

Spartech Polycast SAR (Super Abrasion Resistant) Cell Cast Acrylic

Category : Polymer , Thermoplastic , Acrylic (PMMA)

Material Notes:

Description: Cell Cast Acrylic Information provided by Spartech.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Spartech-Polycast-SAR-Super-Abrasion-Resistant-Cell-Cast-Acrylic.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Water Absorption	0.20 %	0.20 %	24 hr immersion

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	ASTM D785
Tensile Strength, Yield	68.9 MPa	10000 psi	ASTM D638
Elongation at Break	4.5 %	4.5 %	ASTM D638
Tensile Modulus	2.94 GPa	427 ksi	ASTM D638
Flexural Strength	110 MPa	16000 psi	ASTM D790
Flexural Modulus	3.10 GPa	450 ksi	ASTM D790
Compressive Yield Strength	123 MPa	17900 psi	ASTM D695
Compressive Modulus	2.94 GPa	427 ksi	ASTM D695
Shear Strength	61.4 MPa	8900 psi	ASTM D732
Izod Impact, Notched	0.200 J/cm	0.375 ft-lb/in	ASTM D882
Impact	18	18	inches, Falling 0.5 lb Steel Ball Breakage Height; ASTM D256
Taber Abrasion, mg/1000 Cycles	1.5	1.5	500 g each wheel, 100 rev ANSI Z26.1; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear	75.6 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	42.0 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	ASTM D696
Specific Heat Capacity	1.46 J/g $\cdot^\circ\text{C}$ @Temperature 25.0 $^\circ\text{C}$	0.350 BTU/lb $\cdot^\circ\text{F}$ @Temperature 77.0 $^\circ\text{F}$	Dupont 900 (Therm. An. Cal.)

Thermal Properties	Metric	English	Comments
Thermal Conductivity	W/m-K	Btu-in/hr-ft ² -°F	Centi-Fitch
Maximum Service Temperature, Air	80.0 Â°C	176 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	93.3 Â°C	200 Â°F	ASTM D648
Flame Spread	25 mm/min	0.98 in/min	Burning Rate UL 94 HB; ASTM D635
Flash Point	466 Â°C	870 Â°F	Self Ignition Temperature; ASTM D1929
Shrinkage	2.2 %	2.2 %	Residual Shrinkage (Internal Strain) Polycast; ASTM D4802

Optical Properties	Metric	English	Comments
Refractive Index	1.43	1.43	ASTM D542
Haze	0.50 %	0.50 %	As Cast; ASTM D1003
Transmission, Visible	93 %	93 %	As Cast; ASTM D1003
UV Transmittance	0.00 - 5.0 % @Wavelength 320 nm	0.00 - 5.0 % @Wavelength 320 nm	

Processing Properties	Metric	English	Comments
Processing Temperature	106 Â°C	223 Â°F	Hot Forming Temperature

Descriptive Properties	Value	Comments
Mar Resistance	2.3	ASTM D637
Smoke Density	13.9%	ASTM D2843

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