

TECHNICAL DATA SHEET

Kydex

(acrylic-polyvinyl chloride)

Kydex is produced from an acrylic / PVC alloy that has some very unique characteristics. It is tough, nonporous, noncorrosive, chemical resistant, fire retardant and thermoformable. KYDEX® possesses very good abrasion resistance and virtually no moisture absorption.

With the superior rigidity and formability of acrylic and the chemical resistance, finish rating and toughness of PVC, Kydex® becomes a very versatile material that can be thermoformed. Kydex® exhibits elasticity in flexure of 330,000 psi and is rated 90 on the Rockwell R scale while maintaining excellent abrasion resistance. Kydex® offers high rigidity and less deformity under load, making it a good choice for deep formed parts with thin wall sections.

TYPICAL PROPERTIES of KYDEX® 100 (HIGH IMPACT FIRE-RATED SHEET)

Property	Test Method	Typical Value ¹
Specific Gravity	ASTM D-792	1.35
Tensile Strength	ASTM D-638	6,100 psi (42 MPa)
Elongation %	ASTM D-638	160
Flexural Strength	ASTM D-790	9,100 psi (63 MPa)
Modulus of Elasticity	ASTM D-790	335,000 psi (2,310 MPa)
Notched Izod Impact Resistance @ 73° F (23° C)	ASTM D-256	18 ft.-lbs. / in (953 J/m)
Rockwell Hardness (R Scale)	ASTM D-785	94
Coefficient of Thermal Expansion	ASTM D-785	4.2x10 ⁻⁵ ° F (7.56x10 ⁻⁵ ° C)
Heat Deflection Temperature (HDT) @ 264 psi, annealed °F	ASTM D-648	173 ° F (79 ° C)
Flammability: Underwriter's Lab. Component Recognition	UL Standard 94	V-0 ₃ 5V
Motor Vehicle Safety Standard	MVSS 302	Pass
Federal Aviation Administration	FAR 25.853(a)	Pass ₃
BS 476 Part 6		Class 1
BS 476 Part 7		Class 1
EC 95/28/EG		Pass (1-6mm)
DIN 5510-2		.9mm (S4,ST2,SR2) 6.5mm (S4,ST2,SR2)
DIN 4102-B1		Pass at .7 mm

¹ All Values are based upon 0.125" (3.12 mm) sheet unless otherwise specified.
² Underwriter's Laboratories Inc., File E115252
³ All Gauges 0.028" (0.711 mm) and above.
 Not intended for specification purposes.

Benefits

Waterproof
Scratch resistant (Rockwell "R" hardness of 90)
Mechanical stability
Non shrink
Low friction

Applications

Electronic and medical enclosures
Springs and tensioners
Equipment housings
Instrument consoles
Door liners
Kick plates
Seat backs
Aircraft pull-down trays
Motor covers
Aircraft fairings
Air exhaust systems

SEE NEXT PAGE FOR ADDITIONAL INFORMATION

SHAPE AVAILABLE



Kydex® is a registered trademark of Kydex LLC

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.



TYPICAL PROPERTIES of KYDEX® 101 (THERMOPLASTIC SHEET FOR SIGNAGE)

Property	Test Method	Typical Value ¹
Specific Gravity	ASTM D-792	1.35
Tensile Strength	ASTM D-638	6100 psi (42 MPa)
Flexural Strength	ASTM D-790	9,300 psi (64 MPa)
Modulus of Elasticity	ASTM D-790	335,000 psi (2,310 MPa)
Notched Izod Impact Resistance @ 73° F (23° C)	ASTM D-256	18 ft-lbs/in (953 J/m)
Heat Deflection Temperature (HDT) @ 264 psi (1.82 MPa) annealed	ASTM D-648	173° F (79° C)
Flammability: Underwriter's Lab. Component Recognition	UL Standard 94	V-0, 5V ³
Flammability: Underwriter's Lab. Component Recognition	UL 764 C	Pass ³
Forming Temperature		325-390° F (163-200° C)

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³All gauges .028" (0.71mm) and above.
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TYPICAL PROPERTIES of KYDEX® 150 (Class 1/A Rated)

Property	Test Method	Typical Value ¹
Specific Gravity	ASTM D-792	1.35
Tensile Strength	ASTM D-638	6,100 psi (42 MPa)
Flexural Strength	ASTM D-790	9300 psi (64 MPa)
Modulus of Elasticity	ASTM D-790	335,000 psi (2,310 MPa)
Notched Izod Impact Resistance @ 73° F (23° C)	ASTM D-256	18ft-lbs/in (953 J/m)
Rockwell Hardness (R Scale)	ASTM D-785	94
Heat Deflection Temperature (HDT) @ 264 psi (1.82 MPa) annealed	ASTM D-648	156°F (68°C)
Flammability: Flame Spread Smoke Developed .050" (1.27mm) ²	ASTM E-84	25/40
Flammability: Flame Spread Smoke Developed .060" (1.52mm)	ASTM E-84	20/350
Flammability: Flame Spread Smoke Developed .093" (1.52mm)	ASTM E-84	35/350-450

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²Underwriter's Laboratories Inc., File R6738 (N)
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TYPICAL PROPERTIES of KYDEX® 200 (General Purpose Grade)

Property	Test Method	Typical Value ¹
Specific Gravity	ASTM D-792	1.35
Tensile Strength	ASTM D-638	6100 psi (42 MPa)
Flexural Strength	ASTM D-790	9100 psi (63 MPa)
Modulus of Elasticity, psi	ASTM D-790	320,000 psi (2206 MPa)
Notched Izod Impact Resistance@73° F (23° C)	ASTM D-256	10 ft-lbs./in (534 J/m)
Rockwell Hardness (R Scale)	ASTM D-785	94
Heat Deflection Temperature (HDT) @ 264 psi, annealed °F	ASTM D-648	173° F (78° C)
Flammability: Independent Test Lab	UL Standard 94	V-0
Forming Temperature		325-390° F (163-200° C)
DIN 4102-B1		Pass at .7mm 325-390° F (163-200° C)

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