

# Lexan\* HPFDF Film

## Product Datasheet

### Description

Lexan\* HPFDF film is a patent pending one-side coated polycarbonate film and with an adhesive backing it is an excellent candidate for use in display case refrigeration units such as those found in grocery and convenience stores. It offers long-term anti-fog performance, abrasion resistance, impact resistance, and good optical clarity. Lexan HPFDF film also provides chemical resistance, printability, and anti-static properties.

Typical applications include: Refrigerated cases, Instrument lenses & display panels, Mirrors, Windows and Auto-Glass.

### Typical property Values ♦

Property	ASTM Test Method	Units (USCS)	Value	ISO Test Method	Units (SI)	Value
<b>Mechanical</b>						
Gardner Impact Strength at 0.03 in. (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6603-1	J	31
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.59		kN/m	278
Propagation	ASTM D1922	g/mil	43.4		g/mil	43.4
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010 inch (0.25 mm)	ASTM D2176-69	double folds	130			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	35			
<b>Thermal</b>						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft <sup>2</sup> /°F/in	1.35		W/m <sup>2</sup> K	0.2
Coefficient of Thermal Expansion	ASTM E831	( $\times 10^{-5}$ / °F)	3.4	ISO 11359	( $\times 10^{-5}$ / °C)	6.2
Specific Heat @ 40 °F (4 °C)	ASTM E1269	Btu/lb/°F	0.3		KJ/Kg-°C	1.14
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	295	ISO 75 Modified	°C	145
Brittleness Temperature	ASTM D746	°F	-211		°C	-135

### Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
0.010" (0.25 mm)	-/+ 5%

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Typical property Values (continued) ◆

Property	ASTM Test Method	Units	Value	ISO Test Method	Units	Value
<b>Physical</b>						
Density	ASTM D792	slug/ft <sup>3</sup>	74.5	ISO 1183	kg/m <sup>3</sup>	1194
Water Absorption, 24 hrs.	ASTM D570	% change	0.51	ISO 62	% change	0.51
Surface Energy	ASTM D5946-01	-	34			
Surface Tension	Dyne Pens	Dyne	38-40			
Pencil Hardness	ASTM D3363	-	HB			
Taber Abrasion	ASTM D1044	delta Haze	5			
Bayer Abrasion	Colts Labs test	Ratio	12.13			
Steel wool abrasion Haze gain	Colts Labs test	Haze Gain	10.83			
Steel wool abrasion Ratio	Colts Labs test	Ratio	0.12			
<b>Optical</b>						
Refractive Index @77 °F (25°C)	ASTM D542A	-	1.5			
Light Transmission	ASTM D1003	%	92			
Yellowness Index	ASTM D1925	%	0.6			
Haze	ASTM D1003	%	0.9			
Glass over Flat Black min/max @ 60°	ASTM D523-60	%	172	ISO 2813	%	172
<b>Adhesive properties</b>						
180 degree peel on glass		oz	50 - 100		kg	1.4 -2.8

Suggested cleaners for cleaning antifog coated side of film

Bissell – Glass & Multi-surface Cleaner	Simple Green
Bissell – Glass & Multi-surface Cleaner w/ orange scent	Formula 409
Glass Plus	Lysol Antibacterial kitchen cleaner
Mr. Clean Multi Surface	Windex Multi Task Citrus Orange
Fantastik	Dow Scrubbing Bubbles

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