LEXAN™ Copolymer EXL4016H

REGION AMERICAS

DESCRIPTION

6% GF reinforced opaque polycarbonate-siloxane copolymer with good impact strength, stiffness and hydrolytic stability.

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	55	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	46	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	19	%	ASTM D638
Tensile Modulus, 5 mm/min	3300	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	105	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2850	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	55	MPa	ISO 527
Tensile Stress, break, 5 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.6	%	ISO 527
Tensile Strain, break, 5 mm/min	15.4	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	104	MPa	ISO 178
Flexural Modulus, 2 mm/min	2830	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	260	J/m	ASTM D256
Izod Impact, notched, -30°C	166	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	39	J	ASTM D3763
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
Izod Impact, notched 80*10*3 +23°C	30	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	25	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	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
THERMAL [1]			
Vicat Softening Temp, Rate B/50	146	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D648
CTE, -40°C to 40°C, flow	4.8E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	4.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.1E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	146	°C	ISO 306
Vicat Softening Temp, Rate B/120	148	°C	ISO 306

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.22	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.2 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	6.6	g/10 min	ASTM D1238
Density	1.22	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.12	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.46	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm³/10 min	ISO 1133
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°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	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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