

LEXAN™ LIGHT FOAMED SHEET

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ LIGHT FOAMED Polycarbonate sheet offers the lightest thermoplastic sheet option for thermoformed parts, with a specific gravity of 0.85 g/cm³. It offers up to 40% weight savings when replacing traditional polyvinyl chloride and acrylic blend (PVC/ PMMA) -based sheet products for potential applications such as in transportation, packaging and logistics, medical telecom and electrical, mobility and more... Available with a variety of textures and virtually any color, LEXAN LIGHT FOAMED sheet meets typical industry flame, smoke density and toxicity requirements.

TYPICAL PROPERTY VALUES

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Sheet thickness availability	SABIC Internal	mm	1.2 - 4
Specific gravity	SABIC Internal	g/cm ³	0.85
Water absorption, saturation, 23°C	SABIC Internal	%	0.51
MECHANICAL			
Tensile Strength at Yield, 50mm/min	ASTM D 638	MPa	30
Tensile Modulus at Yield, 50mm/min	ASTM D 638	MPa	1260
Elongation at Yield, 50mm/min	ASTM D 638	%	6
Elongation at Break, 50mm/min	ASTM D 638	%	24
Flexural Stress @ Yield, 1.27mm/min	ASTM D 790	MPa	61
Flexural modulus, 1.27mm/min	ASTM D 790	MPa	1630
IMPACT			
Izod impact, unnotched 23°C, 5lbf/ft	ASTM D256	J/m	807
Izod impact, notched 23°C, 5lbf/ft	ASTM D256	J/m	320
Ductility	ASTM D256	%	100
Instrumented Impact Total Energy, 23°C @ 3mm	ASTM D3763	J	30
Instrumented Impact Energy to Max Load, 23°C@ 3mm	ASTM D3763	J	19
THERMAL			
Vicat softening temperature, 50N, 120°C/h	ASTM D 1525	°C	144
Heat deflection temperature, 1.82MPa	ASTM D 648	°C	126
Coefficient of linear thermal expansion, -60-160°C	SABIC Internal	um/(m-°C)	69
OPTICAL			
Light transmission	ASTM-D1003	%	Opaque
FIRE RATINGS			
Aircraft			
Vertical burn, 60 s	FAR 25.853(a)+App.F	-	Pass
Smoke density	ABD0031	-	Pass < 150
Smoke toxicity	ABD0031, BSS 7239	-	Pass
Electrical			
Vertical burn (50W)	UL 94	-	V0

◆ 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, Functional Forms representative. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties are measured on extruded sheet samples.

* Typical values only. Variations within normal tolerances are possible. ™ Trademarks of SABIC.

PROCESSING

LEXAN™ LIGHT FOAMED sheet can be thermoformed into complex 3D shaped parts with very thin walls, offering substantial potential for overall weight savings. It can be formed into complex shapes using standard thermoforming equipment. LEXAN Foamed sheet has a forming temperature range of 170 - 225°C. It is recommended that the forming tool be pre-heated at 110 – 120°C. When forming, a draft angle of at least 3°C should be allowed (7°C for male molds), and post mold shrinkage of 0.9 – 1.1% taken into account, depending on mold temperature.

PRE-DRYING

It is important to ensure that LEXAN LIGHT FOAMED sheets are free of moisture prior to thermoforming. A hot air circulating oven set at 120 °C is recommended, with a 25 mm gap between sheets. Pre-drying times vary from 3-12 hours for 1.2 to 4.0 mm thick sheets.

ASSEMBLING

Parts made from LEXAN LIGHT FOAMED 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 Film & Sheet representative for advice on specific applications.

PRODUCT AVAILABILITY

Lightweight LEXAN™ PC Foamed Sheet is globally available in standard sizes:

Length : 900 to 3,050 mm
Width : 1,300 mm
Thickness : from 1.2 mm to 4 mm.

It can be supplied in grades with high-recycled content as well as in almost any color and various textures.

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