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LEXAN™ RESIN LSHF

REGION ASIA

DESCRIPTION

LEXAN™ LSHF resin is a 25 MFR polycarbonate, MVR of 24. UV stabilized. AMECA listed. For Automotive lens applications.

TYPICAL PROPERTY VALUES

Revision 20231220

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	70	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	110	%	ASTM D638
Tensile Modulus, 50 mm/min	2380	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
IMPACT			
Izod Impact, notched 80*10*3 +23°C	60	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched, 23°C	640	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Instrumented Impact Energy @ peak, 23°C @ 6.6 m/s	54	J	ASTM D3763
Instrumented Impact Total Energy, 23°C	60	J	ASTM D3763
THERMAL			
Vicat Softening Temp, Rate B/50	139	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Af
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	138	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	127	°C	ASTM D648

CHEMISTRY THAT MATTERS™

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D648
CTE, -30°C to 30°C, flow	7.E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	7.E-05	1/°C	ASTM D696
PHYSICAL			
Density	1.2	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	24	cm³/10 min	ISO 1133
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Specific Gravity	1.2	-	ASTM D792
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	25	g/10 min	ASTM D1238
OPTICAL			
Light Transmission, 2.54 mm	88	%	ASTM D1003
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 295	°C	
Nozzle Temperature	265 – 290	°C	
Front - Zone 3 Temperature	270 – 295	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°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	