Classification: General Business Use

POLYVANTIS

PRODUCT DATASHEET

LEXAN™ H6600 SHEET

DESCRIPTION

LEXAN™ H6600 is a flame-retardant opaque polycarbonate sheet containing glass fibres. In addition to robustly meeting the EN45545-2 R1-HL2 requirements, it offers good impact resistance, high stiffness, and ease of processing, making it suitable for a wide variety of rail applications.

TYPICAL PROPERTY VALUES*

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm³	1.35
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
Density	ASTM D792	g/cm³	1.35
MECHANICAL			
Tensile Modulus, 1 mm/min, +23 °C	ISO 527	MPa	3660
Tensile Stress, yield, 5 mm/min, +23 °C	ISO 527	MPa	50
Tensile Stress, break, 5 mm/min, +23 °C	ISO 527	MPa	40
Tensile Strain, break, 5 mm/min, +23 °C	ISO 527	%	12
Tensile Strain, yield, 5 mm/min, +23 °C	ISO 527	%	5
Flexural Stress, 2 mm/ min +23 °C	ISO 178	MPa	72
Flexural Modulus, 2 mm/min, +23 °C	ISO 178	MPa	3376
Tensile Modulus, 5 mm/min	ASTM D638	MPa	4150
Tensile Stress, yield, Type 1, 5 mm/min	ASTM D638	MPa	50
Tensile Stress, break, Type 1, 5 mm/min	ASTM D638	MPa	40
Tensile Strain, break, 5 mm/min	ASTM D638	%	9
Tensile Strain, yield, 5 mm/min	ASTM D638	%	4
Flexural Stress, yield, 1.3 mm/min 1/8"	ASTM D790	MPa	86
Flexural Modulus 1.3 mm/min 1/8"	ASTM D790	MPa	3490
IMPACT			
Charpy impact, notched 23°C, 3.0 mm	ISO 180	kJ/m²	122
Izod impact, unnotched 23°C, 3.0 mm	ISO 6603	kJ/m²	21
Izod impact, notched 23°C, 3.0 mm	ASTM D256	J/m	1026
THERMAL			
Vicat softening temperature, rate B/120	ISO 306	°C	146
Thermal conductivity	ISO 8302	W/m°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	$7x\ 10^{-5}$
Ball Pressure Test, 125 ±2°C	IEC 60695-10-2	-	Pass
HDT/Af, 1.8 MPa, Flatw 120*10*4 sp=100mm	ISO 75/Af	°C	141
HDT, 3.2mm 1.82 MPa	ASTM D648	°C	146

*These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product. These typical values are not intended for specification purposes.

PROPERTY SHEET◊	TEST METHOD	UNITS	VALUE
FIRE RATINGS			
EUROPE	EN45545-2	-	R1 HL2 (3-5mm)
MARHE	ISO 5660-	KW/m2	<90
Smoke density	ISO 5659-2	a.u.	Ds_4 < 300 / VOF_4 < 600
Smoke toxicity	ISO 5659-2	CIT_g	< 0.90
Spread of flames (CFE)	ISO 5658-2	KW/m2	>20
Oxygen Index (LOI)	ISO 4589	%	40
NFPA 130	ASTM E162	-	Pass
MECHANICAL – Flow direction			
Tensile Modulus, 1 mm/min, +23 °C	ISO 527	MPa	3000
Tensile Stress, yield, 5 mm/min, +23 °C	ISO 527	MPa	46
Tensile Stress, break, 5 mm/min, +23 °C	ISO 527	MPa	41
Tensile Strain, break, 5 mm/min, +23 °C	ISO 527	%	24
Tensile Strain, yield, 5 mm/min, +23 °C	ISO 527	%	5
Tensile Modulus, 5 mm/min	ASTM D638	MPa	3100
Tensile Stress, yield, Type 1, 5 mm/min	ASTM D638	MPa	45
Tensile Stress, break, Type 1, 5 mm/min	ASTM D638	MPa	41
Tensile Strain, break, 5 mm/min	ASTM D638	%	23
Tensile Strain, yield, 5 mm/min	ASTM D638	%	6
MECHANICAL – Cross flow direction			
Tensile Modulus, 1 mm/min, +23 °C	ISO 527	MPa	2200
Tensile Stress, yield, 5 mm/min, +23 °C	ISO 527	MPa	39
Tensile Stress, break, 5 mm/min, +23 °C	ISO 527	MPa	38
Tensile Strain, break, 5 mm/min, +23 °C	ISO 527	%	16
Tensile Strain, yield, 5 mm/min, +23 °C	ISO 527	%	14
Tensile Modulus, 5 mm/min	ASTM D638	MPa	2400
Tensile Stress, yield, Type 1, 5 mm/min	ASTM D638	MPa	40
Tensile Stress, break, Type 1, 5 mm/min	ASTM D638	MPa	40
Tensile Strain, break, 5 mm/min	ASTM D638	%	19
Tensile Strain, yield, 5 mm/min	ASTM D638	%	16
IMPACT			
Multiaxial impact, MAI, +23 °C, puncture energy	ISO 6603	J	20

◊ Tested on 3mm extruded sheet unless mentioned otherwise.

PROCESSING

LEXAN™ H6600 sheet is suitable for thermoforming. To reach optimal results the material needs to be heated with sandwich type heating systems to reach uniform heat uptake. Pre-drying of this material is necessary. For pre-drying guidelines, please follow standard guidelines for pre-drying standard LEXAN™ sheet.
LEXAN H6600 has a processing window between 190 and 220°C. When forming a draft angle of 3 degrees should be allowed. Post mold shrinkage is dependent on tool temperature and environmental circumstances; this will typically be in the range of 0.4-0.6%. It is strongly recommended to evaluate impact of part and mold design prior to production. The nature of filled products e.g. H6600 can be different from traditional unfilled products.

SAFETY

The processing guidance given in this documentation is given in good faith and the trust that in all cases you wear the correct Personal Protective Equipment (PPE), e.g. helmet, proper gloves, safety goggles etc. to safely fabricate, e.g. (but not limited to) sawing, cutting, forming our sheets and films. In all cases you should follow local and national regulations around the wear of PPE's prescribed or mandatory to perform these tasks in a safely manor.

PRODUCT AVAILABILITY

Product code:	LEXAN™ H6600
Color:	Standard and custom colors
Textures:	H6606 Polished/Suede
Gauges:	3-5mm (0.118"- 0.197")
Available width:	1300mm & 2050mm (51.18" & 80.71")

For colors and dimensions, please contact our POLYVANTIS sales representative.

POLYVANTIS

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