

Zytel® 77G43L BK031

LONG CHAIN POLYAMIDE RESIN

Zytel® LCPA long chain polyamide resins provide an innovative and growing portfolio of flexible polymers with excellent thermal, chemical, and hydrolysis resistance. The diverse selection of Zytel® LCPA grades is targeted for a range of performance characteristics, balancing temperature resistance, flexibility and low permeation.

Zytel® 77G43L BK031 is a 43% glass fiber reinforced, black polyamide 612 resin for injection moulding.

Product information

Resin Identification	PA612-GF43	ISO 1043
Part Marking Code	>PA612-GF43<	ISO 11469
ISO designation	ISO 16396-PA612,GF43,M1CGR,S14-120	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.3/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8/-	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	12000/-	MPa	ISO 527-1/-2
Stress at break, 5mm/min	200/-	MPa	ISO 527-1/-2
Strain at break, 5mm/min	3/-	%	ISO 527-1/-2
Flexural Modulus	11000/-	MPa	ISO 178
Charpy notched impact strength, 23°C	17/-	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	16/-	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	17/-	kJ/m ²	ISO 180/1A
Izod notched impact strength, -40°C	15/-	kJ/m ²	ISO 180/1A
Poisson's ratio	0.33/-		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	218/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	65/55	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	200/*	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	220/*	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	21/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel	14/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	13/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	75/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	110/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	140/*	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.75mm	105	°C	UL 746B
RTI, electrical, 1.5mm	120	°C	UL 746B
RTI, strength, 1.5mm	120/*	°C	UL 746B



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Flammability

	dry/cond.		
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	0.71 / *	mm	UL 94
UL recognition	yes / *		UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	21	mm/min	ISO 3795 (FMVSS 302)

Other properties

	dry/cond.		
Humidity absorption, 2mm	0.7 / *	%	Sim. to ISO 62
Density	1420 / -	kg/m ³	ISO 1183

VDA Properties

	dry/cond.		
Fogging, G-value (condensate)	0.1 / *	mg	ISO 6452

Injection

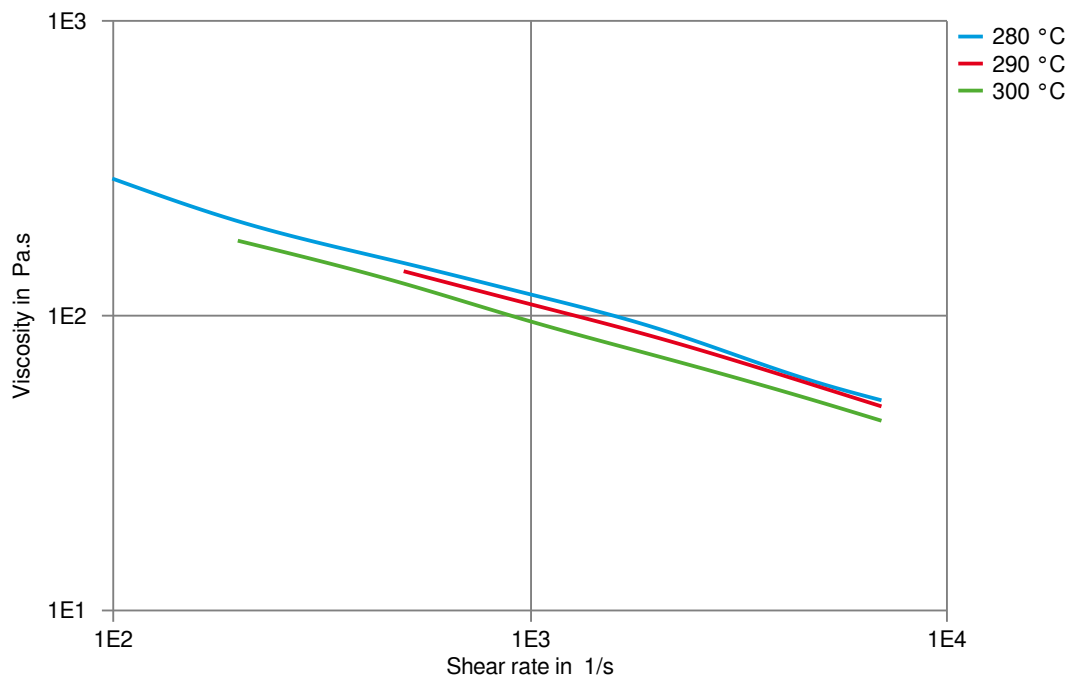
Drying Recommended	yes		
Drying Temperature	80 °C		
Drying Time, Dehumidified Dryer	2 - 4 h		
Processing Moisture Content	≤0.2 %		
Melt Temperature Optimum	290 °C		Internal
Min. melt temperature	280 °C		
Max. melt temperature	300 °C		
Screw tangential speed	≤0.2 m/s		
Mold Temperature Optimum	100 °C		
Min. mould temperature	70 °C		
Max. mould temperature	120 °C		
Hold pressure range	50 - 100 MPa		
Hold pressure time	3 s/mm		
Ejection temperature	210 °C		Internal



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Viscosity-shear rate



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Shearstress-shear rate

