

CLEAR LEXAN™ XHR2000 SHEET

PRODUCT DATASHEET

DESCRIPTION

CLEAR LEXAN™ XHR2000 sheet offers transparency, good impact resistance, good stiffness and strength, excellent formability, with excellent heat release and flammability characteristics, making it suitable for transportation applications, especially in aircraft interiors.

TYPICAL PROPERTY VALUES

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Sheet thickness availability	SABIC Internal	mm	1-3
Specific gravity	ASTM D792	-	1.31
Light Transmission, 2 mm	ASTM D1003	%	80
Refractive Index	SABIC Internal	-	1.62
Water absorption, equilibrium	ISO 62	%	0.24
Rockwell Hardness	ASTM D785	-	M61, R123
MECHANICAL			
Tensile Strength at Yield, 50mm/min	ISO 527	Mpa	75
Tensile Strain at Yield, 50mm/min	ISO 527	%	6.6
Tensile Strain at Break, 50mm/min	ISO 527	%	101
Tensile Modulus, 1mm/min	ISO 527	MPa	2500
Flexural Stress at Yield, 2mm/min	ISO 178	MPa	104
Flexural Modulus, 2mm/min	ISO 178	MPa	2330
IMPACT			
Izod impact, notched 23°C	ISO 180/1A	kJ/m ²	28
Izod impact, notched -30°C	ISO 180/1A	kJ/m ²	18
Ductility	ASTM D256	%	50
Instrumented Impact Total Energy, 23°C	ASTM D3763	J	94
THERMAL			
Vicat softening temperature, B/120	ASTM D1525	°C	138
Heat deflection temperature, 1.82MPa	ASTM D648	°C	125
Thermal conductivity	ASTM C177	W/m.°C	0.2
Mold Shrinkage	SABIC Internal	%	0.6 – 0.8
Coefficient of Thermal Expansion	ISO 11359-2	1/°C	5.9x10 ⁻⁵
FIRE RATINGS			
Aircraft			
Vertical burn, 60 s	FAR 25.853(a)+App.F	-	*
Smoke density	ABD0031	-	Pass < 50
Smoke toxicity	ABD0031,BSS 7239	-	Pass
OSU total heat release, 2 min.	FAR 25.853(d) App.F	kW.min/m ²	Pass < 55
OSU peak heat release rate, 5 min.	FAR 25.853(d) App.F	kW/m ²	Pass < 55

◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product. Variations within normal tolerances are possible for various colors. If minimum certifiable properties are required please contact your local SABIC, Specialty Film & Sheet representative. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties are measured on injection molded samples.

* For robust performance, hard coating application is recommended.

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PROCESSING

CLEAR LEXAN XHR2000 sheet is ideally suited to thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results CLEAR LEXAN XHR2000 sheet has a forming temperature range of 175 - 195°C. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.3 – 0.8% taken into account, depending on mold temperature.

PRE-DRYING

It is important to ensure that CLEAR LEXAN XHR2000 sheets are free of moisture prior to thermoforming. A hot air circulating oven set at 120°C is recommended. Pre-drying times vary from 3-12 hours for 1.2 to 4.0mm thick sheets.

ASSEMBLING

Parts made from CLEAR LEXAN XHR2000 sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult SABIC Specialty Film & Sheet representative for advice on specific applications.

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