

# LEXAN™ MARGARD™ HLG5FRA SHEET

## PRODUCT DATASHEET

### DESCRIPTION

LEXAN™ MARGARD™ HLG5FRA sheet is a 1 side weatherable, hard coated flame retardant sheet specifically designed for glass/pc lamination. In addition to good flammability, smoke and toxicity performance it offers excellent impact resistance, high optical quality, good stiffness and strength and ease of processing, making it an excellent candidate particular for applications in the aircraft industry, as well as electronic, transportation and building and construction industries.

### TYPICAL PROPERTY VALUES

PROPERTY	TEST METHOD	UNITS	VALUE
<b>PHYSICAL</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1.21
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
<b>MECHANICAL</b>			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
Taber haze - 100 cycles, 500 gram, CS-10F	ASTM D1044	%	1 - 3
Taber haze - 500 cycles, 500 gram, CS-10F	ASTM D1044	%	3 - 8
<b>THERMAL</b>			
Vicat softening temperature, rate B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75-2	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	7x10 <sup>-5</sup>
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
<b>ELECTRICAL</b>			
Volume resistivity	IEC 60093	Ohm.cm	>10 <sup>15</sup>
<b>FIRE RATINGS</b>			
<b>Aircraft</b>			
Vertical burn, 60 s	FAR 25.583 (a)+ App.F	-	Pass (2-3mm)
Smoke density	ABD0031	-	Pass, Ds(4min)<150 (2-3mm)
Smoke toxicity	ABD0031, BSS 7239	-	Pass (2-3mm)
<b>OPTICAL</b>			
Light transmission 2 mm	ASTMD1003	%	92
Light transmission 3 mm	ASTMD1003	%	91

◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product.

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\*\* Taber abrasion conditions at 500 cycles, 500g, CS-10F wheels. Tested for abrasion resistance, LEXAN MARGARD HLG5FRA sheet exhibits significantly less hazing, compared to uncoated polycarbonate sheet.

## IMPACT STRENGTH

Virtually unbreakable, LEXAN™ MARGARD™ HLG5FRA 112 sheet has up to 250 times the impact strength of glass and 30 times that of acrylic. LEXAN sheet offers outstanding impact strength and complies with the majority of international standards. With a thickness of 4 mm and upwards it complies with DIN 52290 part 4. ‡)

### DIN 52290 PART 4

LEVEL OF RESISTANCE	DROP HEIGHT	STRIKING ENERGY PER DROP (J)	TOTAL STRIKING ENERGY PER LEVEL (J)
A1	3500 mm	141	423
A2	6500 mm	262	786
A3	9500 mm	383	1149

## COMPLIANCE

Passes FAR25.853, ABD0031 in 3 mm and is eco labelled according to VDE.

## CHEMICAL RESISTANCE

LEXAN HLG5FRA sheet's unique coating provides immunity to many chemicals. Surface contact tests on LEXAN HLG5FRA sheet with a wide range of chemicals have proven to have no effect on impact resistance during falling dart testing, proving the excellent fit for LEXAN MARGARD for industrial or aggressive environments. In applications where the product will come into contact with aggressive chemicals, specific testing of the material is always advised.

## RIPPLE ORIENTATION

Ripple direction may play an important role in the optical performance of the sheet. This direction is indicated on the sheet masking. The surface which is foreseen with the -2-strips indicating grade and ripple direction, is hard coated.

## FLAT APPLICATIONS ONLY

Due to its mar-resistant coating, LEXAN MARGARD HLG5FRA sheet cannot be used in curved applications. It is intended for flat applications only.

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