

Zytel® 157HSL BK010

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® 157HSL BK010 is a heat stabilized, weatherable, lubricated polyamide 612 resin that is suitable for molding and extrusion applications.

Product information

Resin Identification	PA612	ISO 1043
Part Marking Code	>PA612<	ISO 11469
ISO designation	ISO 16396-PA612,,M1CG1HR,S12-020	

Rheological properties

	dry/cond.		
Viscosity number	115 ^[1] */[DS]	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	1.3 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.4 / -	%	ISO 294-4, 2577
[DS]: Derived from similar grade			
[1]: interpolated			

Typical mechanical properties

	dry/cond.		
Tensile modulus	2500 / 1500	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	65 / 53	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4.4 / 18	%	ISO 527-1/-2
Nominal strain at break	22 / >50	%	ISO 527-1/-2
Flexural modulus	2300 / 1500	MPa	ISO 178
Flexural strength	80 / 44	MPa	ISO 178
Charpy impact strength, 23°C	N / N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	4 / 7	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	4 / -	kJ/m ²	ISO 180/1A
Poisson's ratio	0.38 / 0.43		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	218 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60 / 45	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	62 / *	°C	ISO 75-1/-2
RTI, electrical, 0.75mm	105	°C	UL 746B
RTI, electrical, 1.5mm	105	°C	UL 746B
RTI, electrical, 3.0mm	105	°C	UL 746B
RTI, impact, 0.75mm	65	°C	UL 746B
RTI, impact, 1.5mm	65	°C	UL 746B
RTI, impact, 3.0mm	65	°C	UL 746B
RTI, strength, 0.75mm	65	°C	UL 746B
RTI, strength, 1.5mm	65 / *	°C	UL 746B
RTI, strength, 3.0mm	65	°C	UL 746B

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Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.86 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

	dry/cond.		
Density	1070 / -	kg/m ³	ISO 1183

Injection

Drying Recommended	yes
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.15 %
Melt Temperature Optimum	250 °C
Min. melt temperature	230 °C
Max. melt temperature	290 °C
Mold Temperature Optimum	70 °C
Min. mould temperature	50 °C
Max. mould temperature	90 °C

Extrusion

Drying Temperature	75 - 80 °C
Drying Time, Dehumidified Dryer	3 - 4 h
Processing Moisture Content	≤0.06 %
Melt Temperature Optimum	240 °C
Melt Temperature Range	235 - 250 °C

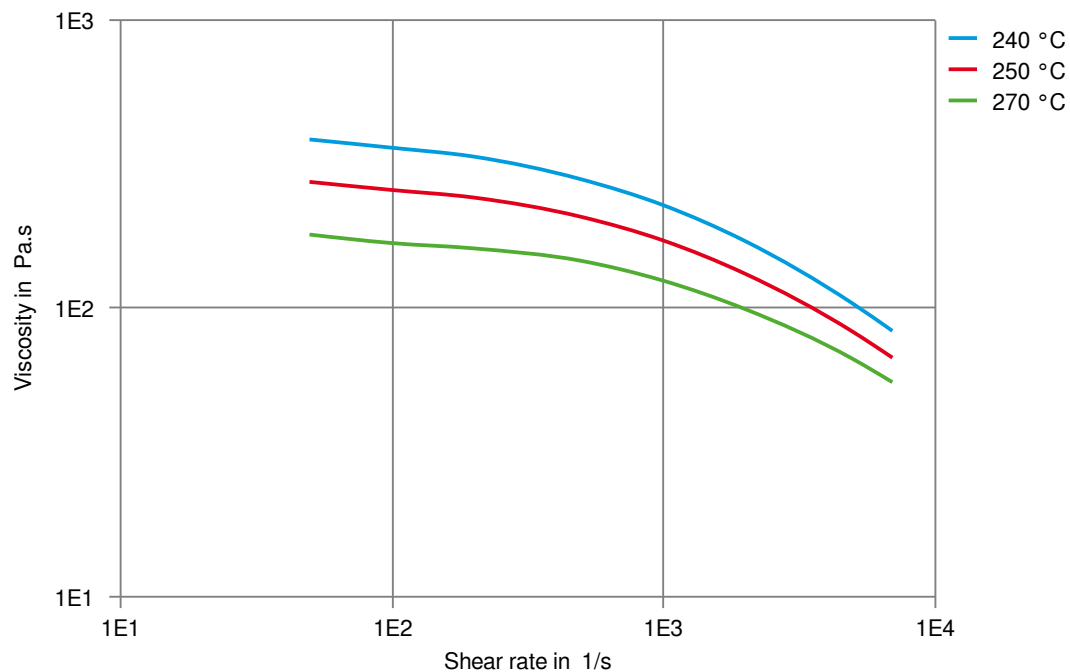
Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Heat stabilised or stable to heat

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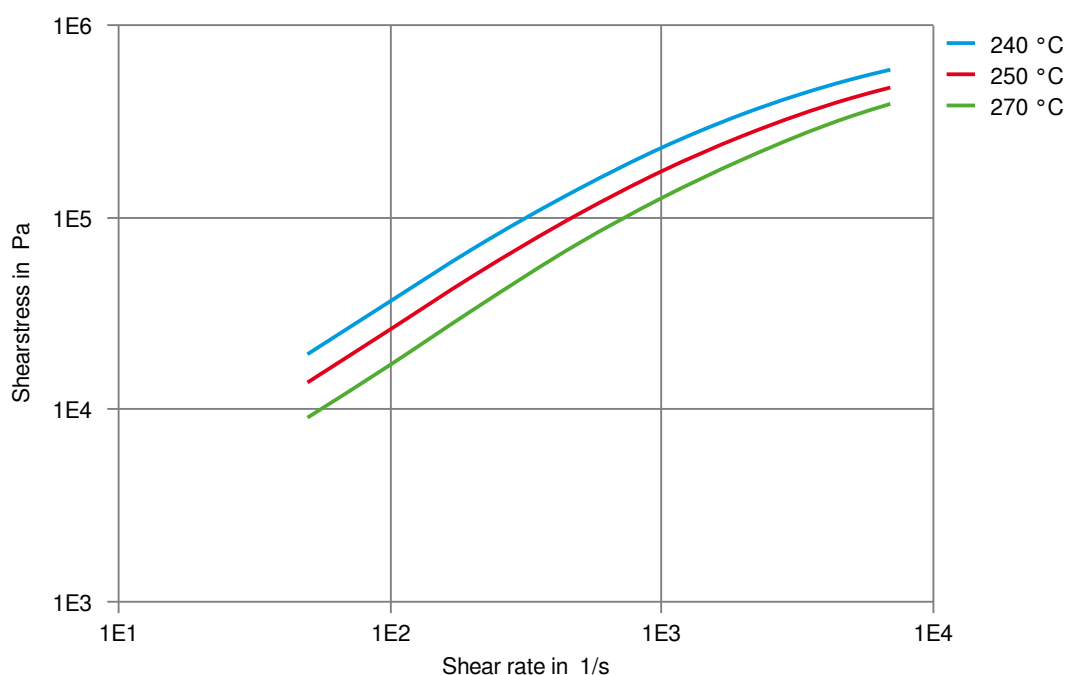
Viscosity-shear rate



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Shearstress-shear rate



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