31	0.54		
		HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.54		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.28	0.19	0.30		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.29	0.19	0.30		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.54		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.27	0.21	0.49		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.49		
		Non-Tempered (3.1mm) Glass: Circle/Oval Sizes: OVL3048					
		Tempered and Patterned (3.1mm) Glass: All Circle/Oval Window Sizes.					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.34	0.60		
		HP Low-E4 [®] with Finelight™ Grilles	0.27	0.31	0.53		
		HP Low-E4 [®] with Full Divided Light Grilles	0.29	0.31	0.53		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.21	0.33		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.28	0.19	0.30		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.29	0.19	0.30		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.54		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.27	0.21	0.48		
HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.48				
400 Series	Arch Window (Both Standard & Custom Up to 60 Square Feet)	Non-Tempered and Tempered (5.7mm) Glass: All Arch (Both Standard and Custom Arch up to 60 square feet) Window Sizes					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.58		
		HP Low-E4 [®] with Finelight™ Grilles	0.30	0.30	0.52		
		HP Low-E4 [®] with Full Divided Light Grilles	0.30	0.30	0.52		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.31		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.30	0.18	0.28		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.30	0.18	0.28		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.23	0.52		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.29	0.21	0.46		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.29	0.21	0.46		
		Patterned (5.7mm/3.1mm) Glass (Non-Tempered and Tempered): All Arch (Both Standard and Custom Arch up to 60 square feet) Window Sizes					
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.59		
		HP Low-E4 [®] with Finelight™ Grilles	0.30	0.30	0.52		
		HP Low-E4 [®] with Full Divided Light Grilles	0.30	0.30	0.52		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.20	0.31		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.30	0.18	0.28		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.30	0.18	0.28		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.23	0.53		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.29	0.21	0.47		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.29	0.21	0.47		

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR							
400 Series	Flexiframe® Window	Non-Tempered and Tempered (5.7mm) Glass: All Flexiframe® Window Sizes											
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.58	✓	✓	✓	✓				
		HP Low-E4® with Finelight™ Grilles	0.29	0.30	0.52	✓	✓	✓	✓				
		HP Low-E4® with Full Divided Light Grilles	0.29	0.30	0.52	✓	✓	✓	✓				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.20	0.31	✓	✓	✓	✓				
		HP Low-E4® Sun with Finelight™ Grilles	0.29	0.18	0.28	✓	✓	✓	✓				
		HP Low-E4® Sun with Full Divided Light Grilles	0.29	0.18	0.28	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.52	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28	0.21	0.46	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.46	✓	✓	✓	✓				
		Patterned (Non-Tempered and Tempered) (5.7mm/3.1mm) Glass: All Flexiframe® Window Sizes											
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.33	0.58	✓	✓	✓	✓				
		HP Low-E4® with Finelight™ Grilles	0.29	0.30	0.52	✓	✓	✓	✓				
		HP Low-E4® with Full Divided Light Grilles	0.29	0.30	0.52	✓	✓	✓	✓				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.28	0.20	0.31	✓	✓	✓	✓				
		HP Low-E4® Sun with Finelight™ Grilles	0.29	0.18	0.28	✓	✓	✓	✓				
		HP Low-E4® Sun with Full Divided Light Grilles	0.30	0.18	0.28	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.27	0.23	0.53	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.28	0.21	0.47	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.28	0.21	0.47	✓	✓	✓	✓				
		400 Series	Springline™, Springline™ Flanker and Enhancement Windows (Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon)	Non-Tempered and Tempered (5.7mm) Glass: All Springline™, Springline™ Flanker and Enhancement Window Sizes Including Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon									
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.58	✓	✓	✓	✓		
				HP Low-E4® with Finelight™ Grilles	0.32	0.30	0.52	✓	✓	✓	✓		
				HP Low-E4® with Full Divided Light Grilles	0.32	0.30	0.52	✓	✓	✓	✓		
				HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.20	0.31	✓	✓	✓	✓		
				HP Low-E4® Sun with Finelight™ Grilles	0.33	0.18	0.28	✓	✓	✓	✓		
				HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.18	0.28	✓	✓	✓	✓		
				HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.52	✓	✓	✓	✓		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32			0.21	0.46	✓	✓	✓	✓				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.21	0.46	✓	✓	✓	✓				
Patterned (Non-Tempered and Tempered) (5.7mm/3.1mm) Glass: All Springline™, Springline™ Flanker and Enhancement Window Sizes Including Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon													
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.34	0.59	✓	✓	✓	✓				
HP Low-E4® with Finelight™ Grilles	0.32			0.30	0.52	✓	✓	✓	✓				
HP Low-E4® with Full Divided Light Grilles	0.33			0.30	0.52	✓	✓	✓	✓				
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.20	0.31	✓	✓	✓	✓				
HP Low-E4® Sun with Finelight™ Grilles	0.33			0.19	0.28	✓	✓	✓	✓				
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.19	0.28	✓	✓	✓	✓				
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.23	0.53	✓	✓	✓	✓				
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32			0.21	0.47	✓	✓	✓	✓				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.21	0.47	✓	✓	✓	✓				
400 Series	Skylight			Tempered and Laminated Glass: All Skylight Sizes									
				HP Low-E4® Tempered	0.52	0.39	0.68	✓	✓	✓	✓		
				HP Low-E4® Tempered Lami.	0.52	0.38	0.66	✓	✓	✓	✓		
				HP Low-E4® Sun Tempered	0.53	0.24	0.38	✓	✓	✓	✓		
				HP Low-E4® Sun Tempered Lami.	0.53	0.24	0.37	✓	✓	✓	✓		
				HP Low-E4® SmartSun™ Tempered	0.52	0.26	0.61	✓	✓	✓	✓		
				HP Low-E4® SmartSun™ Tempered Lami.	0.52	0.26	0.59	✓	✓	✓	✓		
				400 Series	Venting Roof Window	Tempered and Laminated Glass: All Venting Roof Window Sizes							
HP Low-E4® Tempered	0.50	0.36	0.62			✓	✓	✓	✓				
HP Low-E4® Tempered Lami.	0.50	0.36	0.60			✓	✓	✓	✓				
HP Low-E4® Sun Tempered	0.50	0.23	0.34			✓	✓	✓	✓				
HP Low-E4® Sun Tempered Lami.	0.50	0.22	0.33			✓	✓	✓	✓				
HP Low-E4® SmartSun™ Tempered	0.49	0.24	0.56			✓	✓	✓	✓				
400 Series	Stationary Roof Window	Tempered and Laminated Glass: All Stationary Roof Window Sizes											
		HP Low-E4® Tempered	0.50	0.37	0.63	✓	✓	✓	✓				
		HP Low-E4® Tempered Lami.	0.50	0.36	0.62	✓	✓	✓	✓				
		HP Low-E4® Sun Tempered	0.50	0.23	0.35	✓	✓	✓	✓				
		HP Low-E4® Sun Tempered Lami.	0.50	0.23	0.34	✓	✓	✓	✓				
		HP Low-E4® SmartSun™ Tempered	0.49	0.25	0.57	✓	✓	✓	✓				
HP Low-E4® SmartSun™ Tempered Lami.	0.49	0.24	0.56	✓	✓	✓	✓						

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
400 Series	Frenchwood® Gliding Patio Door	Tempered (3.1mm) Glass (Including Patterned): All Frenchwood® Gliding Patio Door Sizes (Except Sizes Listed Below for Tempered (3.9mm) Glass)							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.27	0.45				
		HP Low-E4® with Finelight™ Grilles	0.32	0.23	0.39				
		HP Low-E4® with Full Divided Light Grilles	0.31	0.23	0.39				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.16	0.25				
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.14	0.22				
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.14	0.22				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.18	0.41				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31	0.16	0.35				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.16	0.35				
		Tempered (Including Patterned) (3.9mm) Glass : Frenchwood® Gliding Patio Door Sizes FWG4368, FWG8068, FWG16068, FWG43611, FWG80611, FWG160611, FWG4380, FWG8080, FWG16080							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.26	0.45				
		HP Low-E4® with Finelight™ Grilles	0.32	0.23	0.38				
		HP Low-E4® with Full Divided Light Grilles	0.31	0.23	0.38				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.16	0.24				
		HP Low-E4® Sun with Finelight™ Grilles	0.33	0.14	0.21				
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.14	0.21				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.18	0.40				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32	0.16	0.35				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.16	0.35				
		400 Series	Frenchwood® Hinged Patio Door-Inswing	Tempered (Including Patterned) (3.1mm) Glass: All Frenchwood® Hinged Patio Door-Inswing Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.24		0.41	
				HP Low-E4® with Finelight™ Grilles	0.32	0.21		0.35	
				HP Low-E4® with Full Divided Light Grilles	0.31	0.21		0.35	
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.15	0.23				
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.13	0.19				
HP Low-E4® Sun with Full Divided Light Grilles	0.32			0.13	0.19				
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.16	0.37				
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.14	0.31				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31			0.14	0.31				
400 Series	Frenchwood® Hinged Patio Door-Outswing	Tempered (Including Patterned) (3.1mm) Glass: All Frenchwood® Hinged Patio Door-Outswing Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.25	0.41				
		HP Low-E4® with Finelight™ Grilles	0.32	0.21	0.35				
		HP Low-E4® with Full Divided Light Grilles	0.32	0.21	0.35				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.15	0.23				
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.13	0.19				
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.13	0.19				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.17	0.37				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32	0.15	0.31				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.15	0.31				
400 Series	Frenchwood® Patio Door Sidelight	Tempered (3.1mm) Glass (Including Patterned): All Frenchwood® Patio Door Sidelight Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.37				
		HP Low-E4® with Finelight™ Grilles	0.32	0.20	0.33				
		HP Low-E4® with Full Divided Light Grilles	0.32	0.20	0.33				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.14	0.21				
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.13	0.18				
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.13	0.18				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.15	0.33				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32	0.14	0.29				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.14	0.29				
400 Series	Frenchwood® Patio Door Transom	Non-Tempered and Tempered (3.1mm) Glass (Including Patterned): All Frenchwood® Patio Door Transom Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.24	0.40				
		HP Low-E4® with Finelight™ Grilles	0.30	0.21	0.35				
		HP Low-E4® with Full Divided Light Grilles	0.30	0.21	0.35				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.15	0.22				
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.13	0.20				
		HP Low-E4® Sun with Full Divided Light Grilles	0.31	0.13	0.20				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29	0.16	0.36				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.14	0.32				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.30	0.14	0.32				

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type Grilles = Finelight™ or Full Divided Light	U-Factor ¹	SHGC ²	VT ³		
Architectural	Casement Window	Non-Tempered and Tempered (3.1mm) Glass: Casement Window Unit Sizes < 17 sq/ft (approx.)					
		HP Low-E4®	0.32	0.28	0.47	✓	✓
		HP Low-E4® with Grilles	0.32	0.25	0.42	✓	✓
		HP Low-E4® Sun	0.32	0.17	0.26	✓	✓
		HP Low-E4® Sun with Grilles	0.32	0.16	0.23	✓	✓
		HP Low-E4® SmartSun™	0.31	0.18	0.42	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.17	0.38	✓	✓
		Non-Tempered and Tempered (3.9mm) Glass: Casement Window Unit Sizes > 17 sq/ft (approx.)					
		HP Low-E4®	0.32	0.28	0.47	✓	✓
		HP Low-E4® with Grilles	0.32	0.25	0.42	✓	✓
		HP Low-E4® Sun	0.32	0.17	0.26	✓	✓
		HP Low-E4® Sun with Grilles	0.32	0.16	0.23	✓	✓
		HP Low-E4® SmartSun™	0.31	0.18	0.42	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.17	0.38	✓	✓
Architectural	French Casement Window	Non-Tempered and Tempered (3.1mm) Glass: All French Casement Window Unit Sizes					
		HP Low-E4®	0.32	0.28	0.47	✓	✓
		HP Low-E4® with Grilles	0.32	0.25	0.42	✓	✓
		HP Low-E4® Sun	0.32	0.17	0.26	✓	✓
		HP Low-E4® Sun with Grilles	0.32	0.16	0.23	✓	✓
		HP Low-E4® SmartSun™	0.31	0.18	0.42	✓	✓
Architectural	Awning Window	Non-Tempered and Tempered (3.1mm) Glass: Awning Window Unit Sizes < 17 sq/ft (approx.)					
		HP Low-E4®	0.32	0.28	0.47	✓	✓
		HP Low-E4® with Grilles	0.32	0.25	0.42	✓	✓
		HP Low-E4® Sun	0.32	0.17	0.26	✓	✓
		HP Low-E4® Sun with Grilles	0.32	0.16	0.23	✓	✓
		HP Low-E4® SmartSun™	0.31	0.18	0.42	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.17	0.38	✓	✓
		Non-Tempered and Tempered (3.9mm) Glass: Awning Window Unit sizes > 17 sq/ft (approx.)					
		HP Low-E4®	0.32	0.28	0.47	✓	✓
		HP Low-E4® with Grilles	0.32	0.25	0.42	✓	✓
		HP Low-E4® Sun	0.32	0.17	0.26	✓	✓
		HP Low-E4® Sun with Grilles	0.32	0.16	0.23	✓	✓
		HP Low-E4® SmartSun™	0.31	0.18	0.42	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.17	0.38	✓	✓
Architectural	Casement/Awning Picture Window	Non-Tempered and Tempered (3.1mm) Glass: Casement/Awning Picture Window Unit sizes < 17 sq/ft (approx.)					
		HP Low-E4®	0.31	0.32	0.55	✓	✓
		HP Low-E4® with Grilles	0.31	0.29	0.49	✓	✓
		HP Low-E4® Sun	0.31	0.20	0.31	✓	✓
		HP Low-E4® Sun with Grilles	0.31	0.18	0.28	✓	✓
		HP Low-E4® SmartSun™	0.31	0.21	0.50	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.19	0.44	✓	✓
		Non-Tempered and Tempered (3.9mm) Glass: Casement/Awning Picture Window Unit Sizes > 17 sq/ft (approx.)					
		HP Low-E4®	0.31	0.32	0.55	✓	✓
		HP Low-E4® with Grilles	0.31	0.29	0.49	✓	✓
		HP Low-E4® Sun	0.31	0.20	0.31	✓	✓
		HP Low-E4® Sun with Grilles	0.31	0.18	0.28	✓	✓
		HP Low-E4® SmartSun™	0.31	0.21	0.50	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.19	0.44	✓	✓
		Non-Tempered and Tempered (4.7mm) Glass: Casement/Awning Picture Window Unit Sizes > 30 sq/ft (approx.)					
		HP Low-E4®	0.31	0.31	0.54	✓	✓
		HP Low-E4® with Grilles	0.31	0.28	0.48	✓	✓
		HP Low-E4® Sun	0.31	0.19	0.29	✓	✓
		HP Low-E4® Sun with Grilles	0.31	0.17	0.26	✓	✓
		HP Low-E4® SmartSun™	0.31	0.21	0.49	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.19	0.44	✓	✓
		Non-Tempered and Tempered (5.7mm) Glass: Casement/Awning Picture Window Unit Sizes > 45 sq/ft (approx.)					
		HP Low-E4®	0.31	0.31	0.54	✓	✓
		HP Low-E4® with Grilles	0.31	0.28	0.48	✓	✓
		HP Low-E4® Sun	0.31	0.19	0.29	✓	✓
		HP Low-E4® Sun with Grilles	0.31	0.17	0.26	✓	✓
		HP Low-E4® SmartSun™	0.31	0.21	0.48	✓	✓
		HP Low-E4® SmartSun™ w/Grilles	0.31	0.19	0.43	✓	✓

Product Performance and ENERGY STAR® qualification for products.
 (See separate product listing for coastal products or products used in high altitude regions)

Andersen® Product Line	Product Type	Glass Type Grilles = Finelight™ or Full Divided Light	U-Factor ¹	SHGC ²	VT ³			
Architectural	Specialty Window	Non-Tempered and Tempered (3.1mm) Glass: Specialty Window Unit Sizes < 17 sq/ft (approx.)						
		HP Low-E4®	0.30	0.37	0.64	✓		
		HP Low-E4® with Grilles	0.30	0.33	0.57	✓		
		HP Low-E4® Sun	0.31	0.22	0.36	✓		
		HP Low-E4® Sun with Grilles	0.31	0.20	0.32	✓		
		HP Low-E4® SmartSun™	0.30	0.24	0.58	✓		
		HP Low-E4® SmartSun™ w/Grilles	0.30	0.22	0.52	✓		
		Non-Tempered and Tempered (3.9mm) Glass: Specialty Window Unit Sizes > 17 sq/ft (approx.)						
		HP Low-E4®	0.30	0.37	0.64	✓		
		HP Low-E4® with Grilles	0.30	0.33	0.57	✓		
		HP Low-E4® Sun	0.31	0.22	0.36	✓		
		HP Low-E4® Sun with Grilles	0.31	0.20	0.32	✓		
		HP Low-E4® SmartSun™	0.30	0.24	0.57	✓		
		HP Low-E4® SmartSun™ w/Grilles	0.30	0.22	0.51	✓		
		Non-Tempered and Tempered (4.7mm) Glass: Specialty Window Unit Sizes > 30 sq/ft (approx.)						
		HP Low-E4®	0.30	0.36	0.62	✓		
		HP Low-E4® with Grilles	0.30	0.32	0.56	✓		
		HP Low-E4® Sun	0.31	0.22	0.33	✓		
		HP Low-E4® Sun with Grilles	0.31	0.20	0.30	✓		
		HP Low-E4® SmartSun™	0.30	0.24	0.57	✓		
		HP Low-E4® SmartSun™ w/Grilles	0.30	0.22	0.51	✓		
		Non-Tempered and Tempered (5.7mm) Glass: Specialty Window Unit Sizes > 45 sq/ft (approx.)						
		HP Low-E4®	0.30	0.36	0.62	✓		
		HP Low-E4® with Grilles	0.30	0.32	0.56	✓		
		HP Low-E4® Sun	0.31	0.22	0.33	✓		
		HP Low-E4® Sun with Grilles	0.31	0.20	0.30	✓		
		HP Low-E4® SmartSun™	0.30	0.24	0.56	✓		
		HP Low-E4® SmartSun™ w/Grilles	0.30	0.22	0.50	✓		
		Architectural	Hinged French Door-Inswing	Tempered (3.1mm) Glass: All Hinged French Door-Inswing Unit Sizes				
				HP Low-E4®	0.32	0.22	0.37	✓
				HP Low-E4® with Grilles	0.33	0.20	0.33	✓
				HP Low-E4® Sun	0.33	0.14	0.21	✓
				HP Low-E4® Sun with Grilles	0.34	0.13	0.18	✓
				HP Low-E4® SmartSun™	0.32	0.15	0.33	✓
		Architectural	Hinged French Door-Outswing	Tempered (3.1mm) Glass: All Hinged French Door-Outswing Unit Sizes				
				HP Low-E4®	0.32	0.22	0.37	✓
HP Low-E4® with Grilles	0.33			0.20	0.33	✓		
HP Low-E4® Sun	0.32			0.14	0.21	✓		
HP Low-E4® Sun with Grilles	0.33			0.13	0.18	✓		
HP Low-E4® SmartSun™	0.32			0.15	0.33	✓		
Architectural	Fixed French Inswing Door & Sidelight	Tempered (3.1mm) Glass: All Fixed French Inswing Door & Sidelight Unit Sizes						
		HP Low-E4®	0.35	0.15	0.24	✓		
		HP Low-E4® with Grilles	0.35	0.16	0.25	✓		
		HP Low-E4® Sun	0.35	0.10	0.14	✓		
		HP Low-E4® Sun with Grilles	0.35	0.10	0.14	✓		
		HP Low-E4® SmartSun™	0.35	0.11	0.22	✓		
Architectural	Fixed French Outswing Door & Sidelight	Tempered (3.1mm) Glass: All Fixed French Outswing Door & Sidelight Unit Sizes						
		HP Low-E4®	0.34	0.15	0.18	✓		
		HP Low-E4® with Grilles	0.34	0.16	0.25	✓		
		HP Low-E4® Sun	0.34	0.10	0.14	✓		
		HP Low-E4® Sun with Grilles	0.34	0.10	0.14	✓		
		HP Low-E4® SmartSun™	0.34	0.10	0.22	✓		
Architectural	Commercial Outswing Door	Tempered (3.1mm) Glass: All Commercial Outswing Door Unit Sizes						
		HP Low-E4®	0.32	0.22	0.37	✓		
		HP Low-E4® with Grilles	0.33	0.20	0.33	✓		
		HP Low-E4® Sun	0.32	0.14	0.21	✓		
		HP Low-E4® Sun with Grilles	0.33	0.13	0.18	✓		
		HP Low-E4® SmartSun™	0.32	0.15	0.33	✓		
HP Low-E4® SmartSun™ w/Grilles	0.35	0.14	0.30	✓				

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	
200 Series	Casement Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Casement Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1 mm) Glass)				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.60	0.62	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.45	0.54	0.57	- - - -
		Non-Tempered and Patterned (3.1mm) Glass: Casement Window Sizes CX16, CXW15, CXW25, CXW155, CXW16				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.62	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.46	0.53	0.56	- - - -
		Tempered (3.1mm) Glass: All Casement Window Sizes				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.62	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.56	- - - -
		200 Series	Awning Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Awning Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)		
Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45			0.59	0.61	- - - -
Clear Dual Pane with Finelight™ Grilles	0.45			0.53	0.55	- - - -
Non-Tempered and Patterned (3.1mm) Glass: Awning Window Sizes AX61, AXW51, AXW551, AXW61, AP32V, AP352V, AP42V						
Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46			0.57	0.60	- - - -
Clear Dual Pane with Finelight™ Grilles	0.46			0.52	0.55	- - - -
All Tempered (3.1mm) Glass: All Awning Window Sizes						
Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46			0.57	0.60	- - - -
Clear Dual Pane Tempered with Finelight™ Grilles	0.46			0.52	0.55	- - - -
200 Series	Tilt-Wash Double-Hung Window with Capillary Breather Tubes			Non-Tempered (2.2mm) Glass: All Tilt-Wash Double-Hung Window Sizes		
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.60	0.63	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.56	- - - -
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.55	■ ■ ■ ■
		Low-E with Finelight™ Grilles	0.33	0.29	0.49	■ ■ ■ ■
		Tempered and Patterned (3.0mm) Glass: All Tilt-Wash Double-Hung Window Sizes				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.59	0.62	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.48	0.53	0.55	- - - -
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.32	0.54	■ ■ ■ ■
		Low-E Tempered with Finelight™ Grilles	0.36	0.29	0.48	■ ■ ■ ■
200 Series	Narroline® Double-Hung Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Narroline® Double-Hung Window Sizes				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.61	0.64	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.57	- - - -
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.32	0.56	■ ■ ■ ■
		Low-E with Finelight™ Grilles	0.34	0.29	0.50	■ ■ ■ ■
		Tempered and Patterned (3.1mm) Glass: All Narroline® Double-Hung Window Sizes				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.60	0.63	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.48	0.53	0.56	- - - -
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.32	0.55	■ ■ ■ ■
		Low-E Tempered with Finelight™ Grilles	0.36	0.29	0.49	■ ■ ■ ■
200 Series	Narroline® Transom Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Narroline® Transom Window Sizes				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.63	0.66	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.46	0.57	0.59	- - - -
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.34	0.58	■ ■ ■ ■
		Low-E with Finelight™ Grilles	0.32	0.31	0.52	■ ■ ■ ■
		Tempered and Patterned (3.1mm) Glass: All Narroline® Transom Window Sizes				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.62	0.65	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.47	0.56	0.58	- - - -
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.34	0.57	■ ■ ■ ■
		Low-E Tempered with Finelight™ Grilles	0.34	0.30	0.51	■ ■ ■ ■
200 Series	Narroline® Circle Top Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Narroline® Circle Top Window Sizes				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.65	0.68	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.45	0.58	0.61	- - - -
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.34	0.59	■ ■ ■ ■
		Low-E with Finelight™ Grilles	0.31	0.31	0.53	■ ■ ■ ■
		Tempered and Patterned (3.1mm) Glass: All Narroline® Circle Top Window Sizes				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.63	0.67	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.45	0.57	0.60	- - - -
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.34	0.59	■ ■ ■ ■
		Low-E Tempered with Finelight™ Grilles	0.31	0.31	0.52	■ ■ ■ ■
200 Series	Gliding Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Gliding Window Sizes				
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.47	0.60	0.63	- - - -
		Clear Dual Pane with Finelight™ Grilles	0.47	0.54	0.56	- - - -
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.32	0.55	■ ■ ■ ■
		Low-E with Finelight™ Grilles	0.34	0.29	0.49	■ ■ ■ ■
		Tempered and Patterned (3.1mm) Glass: All Gliding Window Sizes				
		Clear Dual Pane Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.48	0.59	0.62	- - - -
		Clear Dual Pane Tempered with Finelight™ Grilles	0.49	0.53	0.55	- - - -
		Low-E Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.32	0.54	■ ■ ■ ■
		Low-E Tempered with Finelight™ Grilles	0.36	0.29	0.48	■ ■ ■ ■

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Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
200 Series	Fixed, Transom, Circle Top™ Window with Capillary Breather Tubes	Non-Tempered (3.1mm) Glass: Fixed Window Sizes: FX3030, FX3040/4030, FX3046/4630, FX3049/4930, FX3050/5030, FX3056/5630, FX3060/6030, FX4040, FX4046/4640, FX4049/4940, FX4050/5040, FX4056/5640, FX4646, FX4649/4946, FX4650/5046, FX 4949, FX4950/5049							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.33	0.56	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.32	0.30	0.50	■ ■ ■ ■ ■			
		Tempered and Patterned (3.1mm) Glass: Fixed Window Sizes: FX3030, FX3040/4030, FX3046/4630, FX3049/4930, FX3050/5030, FX3056/5630, FX3060/6030							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.33	0.56	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.32	0.30	0.50	■ ■ ■ ■ ■			
		Non-Tempered (3.9mm) Glass: Fixed Window Sizes: FX4060/6040, FX4656/5646, FX4660/6046, FX4956/5649, FX4960/6049, FX5050, FX5056/5650, FX5060/6050							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.59	0.64	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.57	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.56	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.33	0.29	0.50	■ ■ ■ ■ ■			
		Tempered and Patterned (3.9mm) Glass: Fixed Window Sizes: FX4040, FX4046/4640, FX4049/4940, FX4050/5040, FX4056/5640, FX4060/6040, FX4646, FX4649/4946, FX4650/5046, FX4656/5646, FX4660/6046, FX4949, FX4950/5049, FX4956/5649, FX4960/6049, FX5050, FX5056/5650, FX5060/6050							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.59	0.64	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.46	0.53	0.57	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.56	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.33	0.29	0.50	■ ■ ■ ■ ■			
		Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Transom Window Sizes All Circle Top™ Window Sizes							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.65	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.45	0.55	0.58	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.33	0.56	■ ■ ■ ■ ■			
Low-E with Finelight™ Grilles	0.32	0.30	0.50	■ ■ ■ ■ ■					
200 Series	Narroline® Gliding Patio Door with Capillary Breather Tubes	Tempered and Patterned (3.1mm) Glass: All Narroline® Gliding Patio Door Sizes (Except Sizes Listed Below for Tempered (3.9mm) Glass)							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.61	0.64	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.47	0.53	0.56	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.33	0.56	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.34	0.29	0.49	■ ■ ■ ■ ■			
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.31	■ ■ ■ ■ ■			
		Low-E Sun with Finelight™ Grilles	0.35	0.18	0.27	■ ■ ■ ■ ■			
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.22	0.50	■ ■ ■ ■ ■			
		Low-E SmartSun™ with Finelight™ Grilles	0.34	0.19	0.44	■ ■ ■ ■ ■			
		Tempered (3.9mm) Glass for the Following Narroline® Gliding Patio Door Sizes: NLGD2980, NLGD3380, NLGD4380, NLGD5080, NLGD6080, NLGD8080, NLGD10080, NLGD12080, NLGD16080							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.46	0.59	0.63	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.47	0.52	0.55	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.32	0.55	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.34	0.29	0.48	■ ■ ■ ■ ■			
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.30	■ ■ ■ ■ ■			
		Low-E Sun with Finelight™ Grilles	0.35	0.18	0.26	■ ■ ■ ■ ■			
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.22	0.50	■ ■ ■ ■ ■			
		Low-E SmartSun™ with Finelight™ Grilles	0.34	0.20	0.44	■ ■ ■ ■ ■			
		200 Series	Perma-Shield® Gliding Patio Door with Capillary Breather Tubes	Tempered and Patterned (3.1mm) Glass: All Perma-Shield® Gliding Patio Door Sizes					
				Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.45	0.61	0.64	- - - -	
				Clear Dual Pane with Finelight™ Grilles	0.45	0.54	0.56	- - - -	
				Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.33	0.56	■ ■ ■ ■ ■	
				Low-E with Finelight™ Grilles	0.32	0.29	0.49	■ ■ ■ ■ ■	
				Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.20	0.31	■ ■ ■ ■ ■	
Low-E Sun with Finelight™ Grilles	0.32			0.18	0.27	■ ■ ■ ■ ■			
Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.22	0.51	■ ■ ■ ■ ■			
Low-E SmartSun™ with Finelight™ Grilles	0.32			0.19	0.44	■ ■ ■ ■ ■			
200 Series	Hinged Patio Door with Capillary Breather Tubes	Tempered and Patterned (3.1mm) Glass: All Hinged Patio Door Sizes							
		Clear Dual Pane (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.44	0.45	0.47	- - - -			
		Clear Dual Pane with Finelight™ Grilles	0.45	0.39	0.40	- - - -			
		Low-E (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.24	0.41	■ ■ ■ ■ ■			
		Low-E with Finelight™ Grilles	0.36	0.21	0.35	■ ■ ■ ■ ■			
		Low-E Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.15	0.23	■ ■ ■ ■ ■			
		Low-E Sun with Finelight™ Grilles	0.36	0.14	0.19	■ ■ ■ ■ ■			
		Low-E SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.17	0.37	■ ■ ■ ■ ■			
Low-E SmartSun™ with Finelight™ Grilles	0.36	0.15	0.31	■ ■ ■ ■ ■					

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR				
400 Series	Casement Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Casement Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.32	0.54					
		HP Low-E4® with Finelight™ Grilles	0.32	0.29	0.49					
		HP Low-E4® with Full Divided Light Grilles	0.33	0.29	0.49					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.20	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.32	0.19	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.19	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.21	0.49					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31	0.20	0.45					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.20	0.45					
		Non-Tempered and Patterned (3.1mm) Glass: Casement Window Sizes CX16, CXW15, CXW25, CXW155, CXW16								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.54					
		HP Low-E4® with Finelight™ Grilles	0.34	0.29	0.49					
		HP Low-E4® with Full Divided Light Grilles	0.34	0.29	0.49					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.20	0.30					
		HP Low-E4® Sun with Finelight™ Grilles	0.34	0.19	0.27					
		HP Low-E4® Sun with Full Divided Light Grilles	0.34	0.19	0.27					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.48					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34	0.20	0.44					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.20	0.44					
		Tempered (Including Tempered Patterned) (3.1mm) Glass: All Casement Window Sizes								
		HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.32	0.54					
		HP Low-E4® Tempered with Finelight™ Grilles	0.34	0.29	0.49					
		HP Low-E4® Tempered with Full Divided Light Grilles	0.34	0.29	0.49					
		HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.20	0.30					
		HP Low-E4® Sun Tempered with Finelight™ Grilles	0.35	0.19	0.27					
		HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.34	0.19	0.27					
		HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.48					
		HP Low-E4® SmartSun™ Tempered Finelight™ Grilles	0.34	0.20	0.44					
		HP Low-E4® SmartSun™ Tempered Full Divided Light Grilles	0.34	0.20	0.44					
		400 Series	Awning Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Awning Window Sizes (Except Sizes Listed Below for Non-Tempered and Patterned (3.1mm) Glass)						
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.31		0.53		
				HP Low-E4® with Finelight™ Grilles	0.32	0.29		0.49		
				HP Low-E4® with Full Divided Light Grilles	0.33	0.29		0.49		
				HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.20		0.30		
				HP Low-E4® Sun with Finelight™ Grilles	0.32	0.18		0.27		
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.18	0.27					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.21	0.48					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.19	0.44					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.19	0.44					
Non-Tempered and Patterned (3.1mm) Glass: Awning Window Sizes AX61, AXW51, AXW551, AXW61, AP32V, AP352V, AP42V										
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.31	0.53					
HP Low-E4® with Finelight™ Grilles	0.34			0.29	0.48					
HP Low-E4® with Full Divided Light Grilles	0.34			0.29	0.48					
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34			0.20	0.29					
HP Low-E4® Sun with Finelight™ Grilles	0.34			0.18	0.27					
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.18	0.27					
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.21	0.48					
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34			0.19	0.43					
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.33			0.19	0.43					
All Tempered (3.1mm) Glass: All Awning Window Sizes										
HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.31	0.53					
HP Low-E4® Tempered with Finelight™ Grilles	0.34			0.29	0.48					
HP Low-E4® Tempered with Full Divided Light Grilles	0.34			0.29	0.48					
HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34			0.20	0.29					
HP Low-E4® Sun Tempered with Finelight™ Grilles	0.34			0.18	0.27					
HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.34			0.18	0.27					
HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.21	0.48					
HP Low-E4® SmartSun™ Tempered Finelight™ Grilles	0.34			0.19	0.43					
HP Low-E4® SmartSun™ Tempered Full Divided Light Grilles	0.33			0.19	0.43					
400 Series	Casement/Awning Picture and Casement One Foot Transom Window with Capillary Breather Tubes			Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Casement One Foot Transom (CTR and PTR) Windows						
				All Casement/Awning Picture Window Sizes (Except Sizes Listed Below for (3.9mm) Glass)						
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.35	0.60			
				HP Low-E4® with Finelight™ Grilles	0.31	0.31	0.53			
				HP Low-E4® with Full Divided Light Grilles	0.32	0.31	0.53			
				HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.33			
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.20	0.30					
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.20	0.30					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.54					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.48					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.48					
		Non-Tempered, Tempered and Patterned (3.9mm) Glass: Casement/Awning Picture Window Sizes: P4060/6040, P4555/5545, P4560/6045, P5050, P5055/5550, P5060/6050.								
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.34	0.59					
		HP Low-E4® with Finelight™ Grilles	0.30	0.31	0.53					
		HP Low-E4® with Full Divided Light Grilles	0.32	0.31	0.53					
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.21	0.32					
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.19	0.29					
		HP Low-E4® Sun with Full Divided Light Grilles	0.32	0.19	0.29					
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.53					
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.48					
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.21	0.48					

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Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR						
400 Series	Woodwright® Full-Frame Double-Hung Window (Rectangle Shapes Only) with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: All Rectangular Woodwright® Full-Frame Double-Hung Window Sizes (Except for Patterned (3.9mm) Glass Listed Below)										
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.31	0.53	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® with Finelight™ Grilles	0.33	0.28	0.47	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® with Full Divided Light Grilles	0.35	0.28	0.47	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.19	0.29	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun with Finelight™ Grilles	0.34	0.17	0.26	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun with Full Divided Light Grilles	0.36	0.17	0.26	-	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.47	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.33	0.19	0.42	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.19	0.42	Blue	Yellow	Yellow	Yellow	Red		
		Patterned (Non-Tempered and Tempered) (3.9mm) Glass: All Rectangular Woodwright® Full-Frame Double-Hung Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)										
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.31	0.52	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.19	0.29	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.21	0.47	Blue	Yellow	Yellow	Yellow	Red		
		400 Series	Woodwright® Full-Frame Picture Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1 mm) Glass: All Woodwright® Full-Frame Picture Window Sizes up to 15 Square Feet								
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.32	0.55	Blue	Yellow	Yellow	Yellow	Red
				HP Low-E4® with Finelight™ Grilles	0.31	0.29	0.49	Blue	Yellow	Yellow	Yellow	Red
				HP Low-E4® with Full Divided Light Grilles	0.33	0.29	0.49	Blue	Yellow	Yellow	Yellow	Red
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.20	0.31	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Finelight™ Grilles	0.31			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.21	0.50	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30			0.19	0.44	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.19	0.44	Blue	Yellow	Yellow	Yellow	Red		
Non-Tempered and Tempered (3.9 mm) Glass: All Woodwright® Full-Frame Picture Window Sizes between 15 Square Feet and 24 Square Feet												
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.32	0.55	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Finelight™ Grilles	0.31			0.29	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Full Divided Light Grilles	0.33			0.29	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.20	0.31	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Finelight™ Grilles	0.31			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.22	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30			0.20	0.44	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.20	0.44	Blue	Yellow	Yellow	Yellow	Red		
Non-Tempered and Tempered (4.7 mm) Glass: All Woodwright® Full-Frame Picture Window Sizes Between 24 Square Feet and 36 Square Feet												
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.32	0.54	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Finelight™ Grilles	0.31			0.29	0.48	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Full Divided Light Grilles	0.33			0.29	0.48	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.20	0.30	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Finelight™ Grilles	0.31			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.22	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30			0.20	0.43	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.20	0.43	Blue	Yellow	Yellow	Yellow	Red		
Patterned (Non-Tempered and Tempered) (3.9 mm) Glass: All Woodwright® Full-Frame Picture Window Sizes												
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.32	0.55	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Finelight™ Grilles	0.31			0.29	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® with Full Divided Light Grilles	0.33			0.29	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.20	0.31	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Finelight™ Grilles	0.31			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® Sun with Full Divided Light Grilles	0.33			0.18	0.27	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.22	0.49	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30			0.20	0.44	Blue	Yellow	Yellow	Yellow	Red		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32			0.20	0.44	Blue	Yellow	Yellow	Yellow	Red		
400 Series	Woodwright® Full-Frame Transom Window with Capillary Breather Tubes			Non-Tempered and Tempered (3.1 mm) Glass: All Woodwright® Full-Frame Transom Window Sizes								
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.57	Blue	Yellow	Yellow	Yellow	Red
		HP Low-E4® with Finelight™ Grilles	0.31	0.30	0.51	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® with Full Divided Light Grilles	0.33	0.30	0.51	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.21	0.32	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.19	0.29	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.19	0.29	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.52	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31	0.20	0.46	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.20	0.46	Blue	Yellow	Yellow	Yellow	Red		
		Patterned (Non-Tempered and Tempered) (3.9 mm) Glass: All Woodwright® Full-Frame Transom Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)										
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.33	0.57	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.21	0.32	Blue	Yellow	Yellow	Yellow	Red		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.51	Blue	Yellow	Yellow	Yellow	Red		

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
400 Series	Woodwright® Insert Double-Hung Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1 mm) Glass: All Woodwright® Insert Double-Hung Window Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.31	0.53	✓			
		HP Low-E4® with Finelight™ Grilles	0.33	0.28	0.47	✓			
		HP Low-E4® with Full Divided Light Grilles	0.35	0.28	0.47	✓			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.20	0.30	✓			
		HP Low-E4® Sun with Finelight™ Grilles	0.34	0.18	0.26	✓			
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.18	0.26	✓			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.48	✓			
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.33	0.19	0.43	✓			
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.19	0.43	✓			
		Patterned (Non-Tempered and Tempered) (3.9mm) Glass: All Woodwright® Insert Double-Hung Window Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.31	0.53	✓			
		HP Low-E4® with Finelight™ Grilles	0.36	0.28	0.47	-			
		HP Low-E4® with Full Divided Light Grilles	0.36	0.28	0.47	-			
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.20	0.29	✓			
		HP Low-E4® Sun with Finelight™ Grilles	0.36	0.18	0.26	-			
		HP Low-E4® Sun with Full Divided Light Grilles	0.36	0.18	0.26	-			
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.21	0.48	✓			
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.36	0.19	0.42	-			
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.35	0.19	0.42	✓			
		400 Series	Woodwright® Insert Picture Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Insert Picture Window Sizes up to 15 Square feet and smaller					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.32	0.55	✓	
				HP Low-E4® with Finelight™ Grilles	0.32	0.29	0.49	✓	
				HP Low-E4® with Full Divided Light Grilles	0.34	0.29	0.49	✓	
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.20	0.31	✓			
HP Low-E4® Sun with Finelight™ Grilles	0.33			0.18	0.27	✓			
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.18	0.27	✓			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.22	0.50	✓			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32			0.20	0.44	✓			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34			0.20	0.44	✓			
Non-Tempered and Tempered (3.9mm) Glass: All Woodwright® Insert Picture Window Sizes Between 15 Square Feet and 24 Square Feet									
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.32	0.55	✓			
HP Low-E4® with Finelight™ Grilles	0.32			0.29	0.49	✓			
HP Low-E4® with Full Divided Light Grilles	0.34			0.29	0.49	✓			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.20	0.30	✓			
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.18	0.27	✓			
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.18	0.27	✓			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.22	0.49	✓			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.20	0.44	✓			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.33			0.20	0.44	✓			
Non-Tempered and Tempered (4.7mm) Glass: All Woodwright® Insert Picture Window Sizes Between 24 Square Feet and 36 Square Feet									
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.32	0.54	✓			
HP Low-E4® with Finelight™ Grilles	0.32			0.29	0.49	✓			
HP Low-E4® with Full Divided Light Grilles	0.33			0.29	0.49	✓			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.20	0.30	✓			
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.18	0.27	✓			
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.18	0.27	✓			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.22	0.49	✓			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.20	0.44	✓			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.33			0.20	0.44	✓			
Patterned (Non-Tempered and Tempered) (3.9mm) Glass: All Woodwright® Insert Picture Window Sizes									
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.32	0.55	✓			
HP Low-E4® with Finelight™ Grilles	0.32			0.29	0.49	✓			
HP Low-E4® with Full Divided Light Grilles	0.34			0.29	0.49	✓			
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32			0.20	0.30	✓			
HP Low-E4® Sun with Finelight™ Grilles	0.32			0.18	0.27	✓			
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.18	0.27	✓			
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.22	0.49	✓			
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.31			0.20	0.44	✓			
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.33			0.20	0.44	✓			

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
400 Series	Woodwright® Insert Transom Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: All Woodwright® Insert Transom Window Sizes							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.33	0.56	✓	✓		
		HP Low-E4® with Finelight™ Grilles	0.33	0.30	0.50	✓	✓		
		HP Low-E4® with Full Divided Light Grilles	0.34	0.30	0.50	✓	✓		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.31	✓	✓		
		HP Low-E4® Sun with Finelight™ Grilles	0.33	0.19	0.28	✓	✓		
		HP Low-E4® Sun with Full Divided Light Grilles	0.34	0.19	0.28	✓	✓		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.22	0.51	✓	✓		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32	0.20	0.45	✓	✓		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.33	0.20	0.45	✓	✓		
		Patterned (Non-Tempered and Tempered) (3.9mm) Glass: All Woodwright® Insert Transom Window Sizes (Data not yet available for Patterned glass with Finelight™ or Full Divided Light Grilles)							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.33	0.56	✓	✓		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.31	✓	✓		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.22	0.50	✓	✓		
		400 Series	Tilt-Wash Double-Hung Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Tilt-Wash Double-Hung Window Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.31	0.54	✓	✓
HP Low-E4® with Finelight™ Grilles	0.34			0.28	0.48	✓	✓		
HP Low-E4® with Full Divided Light Grilles	0.35			0.28	0.48	✓	✓		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34			0.20	0.30	✓	✓		
HP Low-E4® Sun with Finelight™ Grilles	0.35			0.18	0.26	✓	✓		
HP Low-E4® Sun with Full Divided Light Grilles	0.35			0.18	0.26	✓	✓		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.21	0.48	✓	✓		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34			0.19	0.43	✓	✓		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34			0.19	0.43	✓	✓		
Tempered and Patterned (3.1mm) Glass: All Tilt-Wash Double-Hung Window Sizes									
HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35			0.31	0.53	✓	✓		
HP Low-E4® with Finelight™ Grilles	0.36			0.28	0.47	-	✓		
HP Low-E4® with Full Divided Light Grilles	0.36			0.28	0.47	-	✓		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35			0.20	0.30	✓	✓		
HP Low-E4® Sun with Finelight™ Grilles	0.36			0.18	0.26	-	✓		
HP Low-E4® Sun with Full Divided Light Grilles	0.36			0.18	0.26	-	✓		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34			0.21	0.48	✓	✓		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.35			0.19	0.42	✓	✓		
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.35			0.19	0.42	✓	✓		
400 Series	Tilt-Wash Double-Hung Picture Window with Capillary Breather Tubes			Non-Tempered, Tempered and Patterned (3.1mm) Glass: Tilt-Wash Double-Hung Picture Window Sizes: DHP 3310, DHP 3042, DHP 3046, DHP 30410, DHP 3052, DHP 3056, DHP 34310, DHP 3442, DHP 3446, DHP 34410, DHP 3452, DHP 3456, DHP 310310, DHP 31042, DHP 31046, DHP 31052, DHP 42310, DHP 4242					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.33	0.57	✓	✓
				HP Low-E4® with Finelight™ Grilles	0.33	0.30	0.51	✓	✓
				HP Low-E4® with Full Divided Light Grilles	0.35	0.30	0.51	✓	✓
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.21	0.32	✓	✓		
		HP Low-E4® Sun with Finelight™ Grilles	0.34	0.19	0.28	✓	✓		
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.19	0.28	✓	✓		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.22	0.51	✓	✓		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.33	0.20	0.46	✓	✓		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.20	0.46	✓	✓		
		Non-Tempered, Tempered and Patterned (3.9mm) Glass: Tilt-Wash Double-Hung Picture Window Sizes: DHP10310, DHP1042, DHP1046, DHP10410, DHP1052, DHP1056, DHP10510, DHP1062, DHP30510, DHP3062, DHP34510, DHP3462, DHP310410, DHP31056, DHP310510, DHP31062, DHP4246, DHP42410, DHP4252, DHP4256, DHP42510, DHP4262, DHP410310, DHP41042, DHP41046, DHP410410, DHP41052, DHP56310, DHP5642, DHP5646							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.33	0.56	✓	✓		
		HP Low-E4® with Finelight™ Grilles	0.34	0.30	0.50	✓	✓		
		HP Low-E4® with Full Divided Light Grilles	0.35	0.30	0.50	✓	✓		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.31	✓	✓		
		HP Low-E4® Sun with Finelight™ Grilles	0.35	0.19	0.27	✓	✓		
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.19	0.27	✓	✓		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.22	0.51	✓	✓		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34	0.20	0.45	✓	✓		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.20	0.45	✓	✓		
		Non-Tempered, Tempered and Patterned (4.7mm) Glass: Includes Tilt-Wash Double-Hung Picture Window Sizes: DHP41056, DHP410510, DHP41062 DHP56410, DHP5652, DHP5656, DHP56510, DHP5662							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.33	0.56	✓	✓		
		HP Low-E4® with Finelight™ Grilles	0.35	0.30	0.50	✓	✓		
		HP Low-E4® with Full Divided Light Grilles	0.34	0.30	0.50	✓	✓		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.21	0.31	✓	✓		
		HP Low-E4® Sun with Finelight™ Grilles	0.35	0.19	0.27	✓	✓		
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.19	0.27	✓	✓		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.23	0.50	✓	✓		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.35	0.21	0.45	✓	✓		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.21	0.45	✓	✓		
		400 Series	Tilt-Wash Transom Window with Capillary Breather Tubes	Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Tilt-Wash Transom Window Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.32	0.55	✓	✓
				HP Low-E4® with Finelight™ Grilles	0.30	0.29	0.49	✓	✓
				HP Low-E4® with Full Divided Light Grilles	0.32	0.29	0.49	✓	✓
				HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.20	0.31	✓	✓
				HP Low-E4® Sun with Finelight™ Grilles	0.30	0.18	0.27	✓	✓
HP Low-E4® Sun with Full Divided Light Grilles	0.32			0.18	0.27	✓	✓		
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.29			0.21	0.49	✓	✓		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.29	0.19	0.44	✓	✓				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.31	0.19	0.44	✓	✓				

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Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR	
400 Series	Gliding Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass: All Gliding Window Sizes					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.30	0.50		
		HP Low-E4® with Finelight™ Grilles	0.34	0.27	0.44		
		HP Low-E4® with Full Divided Light Grilles	0.35	0.27	0.44		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.19	0.27		
		HP Low-E4® Sun with Finelight™ Grilles	0.34	0.17	0.24		
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.17	0.24		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.45		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.33	0.18	0.40		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.18	0.40		
		Tempered and Patterned (Non-Tempered and Tempered) (3.1mm) Glass: All Gliding Window Sizes					
		HP Low-E4® Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.29	0.49		
		HP Low-E4® Tempered with Finelight™ Grilles	0.36	0.26	0.43		
		HP Low-E4® Tempered with Full Divided Light Grilles	0.35	0.26	0.43		
		HP Low-E4® Sun Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.19	0.27		
		HP Low-E4® Sun Tempered with Finelight™ Grilles	0.36	0.17	0.24		
		HP Low-E4® Sun Tempered with Full Divided Light Grilles	0.35	0.17	0.24		
		HP Low-E4® SmartSun™ Tempered (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.20	0.44		
		HP Low-E4® SmartSun™ Tempered Finelight™ Grilles	0.35	0.18	0.39		
		HP Low-E4® SmartSun™ Tempered Full Divided Light Grilles	0.34	0.18	0.39		
400 Series	Elliptical Window with Capillary Breather Tubes	Non-Tempered, Tempered and Patterned (3.1mm) Glass: All Elliptical Window Sizes					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.34	0.59		
		HP Low-E4® with Finelight™ Grilles	0.33	0.31	0.53		
		HP Low-E4® with Full Divided Light Grilles	0.33	0.31	0.53		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.21	0.33		
		HP Low-E4® Sun with Finelight™ Grilles	0.33	0.19	0.29		
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.19	0.29		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.23	0.53		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.32	0.21	0.48		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.48		
400 Series	Circle Top™ Casement Window with Capillary Breather Tubes	Non-Tempered (2.2mm) Glass:					
		Circle Top™ Casement Window Sizes: CTC1, CTCW1, CTCX1, CTCXW1, CTQC1, CTQCW1, CTQCX1, CTQA3					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.35	0.60		
		HP Low-E4® with Finelight™ Grilles	0.31	0.32	0.54		
		HP Low-E4® with Full Divided Light Grilles	0.32	0.32	0.54		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.33		
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.20	0.30		
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.20	0.30		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.54		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.49		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.49		
		Non-Tempered and Tempered (3.1mm) Glass:					
		Circle Top™ Casement Window Sizes: CTC2, CTCW2, CTCX2, CTC3					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.35	0.60		
		HP Low-E4® with Finelight™ Grilles	0.31	0.31	0.53		
		HP Low-E4® with Full Divided Light Grilles	0.32	0.31	0.53		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.33		
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.20	0.30		
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.20	0.30		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.54		
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.48				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.48				
400 Series	Circle/Oval Window with Capillary Breather Tubes (See Springline Window for FR and QR products)	Non-Tempered (2.2mm) Glass:					
		Circle/Oval Sizes: CIR20, CIR24, CIR30, OVL1824, OVL2030					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.35	0.60		
		HP Low-E4® with Finelight™ Grilles	0.31	0.32	0.54		
		HP Low-E4® with Full Divided Light Grilles	0.32	0.32	0.54		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.33		
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.20	0.30		
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.20	0.30		
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.54		
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.49		
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.49		
		Non-Tempered (3.1mm) Glass:					
		Circle/Oval Sizes: OVL3048					
		Tempered and Patterned (3.1mm) Glass:					
		All Circle/Oval Window Sizes. (See Springline for FR and QR products)					
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.35	0.60		
		HP Low-E4® with Finelight™ Grilles	0.31	0.31	0.53		
		HP Low-E4® with Full Divided Light Grilles	0.32	0.31	0.53		
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.22	0.33		
		HP Low-E4® Sun with Finelight™ Grilles	0.31	0.20	0.30		
HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.20	0.30				
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30	0.23	0.54				
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.30	0.21	0.48				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.21	0.48				

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications
























































Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
400 Series	Arch Window with Capillary Breather Tubes (Both Standard & Custom Up to 60 Square Feet)	Non-Tempered and Tempered (5.7mm) Glass: All Arch (Both Standard & Custom Up to 60 Square Feet) Window Sizes							
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.34	0.58	✓	✓		
		HP Low-E4 [®] with Finelight™ Grilles	0.33	0.30	0.52	✓	✓		
		HP Low-E4 [®] with Full Divided Light Grilles	0.33	0.30	0.52	✓	✓		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.21	0.31	✓	✓		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.33	0.19	0.28	✓	✓		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.33	0.19	0.28	✓	✓		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.23	0.52	✓	✓		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.33	0.21	0.46	✓	✓		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.33	0.21	0.46	✓	✓		
		Patterned (Non-Tempered and Tempered) (5.7mm/3.1mm) Glass: All Arch (Both Standard & Custom Up to 60 Square Feet) Window Sizes							
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.34	0.59	✓	✓		
		HP Low-E4 [®] with Finelight™ Grilles	0.33	0.31	0.52	✓	✓		
		HP Low-E4 [®] with Full Divided Light Grilles	0.33	0.31	0.52	✓	✓		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.21	0.31	✓	✓		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.34	0.19	0.28	✓	✓		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.34	0.19	0.28	✓	✓		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.23	0.53	✓	✓		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.33	0.21	0.47	✓	✓		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.33	0.21	0.47	✓	✓		
		400 Series	Flexiframe® Window with Capillary Breather Tubes	Non-Tempered and Tempered (5.7mm) Glass: All Flexiframe® Window Sizes					
				HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31	0.34	0.58	✓	✓
				HP Low-E4 [®] with Finelight™ Grilles	0.32	0.30	0.52	✓	✓
				HP Low-E4 [®] with Full Divided Light Grilles	0.32	0.30	0.52	✓	✓
HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.21	0.31	✓	✓		
HP Low-E4 [®] Sun with Finelight™ Grilles	0.33			0.19	0.28	✓	✓		
HP Low-E4 [®] Sun with Full Divided Light Grilles	0.33			0.19	0.28	✓	✓		
HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.23	0.52	✓	✓		
HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.32			0.21	0.46	✓	✓		
HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.32			0.21	0.46	✓	✓		
Patterned (Non-Tempered and Tempered) (5.7mm/3.1mm) Glass: All Flexiframe® Window Sizes									
HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.34	0.58	✓	✓		
HP Low-E4 [®] with Finelight™ Grilles	0.33			0.30	0.52	✓	✓		
HP Low-E4 [®] with Full Divided Light Grilles	0.33			0.30	0.52	✓	✓		
HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.31			0.21	0.31	✓	✓		
HP Low-E4 [®] Sun with Finelight™ Grilles	0.33			0.19	0.28	✓	✓		
HP Low-E4 [®] Sun with Full Divided Light Grilles	0.33			0.19	0.28	✓	✓		
HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.30			0.23	0.53	✓	✓		
HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.32			0.21	0.47	✓	✓		
HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.32			0.21	0.47	✓	✓		
400 Series	Springline™, Springline™ Flanker and Enhancement Windows with Capillary Breather Tubes (Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon)			Non-Tempered and Tempered (5.7mm) Glass: All Springline™ Window Sizes including Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon					
				HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.34	0.58	✓	✓
				HP Low-E4 [®] with Finelight™ Grilles	0.36	0.30	0.52	-	✓
				HP Low-E4 [®] with Full Divided Light Grilles	0.36	0.30	0.52	-	✓
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.21	0.31	✓	✓		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.36	0.19	0.28	-	✓		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.36	0.19	0.28	-	✓		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.23	0.52	✓	✓		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.35	0.21	0.46	✓	✓		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.36	0.21	0.46	-	✓		
		Patterned (Non-Tempered and Tempered) (5.7mm/3.1mm) Glass: All Springline™ Window Sizes including Full Chord, Gothic, Monumental Quarter Round (QR), Monumental Full Round (FR) and Standard Octagon							
		HP Low-E4 [®] (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.34	0.59	✓	✓		
		HP Low-E4 [®] with Finelight™ Grilles	0.36	0.31	0.52	-	✓		
		HP Low-E4 [®] with Full Divided Light Grilles	0.36	0.31	0.52	-	✓		
		HP Low-E4 [®] Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.35	0.21	0.31	✓	✓		
		HP Low-E4 [®] Sun with Finelight™ Grilles	0.36	0.19	0.28	-	✓		
		HP Low-E4 [®] Sun with Full Divided Light Grilles	0.37	0.19	0.28	-	✓		
		HP Low-E4 [®] SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.23	0.53	✓	✓		
		HP Low-E4 [®] SmartSun™ with Finelight™ Grilles	0.36	0.21	0.47	-	✓		
		HP Low-E4 [®] SmartSun™ with Full Divided Light Grilles	0.36	0.21	0.47	-	✓		
		400 Series	Skylight with Capillary Breather Tubes	Tempered and Laminated Glass: All Skylight Sizes					
				HP Low-E4 [®] Tempered	0.59	0.39	0.68	✓	✓
				HP Low-E4 [®] Tempered Lami.	0.58	0.39	0.66	✓	✓
				HP Low-E4 [®] Sun Tempered	0.59	0.25	0.38	✓	✓
HP Low-E4 [®] Sun Tempered Lami.	0.58			0.24	0.37	✓	✓		
HP Low-E4 [®] SmartSun™ Tempered	0.58			0.26	0.61	✓	✓		
HP Low-E4 [®] SmartSun™ Tempered Lami.	0.57			0.26	0.59	✓	✓		
400 Series	Venting Roof Window with Capillary Breather Tubes	Tempered and Laminated Glass: All Venting Roof Window Sizes							
		HP Low-E4 [®] Tempered	0.56	0.36	0.62	✓	✓		
		HP Low-E4 [®] Tempered Lami.	0.55	0.36	0.60	✓	✓		
		HP Low-E4 [®] Sun Tempered	0.56	0.23	0.34	✓	✓		
		HP Low-E4 [®] Sun Tempered Lami.	0.55	0.22	0.33	✓	✓		
		HP Low-E4 [®] SmartSun™ Tempered	0.55	0.24	0.56	✓	✓		
		HP Low-E4 [®] SmartSun™ Tempered Lami.	0.55	0.24	0.54	✓	✓		
400 Series	Stationary Roof Window with Capillary Breather Tubes	Tempered and Laminated Glass: All Stationary Roof Window Sizes							
		HP Low-E4 [®] Tempered	0.55	0.37	0.63	✓	✓		
		HP Low-E4 [®] Tempered Lami.	0.55	0.37	0.62	✓	✓		
		HP Low-E4 [®] Sun Tempered	0.56	0.24	0.35	✓	✓		
		HP Low-E4 [®] Sun Tempered Lami.	0.55	0.23	0.34	✓	✓		
		HP Low-E4 [®] SmartSun™ Tempered	0.55	0.25	0.57	✓	✓		
HP Low-E4 [®] SmartSun™ Tempered Lami.	0.54	0.25	0.56	✓	✓				

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Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR			
400 Series	Frenchwood® Gliding Patio Door with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Frenchwood® Gliding Patio Door Sizes (Except Sizes Listed Below for Tempered (3.9mm) Glass)							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.27	0.45				
		HP Low-E4® with Finelight™ Grilles	0.35	0.23	0.39				
		HP Low-E4® with Full Divided Light Grilles	0.34	0.23	0.39				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.17	0.25				
		HP Low-E4® Sun with Finelight™ Grilles	0.35	0.15	0.22				
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.15	0.22				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.18	0.41				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34	0.16	0.35				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.16	0.35				
		Tempered (3.9mm) Glass: Frenchwood® Gliding Patio Door Sizes FWG4368, FWG8068, FWG16068, FWG43611, FWG80611, FWG160611, FWG4380, FWG8080, FWG16080							
		HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.27	0.45				
		HP Low-E4® with Finelight™ Grilles	0.36	0.23	0.38	-			
		HP Low-E4® with Full Divided Light Grilles	0.34	0.23	0.38				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.17	0.24				
		HP Low-E4® Sun with Finelight™ Grilles	0.36	0.15	0.21	-			
		HP Low-E4® Sun with Full Divided Light Grilles	0.35	0.15	0.21				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.18	0.40				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.35	0.16	0.35				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.16	0.35				
		400 Series	Frenchwood® Hinged Patio Door-Inswing with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Frenchwood® Hinged Patio Door-Inswing Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.24	0.41		
				HP Low-E4® with Finelight™ Grilles	0.35	0.21	0.35		
				HP Low-E4® with Full Divided Light Grilles	0.34	0.21	0.35		
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.15	0.23				
HP Low-E4® Sun with Finelight™ Grilles	0.35			0.13	0.19				
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.13	0.19				
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.16	0.37				
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34			0.14	0.31				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34			0.14	0.31				
400 Series	Frenchwood® Hinged Patio Door-Outswing with Capillary Breather Tubes			Tempered (3.1mm) Glass: All Frenchwood® Hinged Patio Door-Outswing Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.25	0.41		
		HP Low-E4® with Finelight™ Grilles	0.35	0.22	0.35				
		HP Low-E4® with Full Divided Light Grilles	0.34	0.22	0.35				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.16	0.23				
		HP Low-E4® Sun with Finelight™ Grilles	0.35	0.14	0.19				
		HP Low-E4® Sun with Full Divided Light Grilles	0.34	0.14	0.19				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.17	0.37				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34	0.15	0.31				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34	0.15	0.31				
		400 Series	Frenchwood® Patio Door Sidelight with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Frenchwood® Patio Door Sidelight Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34	0.22	0.37		
HP Low-E4® with Finelight™ Grilles	0.35			0.20	0.33				
HP Low-E4® with Full Divided Light Grilles	0.34			0.20	0.33				
HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.34			0.14	0.21				
HP Low-E4® Sun with Finelight™ Grilles	0.35			0.13	0.18				
HP Low-E4® Sun with Full Divided Light Grilles	0.34			0.13	0.18				
HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33			0.15	0.33				
HP Low-E4® SmartSun™ with Finelight™ Grilles	0.34			0.14	0.29				
HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.34			0.14	0.29				
400 Series	Frenchwood® Patio Door Transom with Capillary Breather Tubes			Non-Tempered and Tempered (3.1mm) Glass: All Frenchwood® Patio Door Transom Sizes					
				HP Low-E4® (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.24	0.40		
		HP Low-E4® with Finelight™ Grilles	0.33	0.22	0.35				
		HP Low-E4® with Full Divided Light Grilles	0.33	0.22	0.35				
		HP Low-E4® Sun (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.33	0.15	0.22				
		HP Low-E4® Sun with Finelight™ Grilles	0.33	0.14	0.20				
		HP Low-E4® Sun with Full Divided Light Grilles	0.33	0.14	0.20				
		HP Low-E4® SmartSun™ (No Grilles, with Removable Grilles or with Simulated Divided Light (SDL) Grilles)	0.32	0.16	0.36				
		HP Low-E4® SmartSun™ with Finelight™ Grilles	0.33	0.15	0.32				
		HP Low-E4® SmartSun™ with Full Divided Light Grilles	0.32	0.15	0.32				

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type Grilles = Finelight™ or Full Divided Light	U-Factor ¹	SHGC ²	VT ³				
Architectural	Casement Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: Casement Window Unit Sizes < 17 sq/ft (approx.)							
		HP Low-E4®	0.35	0.28	0.47				
		HP Low-E4® with Grilles	0.35	0.25	0.42				
		HP Low-E4® Sun	0.35	0.17	0.26				
		HP Low-E4® Sun with Grilles	0.35	0.16	0.23				
		HP Low-E4® SmartSun™	0.35	0.19	0.42				
		HP Low-E4® SmartSun™ w/Grilles	0.35	0.17	0.38				
		Non-Tempered and Tempered (3.9mm) Glass: Casement Window Unit Sizes > 17 sq/ft (approx.)							
		HP Low-E4®	0.35	0.28	0.47				
		HP Low-E4® with Grilles	0.35	0.25	0.42				
		HP Low-E4® Sun	0.35	0.17	0.26				
		HP Low-E4® Sun with Grilles	0.35	0.16	0.23				
		HP Low-E4® SmartSun™	0.35	0.19	0.42				
		HP Low-E4® SmartSun™ w/Grilles	0.35	0.17	0.38				
Architectural	French Casement Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: All French Casement Window Unit Sizes							
		HP Low-E4®	0.35	0.28	0.47				
		HP Low-E4® with Grilles	0.35	0.25	0.42				
		HP Low-E4® Sun	0.35	0.17	0.26				
		HP Low-E4® Sun with Grilles	0.35	0.16	0.23				
		HP Low-E4® SmartSun™	0.35	0.19	0.42				
		HP Low-E4® SmartSun™ w/Grilles	0.35	0.17	0.38				
		Architectural	Awning Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: Awning Window Unit Sizes < 17 sq/ft (approx.)					
				HP Low-E4®	0.35	0.28	0.47		
				HP Low-E4® with Grilles	0.35	0.25	0.42		
HP Low-E4® Sun	0.35			0.17	0.26				
HP Low-E4® Sun with Grilles	0.35			0.16	0.23				
HP Low-E4® SmartSun™	0.34			0.19	0.42				
HP Low-E4® SmartSun™ w/Grilles	0.34			0.17	0.38				
Non-Tempered and Tempered (3.9mm) Glass: Awning Window Unit sizes > 17 sq/ft (approx.)									
HP Low-E4®	0.35			0.28	0.47				
HP Low-E4® with Grilles	0.35			0.25	0.42				
HP Low-E4® Sun	0.35			0.17	0.26				
HP Low-E4® Sun with Grilles	0.35			0.16	0.23				
HP Low-E4® SmartSun™	0.34			0.19	0.42				
HP Low-E4® SmartSun™ w/Grilles	0.34			0.17	0.38				
Architectural	Casement/Awning Picture Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: Casement/Awning Picture Window Unit Sizes < 17 sq/ft (approx.)							
		HP Low-E4®	0.34	0.33	0.55				
		HP Low-E4® with Grilles	0.34	0.29	0.49				
		HP Low-E4® Sun	0.35	0.20	0.31				
		HP Low-E4® Sun with Grilles	0.35	0.18	0.28				
		HP Low-E4® SmartSun™	0.34	0.22	0.50				
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.20	0.44				
		Non-Tempered and Tempered (3.9mm) Glass: Casement/Awning Picture Window Unit Sizes > 17 sq/ft (approx.)							
		HP Low-E4®	0.34	0.33	0.55				
		HP Low-E4® with Grilles	0.34	0.29	0.49				
		HP Low-E4® Sun	0.35	0.20	0.31				
		HP Low-E4® Sun with Grilles	0.35	0.18	0.28				
		HP Low-E4® SmartSun™	0.34	0.22	0.50				
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.20	0.44				
		Non-Tempered and Tempered (4.7mm) Glass: Casement/Awning Picture Window Unit Sizes > 30 sq/ft (approx.)							
		HP Low-E4®	0.34	0.31	0.54				
		HP Low-E4® with Grilles	0.34	0.28	0.48				
		HP Low-E4® Sun	0.35	0.20	0.29				
		HP Low-E4® Sun with Grilles	0.35	0.18	0.26				
		HP Low-E4® SmartSun™	0.34	0.22	0.49				
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.20	0.44				
		Non-Tempered and Tempered (5.7mm) Glass: Casement/Awning Picture Window Unit Sizes > 45 sq/ft (approx.)							
		HP Low-E4®	0.34	0.31	0.54				
		HP Low-E4® with Grilles	0.34	0.28	0.48				
		HP Low-E4® Sun	0.35	0.20	0.29				
		HP Low-E4® Sun with Grilles	0.35	0.18	0.26				
HP Low-E4® SmartSun™	0.34	0.22	0.48						
HP Low-E4® SmartSun™ w/Grilles	0.34	0.20	0.43						

Product performance values and ENERGY STAR® qualification designations for glass products ordered with capillary breather tubes for high altitude applications

Andersen® Product Line	Product Type	Glass Type Grilles = Finelight™ or Full Divided Light	U-Factor ¹	SHGC ²	VT ³				
Architectural	Specialty Window with Capillary Breather Tubes	Non-Tempered and Tempered (3.1mm) Glass: Specialty Window Unit Sizes < 17 sq/ft (approx.)							
		HP Low-E4®	0.34	0.37	0.64	■	■		
		HP Low-E4® with Grilles	0.34	0.34	0.57	■	■		
		HP Low-E4® Sun	0.35	0.23	0.36	■	■		
		HP Low-E4® Sun with Grilles	0.35	0.21	0.32	■	■		
		HP Low-E4® SmartSun™	0.34	0.25	0.58	■	■		
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.23	0.52	■	■		
		Non-Tempered and Tempered (3.9mm) Glass: Specialty Window Unit Sizes > 17 sq/ft (approx.)							
		HP Low-E4®	0.34	0.37	0.64	■	■		
		HP Low-E4® with Grilles	0.34	0.34	0.57	■	■		
		HP Low-E4® Sun	0.35	0.23	0.36	■	■		
		HP Low-E4® Sun with Grilles	0.35	0.21	0.32	■	■		
		HP Low-E4® SmartSun™	0.34	0.25	0.57	■	■		
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.23	0.51	■	■		
		Non-Tempered and Tempered (4.7mm) Glass: Specialty Window Unit Sizes > 30 sq/ft (approx.)							
		HP Low-E4®	0.34	0.36	0.62	■	■		
		HP Low-E4® with Grilles	0.34	0.33	0.56	■	■		
		HP Low-E4® Sun	0.35	0.22	0.33	■	■		
		HP Low-E4® Sun with Grilles	0.35	0.20	0.30	■	■		
		HP Low-E4® SmartSun™	0.34	0.25	0.57	■	■		
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.23	0.51	■	■		
		Non-Tempered and Tempered (5.7mm) Glass: Specialty Window Unit Sizes > 45 sq/ft (approx.)							
		HP Low-E4®	0.34	0.36	0.62	■	■		
		HP Low-E4® with Grilles	0.34	0.33	0.56	■	■		
		HP Low-E4® Sun	0.35	0.22	0.33	■	■		
		HP Low-E4® Sun with Grilles	0.35	0.20	0.30	■	■		
		HP Low-E4® SmartSun™	0.34	0.25	0.56	■	■		
		HP Low-E4® SmartSun™ w/Grilles	0.34	0.23	0.50	■	■		
		Architectural	Hinged French Door-Inswing with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Hinged French Door-Inswing Unit Sizes					
				HP Low-E4®	0.35	0.22	0.37	■	■
				HP Low-E4® with Grilles	0.36	0.19	0.31	-	■
				HP Low-E4® Sun	0.35	0.14	0.21	■	■
				HP Low-E4® Sun with Grilles	0.36	0.12	0.17	-	■
				HP Low-E4® SmartSun™	0.35	0.15	0.33	■	■
		Architectural	Hinged French Door-Outswing with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Hinged French Door-Outswing Unit Sizes					
				HP Low-E4®	0.34	0.22	0.37	■	■
HP Low-E4® with Grilles	0.35			0.19	0.31	-	■		
HP Low-E4® Sun	0.34			0.14	0.21	■	■		
HP Low-E4® Sun with Grilles	0.35			0.12	0.17	-	■		
HP Low-E4® SmartSun™	0.34			0.15	0.33	■	■		
Architectural	Fixed French Inswing Door & Sidelight with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Fixed French Inswing Door & Sidelight Unit Sizes							
		HP Low-E4®	0.37	0.15	0.24	-	■		
		HP Low-E4® with Grilles	0.37	0.15	0.23	-	■		
		HP Low-E4® Sun	0.37	0.10	0.14	-	■		
		HP Low-E4® Sun with Grilles	0.37	0.10	0.13	-	■		
		HP Low-E4® SmartSun™	0.37	0.11	0.22	-	■		
Architectural	Fixed French Outswing Door & Sidelight with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Fixed French Outswing Door & Sidelight Unit Sizes							
		HP Low-E4®	0.35	0.15	0.24	■	■		
		HP Low-E4® with Grilles	0.36	0.15	0.23	-	■		
		HP Low-E4® Sun	0.36	0.10	0.14	-	■		
		HP Low-E4® Sun with Grilles	0.36	0.10	0.13	-	■		
		HP Low-E4® SmartSun™	0.35	0.11	0.22	■	■		
Architectural	Commercial Outswing Door with Capillary Breather Tubes	Tempered (3.1mm) Glass: All Commercial Outswing Door Unit Sizes							
		HP Low-E4®	0.34	0.22	0.37	■	■		
		HP Low-E4® with Grilles	0.35	0.19	0.31	-	■		
		HP Low-E4® Sun	0.34	0.14	0.21	■	■		
		HP Low-E4® Sun with Grilles	0.35	0.12	0.17	-	■		
		HP Low-E4® SmartSun™	0.34	0.15	0.33	■	■		
		HP Low-E4® SmartSun™ w/Grilles	0.35	0.13	0.28	■	■		