LEXAN™ EXL5689 resin

Polycarbonate

SABIC Innovative Plastics

Message:

Lexan* EXL5689 polycarbonate (PC) resin is a GF reinforced, UV stabilized, flame retardant injection molding copolymer blend. This medium flow resin features UL94 V0 @ 1.5mm flame retardancy based on non-chlorine, non-bromine FR agents with excellent processability and improved release performance. Lexan EXL5689 resin offers much improved impact strength and ductility over conventional GF reinforced PC resins. This product is an excellent candidate for a broad range of applications, including electrical and electronic enclosures amonngst others.

General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Additive	UV stabilizer Flame retardancy		
Features	Chlorine Free Copolymer Impact resistance, good Good UV resistance Workability, good Medium liquidity Good demoulding performance Bromine-free ductility Flame retardancy		
Uses	Electrical/Electronic Applications Electrical housing		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.26	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	9.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	8.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.60	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			

-- [1]	3500	MPa	ASTM D638
--	3600	MPa	ISO 527-2/1
Tensile Strength			
Yield [2]	55.0	MPa	ASTM D638
Yield	54.0	MPa	ISO 527-2/5
Fracture [3]	44.0	MPa	ASTM D638
Fracture	46.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield [4]	4.4	%	ASTM D638
Yield	4.4	%	ISO 527-2/5
Fracture [5]	15	%	ASTM D638
Fracture	13	%	ISO 527-2/5
Flexural Modulus			
50.0mm span [6]	3150	MPa	ASTM D790
-- [7]	3400	MPa	ISO 178
Flexural Stress			
--	96.0	MPa	ISO 178
Yield, 50.0mm span [8]	97.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [9]			ISO 179/1eA
-30°C	15	kJ/m²	ISO 179/1eA
23°C	30	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength [10]			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	150	J/m	ASTM D256
23°C	340	J/m	ASTM D256
-30°C [11]	10	kJ/m²	ISO 180/1A
23°C [12]	25	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength [13]			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	40.0	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature [14] (1.8 MPa, Unannealed, 100 mm Span)	132	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	146	°C	ASTM D1525, ISO 306/B120 11 [15]
--	145	°C	ISO 306/B50
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2

Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	4.7E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (1.50 mm, in Oil)	27	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index	175	V	IEC 60112
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.750 mm	HB		UL 94
1.20 mm	V-1		UL 94
1.50 mm	V-0		UL 94
Glow Wire Flammability Index (1.10 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	825	°C	IEC 60695-2-13
2.00 mm	825	°C	IEC 60695-2-13
2.50 mm	825	°C	IEC 60695-2-13
3.00 mm	825	°C	IEC 60695-2-13
Injection	**Nominal Value**	**Unit**	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	288 - 310	°C	
Middle Temperature	299 - 321	°C	
Front Temperature	310 - 332	°C	
Nozzle Temperature	304 - 327	°C	
Processing (Melt) Temp	310 - 332	°C	
Mold Temperature	82.2 - 116	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	40 - 70	rpm	
Vent Depth	0.025 - 0.076	mm	
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 5.0 mm/min		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 5.0 mm/min		
6.	1.3 mm/min		

7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*3 sp=62mm
10.	80*10*3 sp=62mm
11.	80*10*3
12.	80*10*3
13.	80*10*3
14.	120*10*4 mm
15.	标准 B (120°C/h), 载荷2 (50N)

Recommended distributors for this material

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