PRODUCT SPECIFICATIONS

Walker Glass Company Ltd.
9551 Ray-Lawson Blvd, Montreal, Qc, Canada H1J 1L5
514.352.3030 1.888.320.3030 textures@walkerglass.com www.walkerglass.com

SCOPE

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

GENERAL INFORMATION

The proprietary ***Walker Textures®*** 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®*** glass is far less porous than sandblasted glass, making it much more resistant to marring and staining.

PHYSICAL PROPERTIES

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

USA	**ASTM C 1036-21 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® acid-etched mirror products are made from selected mirrors which conform to the following standards:

USA	**ASTM C 1503-18 (2018) 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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MIRROR SPECIFICATIONS CONFORMITY STATEMENT

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

USA **ASTM C 1503-18 (2018)** 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 C 1503-18 (2018)**
	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 C 1503-18 (2018)**
	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

ACID-ETCHED GLASS AND MIRROR STOCK SHEETS

Stock sheets of all ***Walker Textures®*** products are uniformly etched over the entire surface of one or both sides, except for a 1" unusable border on all four sides of our acid-etched products with the exception of the Velour finish with a 3/4" unusable border. 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

Light and Energy Performance Values

Table B1 - Light and energy performance values
Table B2 - Daylight diffusion properties

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TABLE A1
ACID ETCHED GLASS THICKNESS RANGE

Float Glass Nominal Designation	Thickness Range for **Opaque** Acid-etched Products		Thickness Range for **Velour** Acid-etched Products		Thickness Range for **Satin** Acid-etched Products		Thickness Range for **Satinlite** Acid-etched Products	
	mm		mm		mm		mm	
	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

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TABLE A2

ACID-ETCHED GLASS STRENGTH PROPERTIES

Test/Standard		6mm Satin Tempered		6mm Unetched Tempered	
Modulous of Rupture	ASTM-C158	Etched Surface in Tension	Unetched Surface in Tension		
Max Load (pounds)		357	351	338	Higher number = better
Flexural Strength (psi)		1,070	1,050	1,000	Higher number = better
Modulous of Rupture (psi)		28,720	28,370	26,720	Higher number = better

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TABLE A3
ACID-ETCHED GLASS AND MIRROR RESISTANCE PROPERTIES

Test/Standard		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 B1

ACID-ETCHED GLASS
LIGHT & ENERGY PERFORMANCE VALUES

Monolithic Unit Performance[1]				VISIBLE LIGHT[2]			TOTAL SOLAR ENERGY[2]			UV[2]			SC[3]	SHGC[4]	LSG[5]
SURFACE FINISH	# ETCHED SIDES	GLASS SUBSTRATE	THICKNESS mm (in)	Transmittance	Reflectance 1	Reflectance 2	Transmittance	Reflectance 1	Reflectance 2	Transmittance	Reflectance 1	Reflectance 2			
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	Optiwhite™	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 custom patterns and the ***AviProtek®*** product line, 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	Thickness mm (in)	Total Luminous Transmittance	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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