

KYDEX® Thermoplastic Sheet vs. FR-ABS

TB - 110

KYDEX® Sheet vs. FR-ABS

Property	Test Method	KYDEX® 100	KYDEX® T	Royalite R-59	Royalite R-57	Royalite R-24
Specific Gravity(0.125")	ASTM D-792	1.33 - 1.37	1.33-1.37	1.18-1.25	1.18-1.26	1.02-1.08
Tensile Strength	ASTM D-638	42 MPa (6,100 psi)	42 MPa (6,100 psi)	35 MPa (5000 psi)	33 MPa (4800 psi)	35 MPa (5000 psi)
Elongation at Break, %	ASTM D-638	160	110	n/a	n/a	n/a
Flexural Strength	ASTM D-790	64 MPa (9,300 psi)	66 MPa (9,600 psi)	54 MPa (7800 psi)	53 MPa (7700 psi)	54 MPa (7800 psi)
Modulus of Elasticity	ASTM D-790	2310 MPa (335,000 psi)	2482 MPa (360,000 psi)	1931 MPa (280,000 psi)	1931 MPa (280,000 psi)	1931 MPa (280,000 psi)
Rockwell Hardness, R	ASTM D-785	94	94	93	93	98
Notched Izod Impact Resistance, 23°C J/m (73°F, ft-lbs/in)	ASTM D-256	961 J/m (18 ft-lbs/in)	801 J/m (15 ft-lbs/in)	427 J/m (8 ft-lbs/in)	427 J/m (8 ft-lbs/in)	400 J/m (7.5 ft-lbs/in)
Gardner Dropdart	ASTM D-5420	> 640	640	n/a	n/a	320
Heat Deflection Temperature, HDT, at 1.82MPa (264 psi), annealed	ASTM D-648	78°C (173°F)	75.5°C (168°F)	79°C (175°F)	79°C (175°F)	99°C (210°F)
Flammability Resistance Underwriter's Lab., Inc® UL Standard 94	V-0	> .028	> .028	> .085	> .085	HB @ .060
	5VA	>.078	>.118	> .085	n/a	n/a
Federal Aviation Administration	FAR 25.853a1ii (12s)	Pass*	Pass*	n/a	Pass	n/a
	FAR 25.853a1i (60s)	Pass*	Pass*	n/a	n/a	n/a
Motor Vehicle Safety Standard	MVSS 302	Pass	Pass	Pass	Pass	Pass
Radiant Panel	ASTM E-162	< 35	15	50	n/a	n/a
Forming Temperature		163 - 199°C (325 - 390°F)	163 - 199°C (325 - 390°F)	163 - 204°C (325 - 400°F)	163 - 204°C (325 - 400°F)	171 - 202°C (340-395°F)

Values based upon literature values.
 Not intended for specification purposes.
 Typical Data Based on 3.18mm (0.125") sheet.
 *Passes in all thicknesses and colors.

KYDEX, LLC

ISO 9001 and 14001 Certified

Customer Service

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ROYALITE® R59 is a Fire Rated ABS/PVC thermoplastic sheet product.

ROYALITE® R57 is a Fire Rated ABS/PVC thermoplastic sheet product.

ROYALITE® R24 is Fire Rated ABS thermoplastic sheet product.

Note: Plastics such as ABS, PP, and HIPS may contain Polybrominated diphenyl ether (PBDE) as a flame retardant to meet the stringent UL 94 standard. KYDEX does not and has never contained any of the chemicals in the PBDE family, such as PentaBDE, OctaBDE, or DecaBDE.

The Directive 2002/95/EC of the European Parliament; Restriction of Hazardous Substances in Electrical and Electronic Equipment (ROHS) states that from July 1st 2006, lead, mercury, cadmium, hexavalent chromium, Polybrominated diphenyl ether (PBDE) will be banned from new electrical and electronic equipment.

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This information supersedes all previously published data.