

Description

Lexan* XHR6000 sheet is a high performance product formulated specifically for demanding applications in the Aerospace interiors market. Lexan XHR6000 sheet combines the features of robust compliance to toxicity, flame, and smoke with very low heat release performance (OSU). Fabrication and thermoforming characteristics are improved over other high heat OSU compliant materials. Lexan* XHR6000 sheet forms at similar temperatures to Lexan polycarbonate. The proprietary polymer is inherently transparent, so it is readily colorable, including bright whites.

Typical Property Values ♦

Property	Test Method	Unit	Value
Physical			
Specific Gravity	ASTM D792	---	1.34
Density	ISO 1183	g/cm ³	1.34
Water absorption, equilibrium, 23°C	ISO 62	%	0.28
Moisture absorption (23°C / 50% RH)	ISO 62	%	0.11
Mechanical			
Tensile stress at yield 50 mm/min	ISO 527	MPa	74
Tensile stress at break 50 mm/min	ISO 527	MPa	76
Tensile strain at yield 50 mm/min	ISO 527	%	6.8
Tensile strain at break 50 mm/min	ISO 527	%	109
Tensile Modulus 1 mm/min	ISO 527	MPa	2500
Flexural stress at yield 2 mm/min	ISO 178	MPa	107
Flexural Modulus 2 mm/min	ISO 178	MPa	2320
Rockwell Hardness, R	ISO 2039	---	125
Rockwell Hardness, M	ISO 2039	---	73
Impact			
Charpy impact, V-notched 23°C	ISO 179/1eA	kJ/m ²	24
Izod impact, notched 23°C	ISO 180/4A	kJ/m ²	16
Izod impact, notched -30°C	ISO 180/4A	kJ/m ²	10
Thermal			
HDT/ Ae, 1.8 MPa edgew. 120*1*04/sp=100	ISO 75/Be	°C	---
Coeff. of Thermal Expansion extr. 23-80°C	ISO 11359-2	1/ °C	5.6x10 ⁻⁵
Flammability			
OSU total heat release (2 min test)	FAR 25.853	kW-min/m ²	<55
OSU total heat release (peak)	FAR 25.853	kW/m ²	<55
Vertical Burn a(60s)	FAR 25.853	sec	2.4
Vertical Burn b(12s)	FAR 25.853	sec	0.5
NBS Smoke Density, Flaming, Dmax	ASTM E662	---	<25
Smoke Toxicity	ABD0031, BSS7239, SMP800C		Pass

♦ 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 IP 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.

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Typical Property Values ♦

Property	Test Method	Unit	Value
Physical			
Specific Gravity	ASTM D792	---	1.34
Density	ISO 1183	lb/in ³	0.04
Water absorption, equilibrium, 73°F	ISO 62	%	0.28
Moisture absorption (23°C / 50% RH)	ISO 62	%	0.11
Mechanical			
Tensile stress at yield, Type I, 2.0 in/min	ASTM D638	psi	10400
Tensile stress at break, Type I, 2.0 in/min	ASTM D638	psi	10600
Tensile strain at yield, Type I, 2.0 in/min	ASTM D638	%	6.7
Tensile strain at break, Type I, 2.0 in/min	ASTM D638	%	102
Tensile Modulus, 2.0 in/min	ASTM D638	psi	379000
Flexural stress at yield, 0.05 in/min, 2 in span	ASTM D790	psi	16600
Flexural Modulus, 0.05 in/min, 2 in span	ASTM D790	psi	362000
Rockwell Hardness, R	ASTM D785	---	125
Rockwell Hardness, M	ASTM D785	---	73
Impact			
Charpy impact, V-notched 23°C	ISO 179/1eA	kJ/m ²	24
Izod impact, notched 73°F	ASTM D256	ft-lb/in ²	3.6
Izod impact, notched -22°F	ASTM D256	ft-lb/in ²	2
Instrumented Impact Total Energy, 73°F	ASTM D3763	in-lb	708
Thermal			
HDT, 264 psi, 0.125", unannealed	ASTM D648	°F	249
Coeff. of Thermal Expansion extr. 23-80°C	ASTM E831	1/ °F	3.10 ⁻⁶
Flammability			
OSU total heat release (2 min test)	FAR 25.853	kW-min/m ²	<55
OSU total heat release (5 min test)	FAR 25.853	kW/m ²	<55
Vertical Burn a(60s)	FAR 25.853	sec	2.4
Vertical Burn b(12s)	FAR 25.853	sec	0.5
NBS Smoke Density, Flaming, Dmax	ASTM E662	---	<25
Smoke Toxicity	ABD0031, BSS7239, SMP800C		Pass

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Fabrication

Information to be developed.

Product availability

Lexan* XHR600 sheet is normally manufactured in the standard configurations below;

Europe:

Standard gauges: 1, 1.5, 2, 3, 4 mm

Size: 1250 x 2050 mm

Textures: XHR6006 (suede)

Masking: None

Colors: See Europe Standard Color Matrix, custom color available

Europe Standard Color Matrix

Description	XHR6000	F6000
Off-White	WH5E060	NA (RAL9003)
Light Gray	GY8E054	705809
Gray	GY6E055	GY6B008
Gray	GY6E056	70096
Black	BK1E121	701

America:

Standard gauges: 0.04, 0.06, 0.08, 0.093, 0.125, 0.157 inch

Size: 4x8' (web width)

Textures: XHR6006 (suede), Available upon special request:

XHR6000 (polished), XHR6029 (deep velvet)

Masking: None

Colors: See Americas Standard Color Matrix, custom color available

Americas Standard Color Matrix

Description	XHR6000	F6000
Gray	GY6E076	GY6021
Medium Gray	GY4E046	70561
Dark Gray	GY2E047	GY21088
Off-White	WH6E019	803
Ivory	WH6E018	WH1158
Beige	BR7E016	50032



Colors can be viewed at:

<https://www.sabic-ip.com/cxp/>

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