TYPICAL PROPERTIES OF

AMSTG

Photopolymer Resin Strong

Description:

With low modulus, high elongation, and high impact strength, Strong Resin produces parts with a smooth, glossy finish and high resistance to deformation. Use this material for applications requiring minimal friction.

	METRIC[1]		IMPERIAL[1]		METHOD
	Not Post-Cured[2]	Post-Cured[3]	Not Post-Cured[2]	Post-Cured[3]	
Tensile Properties					
Ultimate Tensile Strength	18.6 MPa	31.8 MPa	2.7 ksi	4.61 ksi	ASTM D 638-10
Tensile Modulus	0.45 GPa	1.26 GPa	65.7 ksi	183 ksi	ASTM D 638-10
Elongation	67 %	49 %	67 %	49 %	ASTM D 638-10
Flexural Properties					
Flexural Stress at 5% Strain	4.06 MPa	27.2 MPa	0.59 ksi	3.95 ksi	ASTM D 790-10, Procedure A
Flexural Modulus	0.16 GPa	0.82 Gpa	23.4 ksi	119 ksi	ASTM D 790-10, Procedure A
Impact Properties					
Notched IZOD	130.8 J/m	109 J/m	2.46 ft/lbf/in	2.05 ft/lbf/in	ASTM D 256-10, Test Method A
Temperature Properties					
Heat Deflection Temp. @ 0.45 MPa	< 30 °C	43.3 °C	< 86 °F	110 °F	ASTM D 648-07, Method B
Thermal Expansion (23 to 50 °C)	117.0 µm/m/°C	145.1 µm/m/°C	65.0 µin/in/°F	80.6 µin/in/°F	ASTM E 831-14

[1] Material properties can vary with part geometry, orientation, settings, and temperature

[2] Data was obtained from parts without additional treatments.

[3] Data was obtained from parts post-cured.

Solvent Compatibility:

Percent weight gain over 24 hours for a part post-cured 1x1x1cm cube immersed in respective solvent:

Solvent	24 hr weight gain (%)	Solvent	24 hr weight gain (%)
Acetic Acid, 5 %	1.3	Hydrogen Peroxide (3 %)	1
Acetone	sample cracked	Iscooctane	<1
Isopropyl Alcohol	5.1	Mineral Oil, light	<1
Bleach, ~5 % NaOCI	<1	Mineral Oil, heavy	<1
Butyl Acetate	7.9	Salt Water (3.5 % NaCl)	<1
Diesel	<1	Sodium hydroxide (0.025 %, pH = 10)	<1
Diethyl glycol monomethyl ether	7.8	Water	<1
Hydrolic Oil	<1	Xylene	6.5
Skydrol 5	1.3	Strong Acid (HCI Conc)	distorted

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