



PRODUCT

**SPECIFICATIONS** 





## PRODUCT SPECIFICATIONS

### SCOPE

This specification covers the requirements for float glass which has been etched on one or both sides or for acid-etched mirror, and supplied as stock sheets.

### **GENERAL INFORMATION**

The proprietary **Walker Textures**<sup>®</sup> process uses a controlled solution of hydrofluoric acid to uniformly etch the surface of the glass. Rigorous process control ensures a repeatable uniformity in appearance. Unlike coated glass, the surface is not susceptible to discoloration and cannot delaminate or be scraped off, assuring a consistent appearance over time. Additionally, **Walker Textures**<sup>®</sup> glass is far less porous than sandblasted glass, making it much more resistant to marring and staining.

### PHYSICAL PROPERTIES

*Walker Textures*<sup>®</sup> acid-etched glass products are made from selected *float* glass which conforms to the following standards:

- USA ASTM C 1036-11 Standard Specification for Flat Glass Quality: Q3 - Stock Sheet
- CANADA CAN/CGSB-12.3-M91 National Standard of Canada Flat, Clear Float Glass Quality: Glazing

*Walker Textures*<sup>®</sup> acid-etched mirror products are made from selected mirrors which conform to the following standards:

- USA ASTM C 1503-08(2013) Standard Specification for Flat Glass Mirrors
- CANADA CAN/CGSB-12.5-M86 Type 1B National Standard of Canada Mirrors, Silvered (Withdrawal May 2004)

For dimensional tolerances (other than thickness) and edge quality requirements, refer to the specification(s) cited above.

For blemish limits for single-sided\* etched glass, please refer to specifications cited above.

\*Float glass is normally etched on the "atmosphere" side of the sheet. When tin side etching is required (notably etched mirrors and two-sided etched glass), there is a risk of certain minor defects being present in the etched surface. For more information, please contact customer service.

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### Walker Textures® Transition – True Fade

Hair line scratches caused by the production process might be visible in the transparent areas when inspected at a distance of 3 meters. These isolated imperfections should be considered acceptable.





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### MIRROR SPECIFICATIONS CONFORMITY STATEMENT

Walker Glass mirrors conform to the following two recognized North American standards for mirror.

USA ASTM C 1503-08(2013) Standard Specification for Silvered Flat Glass Mirror

Canada CAN/CGSB – 12.5 - M86 TYPE 1B National Standard of Canada for Mirrors, Silvered (Withdrawal May 2004)

Requirements under these standards vary according to product classifications. The following table summarizes the classification applicable to each of Walker Glass' mirror products.

USA	WALKER GLASS	ASTM C1503-08(2013)
	SUBSTRATE	QUALITY CLASSIFICATION
	CLEAR MIRROR – 5MM, 6MM	MIRROR SELECT QUALITY
	CLEAR MIRROR – 2,3 & 4MM	MIRROR GLAZING QUALITY
	TINTED MIRROR (INCLUDING LOW-IRON) ALL THICKNESSES	MIRROR GLAZING QUALITY
	WALKER GLASS	ASTM C1503-08(2013)
	SIZE	GRADE CLASSIFICATION
	STOCK SIZES LENGTH 120" TO 144"	MIRROR LEHR END GRADE
	STOCK SIZES LENGTH BELOW 120"	MIRROR STOCK SHEET GRADE
	CUT SIZES	MIRROR CUT SIZE GRADE

CANADA	WALKER GLASS	CAN/CGSB-12.5-M86
	SUBSTRATE/SIZE	CLASSIFICATION (Withdrawal May 2004)
	CLEAR MIRROR – ALL THICKNESSES & ALL SIZES	TYPE 1B – Polished plate or float glass for high-humidity use
	TINTED MIRROR (INCLUDING LOW-IRON) ALL THICKNESSES AND SIZES	Not covered under the standard

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### **PROPERTIES AND PERFORMANCE CHARACTERISTICS**

### FULL-SURFACE ACID-ETCHED GLASS AND MIRROR STOCK SHEETS

Stock sheets of all *Walker Textures*<sup>®</sup> products are uniformly etched over the entire surface of one or both sides, except for a <sup>3</sup>/<sub>4</sub>" (20mm) unusable border on all four sides. Variances in opacity within a sheet will be indistinguishable to the naked eye when viewed under normal viewing conditions.

For specific properties and performance data, please consult the following tables:

### **Physical Properties**

Table A1 - Glass thickness values

Table A2 - Strength properties

Table A3 - Resistance properties

Table A4 - Coefficient of friction values (Walker Textures® Traction)

### Light and Energy Performance Values

Table B1 - Light and energy performance values

Table B2 - Daylight diffusion properties

Values for substrates not listed in above tables may be available upon request.





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# TABLE A1 ACID ETCHED GLASS THICKNESS RANGE

Float Glass Nominal Designation	Opaque		Opaque Velour			Sa	Range for <b>tin</b> d Products	Thickness Range for <b>Satinlite</b> Acid-etched Products		
	m	m	m	m	m	m	m	m		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
3 mm	2.92	3.40	2.92	3.40	2.84	3.32	2.74	3.22		
4 mm	3.78	4.19	3.78	4.19	3.70	4.11	3.60	4.01		
5 mm	4.57	5.05	4.57	5.05	4.49	4.97	4.39	4.87		
6 mm	5.56	6.20	5.56	6.20	5.48	6.12	5.38	6.02		
8 mm	7.42	8.43	7.42	8.43	7.34	8.35	7.24	8.25		
10 mm	9.02	10.31	9.02	10.31	8.94	10.23	8.84	10.13		
12 mm	11.91	13.49	11.91	13.49	11.83	13.41	11.73	13.31		
15 mm	15.09	16.66	15.09	16.66	15.01	16.58	14.91	16.48		
19 mm	18.26	19.84	18.26	19.84	18.18	19.76	18.08	19.66		

June 2014





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# TABLE A2

## ACID-ETCHED GLASS STRENGTH PROPERTIES

Test/Stand	ard	6mm Sati	n Tempered	6mm Unetched Tempered	
Modulous of Rupture	ASTM-C158	Etched Surface	Unetched Surface		
	AGTIMPO 130	in Tension	in Tension		
Max Load (por	unds)	357	351	338	Higher number = better
Flexural Strength		1.07	1.05	1	Higher number = better
Modulous of Rupture (psi)		28720	28370	26720	Higher number = better

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## TABLE A3

## ACID-ETCHED GLASS AND MIRROR RESISTANCE PROPERTIES

Test/Standa	Opaque (**)	Velour (*)	Satin (**)	Satinlite (*)	Float	Unit of Measure		
Resistance to Wear	ASTM-C501	213	210	198	214.86	183.29	Abrasive Wear Index (Ix)	Higher number = better
Resistance to Staining	ASTM-C1378	A	A	A	A	A	Classification	Higher number = better
Scratch Hardness	MOHs	5	5	6	7	5.5	Out of possible 10	Higher number = better

(\*) Acid-etched Glass Only

(\*\*) Acid-etched Glass & Mirror

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### TABLE A4 COEFFICIENT OF FRICTION VALUES - TRACTION PRODUCTS

Test/Standard	Pattern 406	Pattern 407	
Wet Dynamic Coefficient of Friction (DCOF)	ANSI A137.1-2012 Section 9.6	0.63	0.69

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### TABLE B1

### ACID-ETCHED GLASS LIGHT & ENERGY PERFORMANCE VALUES

N	Monolithic Unit Performance <sup>1</sup>				VISIBLE LIGHT <sup>2</sup>		тот	TOTAL SOLAR ENERGY <sup>2</sup>		UV <sup>2</sup>					
SURFACE FINISH	FTCHFD	GLASS SUBSTRATE	THICKNESS mm (in)	Transmittance	Reflectance 1	Reflectance 2	Transmittance	Reflectance 1	Reflectance 2	Transmittance	Reflectance 1	Reflectance 2	SC <sup>3</sup>	SHGC⁴	LSG⁵
Opaque	1	Clear	6mm (1/4")	91%	7%	9%	80%	7%	8%	66%	6%	8%	0.96	0.84	1.08
Velour	1	Clear	6mm (1/4")	91%	8%	8%	82%	7%	7%	67%	7%	7%	0.98	0.85	1.07
Satin	1	Clear	6mm (1/4")	89%	8%	8%	79%	7%	7%	64%	7%	7%	0.96	0.83	1.07
Satinlite	1	Clear	6mm (1/4")	88%	8%	8%	80%	7%	8%	64%	6%	5%	0.96	0.84	1.05
Opaque	1	Starphire	6mm (1/4")	93%	6%	8%	90%	6%	8%	90%	6%	8%	1.04	0.90	1.02
Velour	1	Starphire	6mm (1/4")	92%	8%	8%	89%	7%	7%	88%	8%	8%	1.04	0.90	1.02
Satin	1	Starphire	6mm (1/4")	90%	8%	8%	88%	8%	8%	86%	8%	8%	1.03	0.89	1.01
Satinlite	1	Starphire	6mm (1/4")	90%	8%	8%	89%	8%	8%	87%	6%	5%	1.03	0.90	1.01

Notes

- 1 Figures may vary due to manufacturing tolerances. All tabulated data is based on NFRC methodology using the LBNL's Window 5,2 software.
- 2 Transmittance and reflectance values based on spectrophotometric measurements and energy distribution of solar radiation.
- 3 Shading coefficient is the ratio of the total amount of solar energy that passes through a glass relative to 1/8-in. (3,0 mm) thick clear glass under the same design conditions. It includes both solar energy transmitted directly plus any absorbed solar energy re-radiated and converted. Lower shading coefficient values indicate better performance in reducing summer heat gain. Shading coefficients at outdoor air temperature of 89° F (32° C), outdoor air velocity of 7,5 mph (3,4 m/s), indoor air temperature of 75° F (24° C), indoor air velocity of 0 mph (0 m/s) and solar intensity of 248 BTU /hour/square foot (783 w/m2).
- 4 Solar Heat Gain Coefficient (SHGC) represents the solar heat gain through the glass relative to the incident solar radiation. It is equal to 86% of the shading coefficient.
- 5 Light to Solar Gain (LSG) ratio is the ratio of visible light transmittance to solar heat gain coefficient.
- 6 Values are for indication purposes only and are subject to variation according to conditions of measurement, manufacture and/or application.
- 7 For Walker Textures<sup>®</sup> Nuance & AviProtek<sup>®</sup> product lines, values indicated above may change depending on the pattern type.

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# TABLE B2 ACID-ETCHED GLASS DAYLIGHT DIFFUSION PROPERTIES

### Test/Standard: ASTM D1003-13

Acid-etched Finish	Glass Substrate	Luminous		Diffuse Transmittance	Haze
Opaque	Clear	6mm (1/4")	82.50%	75.09%	90.73%
Velour	Clear	6mm (1/4")	88.44%	79.00%	89.30%
Satin	Clear	6mm (1/4")	72.75%	32.66%	44.89%
Satinlite	Clear	6mm (1/4")	75.41%	9.73%	12.90%

**Total Luminous Transmittance** is the ratio of transmitted light to the incident light and is influenced by the absorption and reflection properties.

Diffuse Transmittance is the portion of light that is scattered or diffused by the glass surface.

**Haze** is the percentage of light which in passing through deviates from the incident beam greater than 2.5 degrees on the average. Haze is equal to the diffuse transmittance divided by the total luminous transmittance.

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