LNP™ ELCRIN™ EXL5689B

PC-GF | Saudi Basic Industries Corporation (SABIC)

Product Texts

ELCRIN EXL5689B polycarbonate (PC) resin is a GF reinforced, UV stabilized, flame retardant injection molding copolymer blend with major component synthesized from bio-source. 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. ELCRIN EXL5689B 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 among others.

UL Yellow Card Link1: E45329-561961
UL Yellow Card Link2: E121562-103854053
UL Yellow Card Link3: E207780-101033175

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**8**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
ASTM Data			
Melt Flow Index, MFI	**9**	g/10min	ASTM D 1238
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Mold Shrinkage, MD	**0.004**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**3600**	MPa	ISO 527
Yield stress	**54**	MPa	ISO 527
Yield strain	**4.4**	%	ISO 527
Stress at break	**46**	MPa	ISO 527
Strain at break	**13**	%	ISO 527
Flexural modulus, 23°C	**3400**	MPa	ISO 178
Charpy impact strength, +23°C, 3mm	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C, 3mm	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C, 3mm	**30**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C, 3mm	**15**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**25**	kJ/m²	ISO 180/1A
Izod notched impact strength	**10**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
ASTM Data			
Tensile Modulus	**3800**	MPa	ASTM D 638
Tensile Strength at Yield	**55**	MPa	ASTM D 638
Tensile Strength at Break	**44**	MPa	ASTM D 638
Elongation at Yield	**4.4**	%	ASTM D 638
Elongation at Break	**15**	%	ASTM D 638
Flexural Modulus	**3150**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**340**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**150**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**132**	°C	ISO 75-1/-2
Vicat softening temperature, B	**145**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**47**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**70**	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	**V-0**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Yellow Card available	**yes**	-	-
Burning behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-

Yellow Card available	**yes**	-	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**1.1**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (2)	**1.5**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (3)	**3**	mm	-
Glow Wire Ignition Temperature (GWIT)	**960**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**0.75**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**1**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (3)	**1.2**	mm	-
ASTM Data			
UL 94 Flame rating	**V-1**	-	UL 94
Thickness tested	**1.2**	mm	-
Coefficient of Thermal Expansion, MD	**47**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**70**	E-6/K	ASTM D 696
Vicat Temperature	**146**	°C	ASTM D 1525

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.35**	%	Sim. to ISO 62
Humidity absorption	**0.15**	%	Sim. to ISO 62
Density	**1260**	kg/m³	ISO 1183
Density	**1260**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**120**	°C	-
Pre-drying - Time	**3 - 4**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**270 - 330**	°C	-
Mold temperature	**80 - 115**	°C	-
Zone 1	**250 - 310**	°C	-
Zone 2	**260 - 320**	°C	-
Zone 3	**270 - 330**	°C	-
Nozzle temperature	**265 - 325**	°C	-
Screw speed	**40 - 70**	rpm	-
Back pressure	**0.3 - 0.7**	MPa	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Halogen-free, High impact or impact modified, U.V. stabilized or stable to weather

Certifications
Contains renewable resources

Applications
Building Construction, IT / Business Machine, Electrical and Electronical

Regional Availability
North America, Europe, Asia Pacific, South and Central America