

Aristech Solarcast®

Acrylic
Aristech Acrylics LLC

Message:

Aristech Acrylics LLC Solarcast® Acrylic Sheet is an "ultraviolet transmitting" cast acrylic sheet derived from a unique formulation. Aristech Acrylics LLC Solarcast® Acrylic Sheet was developed particularly for tanning bed and other applications where UV transmittance is needed. The following physical properties were determined using 0.177" (4.5 mm) thickness clear Aristech Acrylics LLC Acrylic Sheet. Properties may vary somewhat on other thicknesses.

General Information			
Features	Good Thermal Stability		
	Low to No Odor		
	Low to No Taste		
Appearance	Clear/Transparent		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.18	g/cm ³	ASTM D792
Water Absorption (Saturation, 4.50 mm)	0.18	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale, 4.50 mm)	101		ASTM D785
Barcol Hardness (4.50 mm)	54		ASTM D2583
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (4.50 mm)	3250	MPa	ASTM D638
Tensile Strength (Yield, 4.32 mm)	64.6	MPa	ASTM D638
Tensile Elongation (Break, 4.50 mm)	3.3	%	ASTM D638
Flexural Modulus (4.50 mm)	3170	MPa	ASTM D790
Flexural Strength (4.50 mm)	120	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (4.50 mm)	315	J/m	ASTM D6110
Thermal Stability (180°C, 4.50 mm) ²	No degradation		ASTM D4802
UV Transmittance ³			
280 nm	63	%	
300 nm	82	%	
Hot Forming Temperature (4.50 mm)	171 to 193	°C	Internal Method
Notched Izod Impact (4.50 mm)	22	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 4.50 mm)	95.6	°C	ASTM D648
CLTE - Flow (4.50 mm)	6.5E-5	cm/cm/°C	ASTM D696

Specific Heat ⁴	1460	J/kg/°C	ASTM C351
Thermal Conductivity ⁵	0.20	W/m/K	Internal Method
Optical	Nominal Value	Unit	Test Method
Refractive Index ⁶	1.490		ASTM D542
Transmittance (4500 μm)	92.6	%	ASTM D1003
Haze (4500 μm)	1.5	%	ASTM D1003
Yellowness Index (4.50 mm)	0.70	YI	ASTM D1925

NOTE

- | | |
|----|----------------------|
| 1. | 0.177 in |
| 2. | 30 min |
| 3. | UV Spectrophotometer |
| 4. | 0.177 in |
| 5. | 0.177 in |
| 6. | 0.177 in |

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

