

# ACRYLITE® Sheet GP

Polymethyl Methacrylate Acrylic  
Evonik Cyro LLC

Message:

ACRYLITE® cell cast acrylic sheet is made to exacting standards. It offers excellent optical characteristics, thickness tolerances, light stability, and low internal stress levels for consistent performance.

ACRYLITE® sheet is a lightweight, rigid thermoplastic material that has many times the breakage resistance of standard glass and is highly resistant to weather conditions. ACRYLITE® cell cast can be easily sawed, machined, thermoformed, and cemented and is ultraviolet light absorbing up to approximately 360 nanometers.

Because of its unique properties, ACRYLITE® cell cast is ideal for a wide range of applications, such as:

- Retail store displays
- Security glazing
- Industrial and residential glazing
- Luminaries
- Aquariums
- Decorative paneling
- Spectator shielding
- Skylights
- Signs

General Information			
UL YellowCard	E54671-244562	E54671-244563	
Features	Rigidity, high		
	Optical		
	Impact resistance, good		
	Machinable		
	Good chemical resistance		
	Good weather resistance		
	The smell is low to none		
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Uses	Displays		
	Industrial application		
	Assembled glass		
Agency Ratings	ANSI Z 97.1 3		
	EC 1907/2006 (REACH)		
Appearance	Available colors		
	Clear/transparent		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm³	ASTM D792

Molding Shrinkage - Flow <sup>1</sup> (23°C)	2.0	%	ASTM D702
Water Absorption (23°C, 24 hr)	0.20	%	ASTM D570
<b>Hardness</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Rockwell Hardness (M-Scale)	94		ASTM D785
Barcol Hardness	49		ASTM D2583
<b>Mechanical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Tensile Modulus	2760	MPa	ASTM D638
Tensile Strength	68.9	MPa	ASTM D638
Tensile Elongation (Break)	4.2	%	ASTM D638
Flexural Modulus	3280	MPa	ASTM D790
Flexural Strength (Break)	114	MPa	ASTM D790
Compressive Modulus	2960	MPa	ASTM D695
Compressive Strength	124	MPa	ASTM D695
Shear Strength	62.1	MPa	ASTM D732
<b>Impact</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Notched Izod Impact	21	J/m	ASTM D256
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (1.8 MPa, Unannealed)	98.9	°C	ASTM D648
Continuous Use Temperature	82.2	°C	
Vicat Softening Temperature	115	°C	ASTM D1525
CLTE - Flow	7.2E-5	cm/cm/°C	ASTM D696
Specific Heat (25°C)	1460	J/kg/°C	
Thermal Conductivity	0.19	W/m/K	Internal method
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Surface Resistivity	1.9E+15	ohms	ASTM D257
Volume Resistivity	1.6E+16	ohms · cm	ASTM D257
Dielectric Strength <sup>2</sup> (3.18 mm)	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.50		ASTM D150
1 kHz	3.20		ASTM D150
1 MHz	2.70		ASTM D150
Dissipation Factor			ASTM D150
60 Hz	0.060		ASTM D150
1 kHz	0.040		ASTM D150
1 MHz	0.020		ASTM D150
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Burning Rate (3.00 mm)	30	mm/min	ASTM D635
Self Ignition Temperature	488	°C	ASTM D1929
Smoke density (3.00mm)	11	%	ASTM D2843
Soluble Matter Loss	0.0	%	ASTM D570
Weight Gain			ASTM D570

During Immersion	0.20	%	ASTM D570
During Immersion (14 days)	0.060	%	ASTM D570
During Immersion (21 days)	0.080	%	ASTM D570
During Immersion (35 days)	1.0	%	ASTM D570
During Immersion (48 days)	1.1	%	ASTM D570
During Immersion (7 days)	0.050	%	ASTM D570
Forming Temperature	171 - 193	°C	
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.490		ASTM D542
Transmittance	92.0	%	ASTM D1003
Haze	< 1.0	%	ASTM D1003
Additional Information	Nominal Value	Unit	Test Method
Water Absorption - Dimensional Change during Immersion, ASTM D570 : 0.2%			
NOTE			

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| 1. | Difference in length and width,<br>before and after heating above<br>300°F |
| 2. | Method A (short time)  |

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#### Recommended distributors for this material

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