

Acrylic is a transparent plastic with outstanding strength, stiffness, and optical clarity. It is easy to fabricate, bonds well with adhesives and solvents, and can be easily thermoformed. It offers superior weathering properties compared to many other transparent plastics.

PROPERTIES	UNITS	RESULTS	TEST METHOD (ASTM)
Specific Gravity	-	1.19	D 792-60 T
Refractive Index	-	1.49	D 542-50
Light Transmittance	-	-	D 1003-61
Parallel	%	92	-
Total	%	93	-
Haze	%	1	-
THERMAL			
Hot Forming Temperature	°C	140-180	-
Heat Distortion Temperature 2° C /min-264 p.s.i	°C	85	D 648-56
Recommended Maximum Temperature	°C	85	-
MISCELLANEOUS			
Flammability	mm/min	33	D 635-63
Water Absorption	-	-	-
Wt. Gain on Immersion for 24hrs	%	0.3	D 570-63
Odor	-	None	-
Taste	-	None	-

APPLICATIONS

- Optical Lens
- Light Guide
- Simulate glass

*This data sheet describes some of the properties of cast acrylic sheet (S-000, thickness 3mm) TH

MECHANICAL	UNITS	RESULTS	TEST METHOD (ASTM)
Tensile Strength			D 638-61T
Rupture	kg/cm ²	760	-
Modulus of Elasticity	kg/cm	30000	-
Elongation	%	4.5	-
Flexual Strength	-	-	D 790-63
Rupture	kg/c	1050	-
Modulus of Elasticity	kg/c	30000	-
Compressive Strength	-	-	D 695-63 T
Yield	kg/c	1260	-
Modulus of Elasticity	kg/c	30000	-
Shear Strength	kg/c	630	D 732-46
Impact Strength	-	-	D 256-56
Izod Milled Notc (200 gr.steel ball)	m	0.4	-

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PHYSICAL PROPERTIES OF ACRYLIC SHEET

1. Has the highest light transmittance among all kinds of plastic sheets
2. Light transmittance: 92-93%
3. Thickness is positively related to light-guide performance
4. Low specific gravity (1.19); only half weight of glass
5. Great anti-shatter performance: 7 to 18 times better than glass
6. Impact strength is 10 times higher than that of glass
7. Impact strength remains unchanged at a low (-50°C) or high (100°C) temperature
8. Great weatherability and ageing-resistance
9. Great thermoformability
10. Good oil and chemical resistance

MISUNDERSTANDING

- Acrylic sheets have superior weatherability and do not yellow easily unless made from cheap recycled materials instead of pure acrylic pellets or clear monomers.
- Surface crazing is rare, typically only occurring due to improper fabrication, plasticiser-containing packaging, or low-quality recycled materials.
- Acrylic sheets generally maintain high colour stability unless low-quality weather-resistant pigments are used.

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