Aerospace Grades - Acrylic

Polycast

POLY A

Is the standard unshrunk acrylic manufactured to a visual and optical specification.

Color: Clear as well as transparent colors
Applications: Non-critical glazing for commercial helicopters and sport planes

POLY II

Most versatile material for aircraft glazing. This methyl methacrylate polymer is preshrunk vertically or horizontally. Properties are improved resistance to weathering and aging. Meets or exceeds all requirements of **MIL-P-5425.**

Color: Clear and colors
Applications: Span the entire spectrum of the marketplace, ranging from wing-tip lenses to edge-lit panels.

POLY 76

Is a crosslinked, preshrunk acrylic with excellent resistance to crazing, solvent attacks and thermal dimensional change. Meets or exceeds all requirements of **MIL-P-8184,Type I, Class I.**

Color: Transparent colors
Applications: Both military and commercial aircraft

POLY 84

Is a uniquely formulated, crosslinked, preshrunk acrylic specifically designed to provide superior craze and solvent resistance. Improvements such as lower water absorption and increased resistance to acids expands the number of “as cast:” applications. Meets or exceeds all requirements of **MIL-P-8184,Type II, Class 2** Is also available as a the stretchable grade. It offers qualities of the standard POLY 84 plus the superior cleanliness and processing required to yield a high quality billet for stretching.

Color: Transparent colors
Applications: Monolithic windscreens, outer laminates and canopies

Polycast SPARTECH

Physical Properties

Physical Properties	ASTM	POLY A	POLY II	POLY 76	POLY 84
Specific Gravity	D792-66	1.19	1.19	1.19	1.19
Tensile Strength psi	D638- 67T	9,000- 10,000	9,000- 10,000	9,000- 10,000	9,000- 10,000
Tensile Elongation %	D638- 67T	4-5	4-5	4-5	4-5
Internal Strain %	D702-647	Approx. 2.5	<1	<1	<1
Refractive Index	D542-50	1.49	1.49	1.49	1.49
Luminous Transmittance					
Initial	D1003-61	92	92	91	91
After Accelerated Weathering	D1003-61	92	92	91	91
Haze					
Initial	D1003-61	<.05	<.05	<.75	<.75
After Accelerated Weathering	D1003-61	<.5	<.5	<.75	<.75
Ultraviolet Transmission @ 320U	E	0	0	0	0
Optical Angular Deviation	90° Absolute Deviation	<7	<3.0	<3.0	<3.0
Thermal Expansion in./in/°F	D696-44	.000042	.000042	.000042	.000042
Deflection °C	D648-56	98	102	112	105
Flammability Inches per minute	D635	1.1	1.1	.75	.75
Water Absorption %	26 day immersion 140°F	1.6	1.6	2.6	1.9
Craze Resistance, Dry: PSI	MIL-P-8184				
IPA Alcohol	-	2000	2100	>2500	3000
Lacquer Thinner	-	1000	1100	>2000	2500
Craze Resistance, Wet: PSI	MIL-P-8184				
IPA Alcohol	-	500	1000	>1500	2000
Lacquer Thinner	-	0	0	>1000	2000