



Lexan* Resin ML4539

Americas: COMMERCIAL

Polycarbonate for aircraft applications requiring FAR 25.853a compliance. Injection moldable. Opaque colors.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	630	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	560	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	90	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	920	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	22800	kgf/cm ²	ASTM D 790
IMPACT			
Izod Impact, unnotched, 23°C	326	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	65	cm-kgf/cm	ASTM D 256
Tensile Impact, Type S	535	cm-kgf/cm ²	ASTM D 1822
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D 648
PHYSICAL			
Specific Gravity	1.21	-	ASTM D 792
Specific Volume	0.83	cm ³ /g	ASTM D 792
Water Absorption, 24 hours	0.15	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	9	g/10 min	ASTM D 1238
FLAME CHARACTERISTICS			
FAA Flammability, FAR 25.853 A/B	PASSES	-	FAR 25.853



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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	295 - 315	°C
Nozzle Temperature	290 - 310	°C
Front - Zone 3 Temperature	295 - 315	°C
Middle - Zone 2 Temperature	280 - 305	°C
Rear - Zone 1 Temperature	270 - 295	°C
Mold Temperature	70 - 95	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm