

**FABBACK®**

Fabback mirrored acrylic sheet is made with Optix® continuously processed acrylic sheet. Mirroring is done by the process of vacuum metallising with aluminum being the primary metal evaporated. Fabback mirror acrylic sheet features the industry's toughest protective back-coating. The durability of this sheet makes it virtually scratch-resistance during fabrication.



**Optix® Acrylic Mirrored Sheet Properties**

Physical Properties	ASTM Test Method	Units	Values
Specific Gravity	D-792		1.19
Optical Refractive Index	D-542		1.46
Light Transmittance (Sample thickness .100")	D-1003		
Total		%	92
Haze		%	2
Sound Transmission (.125" thickness)	E 90-70 E 413	db	27
Water Absorbption	D-570	% By weight	.40
Shrinkage	D-702	% Shrinkage	<5%

Thermal	ASTM Test Method	Units	Values
Maximum Recommended Continuous Service Temperature		°F	170-190
Softening Temperature		°F	210-220
Melting Temperature		°F	300-315
Deflection Temperature Load, Unannealed	D-648		
3.6°F/minute, 264 psi		°F	190
3.6°F/minute, 66 psi		°F	205
Coefficient of Thermal Expansion	D-696	Ins/in/°Fx 10 <sup>-5</sup>	
-40°F			2.7
-20°F			2.9
0°F			3.1
20°F			3.2
40°F			3.4
60°F			3.6
80°F			3.9
100°F			4.3
Thermal Conductivity	C-177	BTU (HR)(Ft <sup>2</sup> )(°F)/in)	.9
Flammability (Burning Rate)	D-635	ins/minute	
.060"			1.019
.236"			.318
Smoke Density Rating	D-2843-77	%	
.236"			.36
Self-Ignition Temp	D-1929	°F	
.236"			833
Flame Spread Index		.375"	110
Smoke Value	E-84-86	.236"	115
<b>Chemical</b>			
Resistance to Stress - Critical Crazing Stress to:	ARTC modification of MIL-P-6997		
Isopropyl Alcohol		psi	900
Lacquer Thinner		psi	500
Toluene		psi	1,300

Mechanical	ASTM Test Method	Units	Values
Tensil Strength	D-638		
Maximum		psi	10,100
Tensil Elongation		%	5.1
Maximum		psi	431,000
Modulus of Elasticity			
Flexural Strength	D-790		
Maximum		psi	14,600
Izod Molded Notch 1/2" x 2 1/2" x 1/4" bar	D-256-56	Ft lbs/inch of notch	.4
at 73°F			
Izod Milled Notch 1/2" x 2 1/2" x 1/4" bar		Ft lbs/inch of notch	.28
at 73°F			
Tensile Impact Strength	D-1822	Ft lb/in <sup>2</sup>	20
Abrasion Resistance	D-1044		
0 cycles		Haze, %	2
10 cycles		Haze, %	15
50 cycles		Haze, %	30
200 cycles		Haze, %	50
Rockwell Hardness (sample thickness .250")	D-785		M-93

**OPTIX® ACRYLIC SHEET**  
**SUMMARY OF DATA SUBMITTED**

Test Required	Test Summary	Test Results
U.B.C. Standard 26-5 Smoke Density Rating (ASTM D2843)	(3) specimens 1" x 1" w/thickness intended for use, burned in a chamber w/light, photo cell & meter. Area (in %) under light absorption-time curve is smoke density rating.	0.36% (must be no greater than 75)
U.B.C. Standard 26-6 Self-ignition Temperature (ASTM D1929)	Sheet samples 0.75" x 0.75" w/thickness so total specimen weight is 3gm. Method determines self-ignition temp using a hot-air ignition furnace	833 °F (must be 650 °F or greater)
U.B.C. Standard 26-7 Classification of Plastic (ASTM D635)	(10) specimens 5" x 0.5" x nominal 0.060" thickness burned horizontally. Time & extent of burning measured and classified as CC1 (1 in/min or less) or CC2 (2.5 in/min or less).	1.02 in/min (CC2 classification)
Acceptance Criteria AC16 Weathering & Strength (ASTM D1499, D256)	(2) 3" x 9" panels, one panel as control, subjected to 2000-hr carbon-arc weathering & followed by visual inspection; (5) 5" x 0.5" specimens from both panels evaluated for impact by Charpy Test. Thickness as intended for use.	No visual defects. Less than 25% reduction in impact strength