

SG5 Impact Modified Acrylic Product Data



IMPACT MODIFIED ACRYLIC VS POLYCARBONATE		
Feature	SG5	Polycarbonate
Weatherability	Excellent weatherability with no impact reduction	Yellows when exposed to sunlight, lessens impact strength after exposure
Forming	Better melt strength	Low melt strength
Forming Temperature	Wide range (275°F–375°F)	Distinct forming temperature
Optical Clarity	Very clear	Less clear, hazy, shows distortion
Cost	40% less than polycarbonate	Expensive

PROPERTY	ASTM	UNITS	Impact Modified Acrylic			
			30% I	50% I	70% I	100% I
Optical						
Light Transmittance	D-1003	%	92	92	90	90
Percent Haze	D-1003	%	2	2	<3	<3
Mechanical						
Izod Impact Strength	D-256	ft.lbs./in.	0.6	0.7	0.9	1.1
Tensile Modulus of Elasticity	D-638	PSI	376,000	340,000	304,000	250,000
Tensile Strength @ Yield	D-638	PSI	9,000	8,000	7,100	5,600
Flexural Strength @ Yield	D-790	PSI	13,690	12,000	10,610	8,300
Rockwell Hardness Method A	D-785		78	68	59	46
Thermal						
Deflection Temperature (264psi)	D-648	°F	198	194	190	185
Coefficient of Thermal Expansion	D-696	in./in.-°F	3.5 x 10 ⁻⁵	4 x 10 ⁻⁵	4.5 x 10 ⁻⁵	5 x 10 ⁻⁵
Self Ignition Temperature	D-1929	°F	>850	>850	>850	>850
Burning Rate	D-635	in./min.	0.85	1.25	1.53	1.97
Smoke Density Rating	D-2843	%	5.20	8.50	11.5	16.5
Processing						
Density	Specific Gravity	D-792	1.18	1.17	1.16	1.15
Moisture	Water Absorption	D-570	0.3	0.3	0.3	0.3
Dimensional	Molding Shrinkage	D-955	% wt. gain mils./in.	3 - 6	3 - 6	3 - 6



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