

Lexan* HP92AF Film

Product Datasheet

Description

Lexan HP92AF film is a two-side coated polycarbonate film offering long-term anti-fog performance, chemical, and abrasion resistance on one side and chemical and abrasion resistance on the other. Lexan HP92AF is impact resistance, dimensional stability, anti-static properties, and has good optical clarity. It has been specifically developed to offer very good performance in the visor/eye protection industries and a variety of other applications. Lexan HP92AF film accepts commercial ophthalmic dyes even at ambient temperature on the anti-fog coated side. Both sides of the film can be printed for graphic applications. Typical applications include: Industrial visors and goggles, Sunglasses, Sports eyewear, Instrument lenses & display panels, Motorcycle visors, Mirrors, Windows, Face shields, and Wind shields.

Typical Property Values ♦

Property	ASTM Test Method	Units (USCS)	Value	ISO Test Method	Units (SI)	Value
Mechanical						
Tensile Strength @ Yield	ASTM D882	psi	8800	ISO 527	MPa	60.9
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	61.7
Tensile Modulus	ASTM D882	psi	293000	ISO 527	MPa	2020
Tensile Elongation at Break	ASTM D882	%	100-160	ISO 527	%	100-155
Gardner Impact Strength at 0.03" (0.75 mm)	ASTM D3029	ft-lb	21	ISO 6603-1	J	28
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.67		kN/m	293
Propogation	ASTM D1922	g/mil	270		kN/m	86
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010" (0.25 mm)	ASTM D2176-69	double folds	10			
0.020" (0.50 mm)	ASTM D2176-69	double folds	10			
Thermal						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft ² /°F/in	1.35		W/m ² K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x10 ⁻⁵ /°F)	3.4	ISO 11359	(x10 ⁻⁵ /°C)	6.2
Specific Heat @40°F (4°C)	ASTM E1269	Btu/lb/°F	0.3		KJ/Kg-°C	1.12
Glass Transition Temperature	ASTM D3417 / D3418	°F	307	ISO 11357	°C	153
Vicat Softening Temperature, B	ASTM 1525-00	°F	311		°C	155
Heat Deflection Temp. by TMA at 1.8 Mpa	modified	°F	290	ISO 75 modified	°C	145
Shrinkage at 302°F (150°C)	ASTM D1204	%	1.60		%	1.60
Brittleness Temperature	ASTM D746	°F	-211		°C	-135
Physical						
Density	ASTM D792	slug/ft ³	2.3	ISO 1183	kg/m ³	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.48	ISO 62	% change	0.48
Surface Energy(1 st surface/ 2 nd surface)	ASTM D5946-01	-	36 / 45			
Surface Tension(1 st surface/ 2 nd surface)	Dyne Pens	Dyne	39-40 / 32-34			
Pencil Hardness (1 st surface /2 nd surface)	ASTM D3363	-	hb-f / hb=1h			
Taber Abrasion (1 st surface/2 nd surface)	ASTM D1044	delta Haze	4 / 5			
Bayer Abrasion(1 st surface/2 nd surface)	Colts Labs test	Ratio	0.9 / 12.13			
Steel wool (1 st surface/2 nd surface)	Colts Labs test	Haze Gain	1.827 / 10.83			
Steel wool (1 st surface/2 nd surface)	Colts Labs test	Ratio	0.71 / 0.12			
Optical						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.5			
Light Transmission	ASTM D1003	%	92			
Yellowness Index	ASTM D1925	%	0.6			
Haze	ASTM D1003	%	0.5			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	92	ISO 2813	-	92
UV %Transmission at 380 nm	UV/Visual Spectroscopy	%	87			

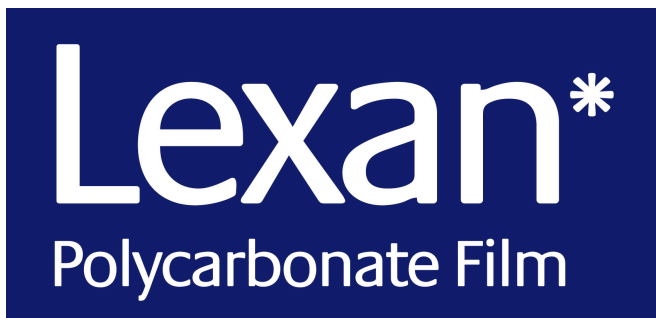
Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
0.020-0.030" (0.500-0.750 mm)	-/+3%

- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local SABIC Innovative Plastics, Specialty Film & Sheet representative or the Quality Services Department. Reported values are based on 0.250 mm (0.010") thickness film unless otherwise noted.

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