

KYDEX® 100 Acrylic/PVC Thermoplastic Sheet

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Vinyl (PVC) , PVC/Acrylic Alloy

Material Notes:

High impact fire rated sheet Applications: Housings for equipment such as photocopy machines, instrument panels, computers, keyboards, telephones. Hidden parts for equipment such as vending machines, air ducts, grills. Orthopedic braces, medical equipment parts, in-store displays, electrical equipment Features: Superior formability for deep or hard to form parts or where good finished detail is required. Kydex 100 is more rigid than most other thermoplastics resulting in parts that will deform less when loaded. Offers resistance to breakage. Meets the highest standard for chemical resistance for thermoplastic materials. Recognized by Underwriter's Laboratories Inc. for Standard 94 V-0 and 5V and UL 746C in all gauges and colors. Passes Motor Vehicle Safety Standards (MVSS 302). Radiant Panel: 22.5 as per ASTM E162 Fabrication: Excellent forming properties result in uniform wall thicknesses and crisp detail, plus easy machining and fabricating using conventional methods, further expanding finished part possibilities. Data provided by the Kleerdex Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_KYDEX-100-AcrylicPVC-Thermoplastic-Sheet.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	ASTM D792
Water Absorption	0.060 %	0.060 %	24 hrs.; ASTM D570
Water Absorption at Saturation	0.15 %	0.15 %	7 days; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	94	94	ASTM D785
Hardness, Shore D	77	77	ASTM D2240
Tensile Strength, Ultimate	42.0 MPa	6090 psi	ASTM D638
Tensile Strength, Yield	39.6 MPa	5750 psi	ASTM D638
Elongation at Break	160 %	160 %	
Flexural Yield Strength	64.0 MPa	9280 psi	ASTM D790
Flexural Modulus	2.39 GPa	347 ksi	ASTM D790
Compressive Yield Strength	55.2 MPa	8000 psi	ASTM D695
Ultimate Bearing Strength	37.9 MPa	5500 psi	ASTM D593
Shear Strength	31.0 MPa	4500 psi	ASTM D732
Izod Impact, Notched	1.07 J/cm @Temperature 0.000 Â°C	2.00 ft-lb/in @Temperature 32.0 Â°F	ASTM D256

Mechanical Properties	Metric	English	Comments
	9.53 J/cm @Temperature 23.0 Â°C	lb/in @Temperature 73.4 Â°F	ASTM D256
Tensile Impact Strength	158 kJ/mÂ²	75.0 ft-lb/inÂ²	ASTM D1822
Taber Abrasion, mg/1000 Cycles	0.038	0.038	ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear	75.6 Âµm/m-Â°C @Temperature 16.0 Â°C	42.0 Âµin/in-Â°F @Temperature 60.8 Â°F	R&H P-4
Specific Heat Capacity	1.21 J/g-Â°C	0.289 BTU/lb-Â°F	R&H P-37
Thermal Conductivity	0.160 W/m-K	1.11 BTU-in/hr-ftÂ²- Â°F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	78.0 Â°C	172 Â°F	annealed; ASTM D648
UL RTI, Electrical	50.0 Â°C @Thickness 1.57 - 6.33 mm	122 Â°F @Thickness 0.0618 - 0.249 in	
UL RTI, Mechanical with Impact	50.0 Â°C @Thickness 1.57 - 6.33 mm	122 Â°F @Thickness 0.0618 - 0.249 in	
UL RTI, Mechanical without Impact	50.0 Â°C @Thickness 1.57 - 6.33 mm	122 Â°F @Thickness 0.0618 - 0.249 in	
Flammability, UL94	V-0	V-0	V-0, 5V; Underwriter's Lab; UL Standard 94
Oxygen Index	37.5 %	37.5 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.46	2.46	ASTM D150
	@Frequency 8.00e+8 Hz	@Frequency 8.00e+8 Hz	
	2.8	2.8	ASTM D150
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	
	3.4	3.4	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	

Dielectric Strength Electrical Properties	≥ 16.9 kV/mm Metric	≥ 430 kV/in English	ASTM D149 Comments
Dissipation Factor	0.013 @Frequency 1e+9 Hz	0.013 @Frequency 1e+9 Hz	ASTM D150
	0.022 @Frequency 60 Hz	0.022 @Frequency 60 Hz	ASTM D150
	0.023 @Frequency 8.00e+8 Hz	0.023 @Frequency 8.00e+8 Hz	ASTM D150
Arc Resistance	80 sec	80 sec	ASTM D495
Comparative Tracking Index	≥ 600 V @Thickness 3.05 mm	≥ 600 V @Thickness 0.120 in	UL PLC 0
Hot Wire Ignition, HWI	60 - 120 sec @Thickness 2.03 - 6.33 mm	60 - 120 sec @Thickness 0.0799 - 0.249 in	UL PLC 1
High Amp Arc Ignition, HAI	30 - 60 arcs @Thickness 1.57 - 6.33 mm	30 - 60 arcs @Thickness 0.0618 - 0.249 in	UL PLC 2
High Voltage Arc-Tracking Rate, HVTR	≥ 150 mm/min @Thickness 1.57 - 6.33 mm	≥ 5.91 in/min @Thickness 0.0618 - 0.249 in	UL PLC 4

Processing Properties	Metric	English	Comments
Processing Temperature	163 - 200 $^{\circ}$ C	325 - 392 $^{\circ}$ F	Forming Temperature

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