

Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

Zytel® RS LC3060 NC010 is an unreinforced, medium viscosity, biobased polyamide 610 resin containing a minimum of 60% renewably sourced ingredients by weight, developed for extrusion applications.

Product information

Resin Identification	PA6.10	ISO 1043
Part Marking Code	>PA6.10<	ISO 11469
ISO designation	ISO 16396-PA610,,M1G1N,S14-020	

Rheological properties

	dry/cond.		
Viscosity number	150 ^[1] /*	cm ³ /g	ISO 307, 1157, 1628
Intrinsic viscosity	1.3		ISO 307, 1157, 1628
Moulding shrinkage, parallel	1.4 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5 / -	%	ISO 294-4, 2577

[1]: Sulfuric acid 96%

Typical mechanical properties

	dry/cond.		
Tensile Modulus	2000 / 1200	MPa	ISO 527-1/-2
Yield stress, 50mm/min	64 / 52	MPa	ISO 527-1/-2
Yield strain, 50mm/min	5 / 30	%	ISO 527-1/-2
Stress at break, 50mm/min	62 / -	MPa	ISO 527-1/-2
Nominal strain at break	>50 / >50	%	ISO 527-1/-2
Strain at break, 50mm/min	230 / -	%	ISO 527-1/-2
Flexural Modulus	1900 / 1100	MPa	ISO 178
Charpy notched impact strength, 23°C	8 / -	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	7 / -	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	5 / 20	kJ/m ²	ISO 180/1A
Hardness, Rockwell, M-scale	75 / 60		ISO 2039-2
Poisson's ratio	0.4 / 0.44		
Abrasion resistance	5.5 / *	mm ³	ISO 4649

Tribological properties

	dry/cond.		
Coefficient of static friction, against steel	- / 0.23		ISO 8295
Coefficient of sliding friction, 1h against steel	- / 0.31		ASTM 1894



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	223 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60 / 50	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	55 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	160 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	90 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	150 / *	E-6/K	ISO 11359-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	UL 94
Thickness tested	1.5 / *	mm	UL 94
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	3 / *	mm	UL 94
Oxygen index	24 / *	%	ISO 4589-1/-2
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Relative permittivity, 100Hz	3.9 / -		IEC 62631-2-1
Relative permittivity, 1MHz	3.3 / -		IEC 62631-2-1
Dissipation factor, 100Hz	400 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	300 / -	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E9	Ohm.m	IEC 62631-3-1
Comparative tracking index	600 / 600		IEC 60112
Dielectric Constant, 1 GHz	2.8 / -		ASTM D 2520 B
Dielectric Constant, 10 GHz	2.7 / -		ASTM D 2520 B / IPC-TM-650

Other properties

	dry/cond.		
Humidity absorption, 2mm	1.4 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.3 / *	%	Sim. to ISO 62
Density	1070 / -	kg/m³	ISO 1183

Extrusion

Drying Temperature	75 - 80 °C
Drying Time, Dehumidified Dryer	3 - 4 h
Processing Moisture Content	≤0.06 %
Melt Temperature Optimum	245 °C
Melt Temperature Range	240 - 255 °C



Zytel® RS LC3060 NC010

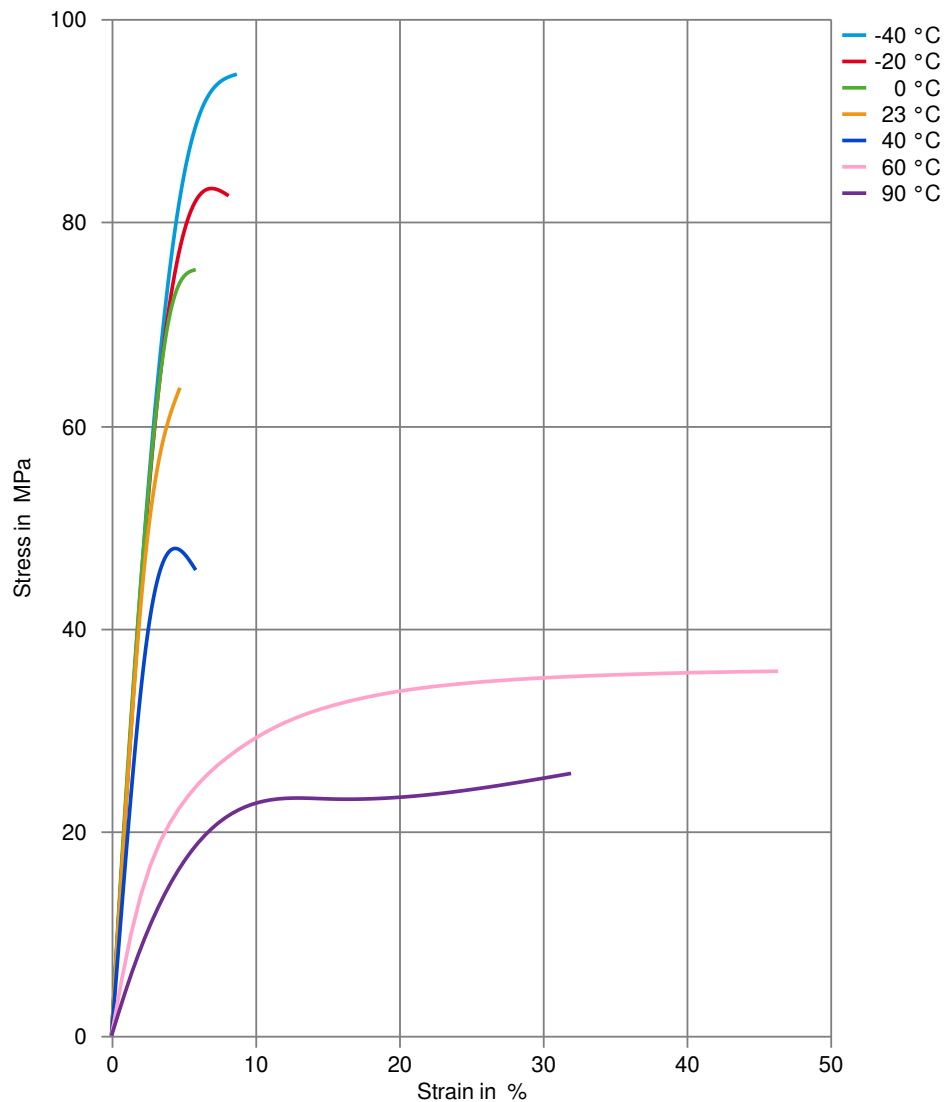
LONG CHAIN POLYAMIDE RESIN

Characteristics

Additives

Biobased

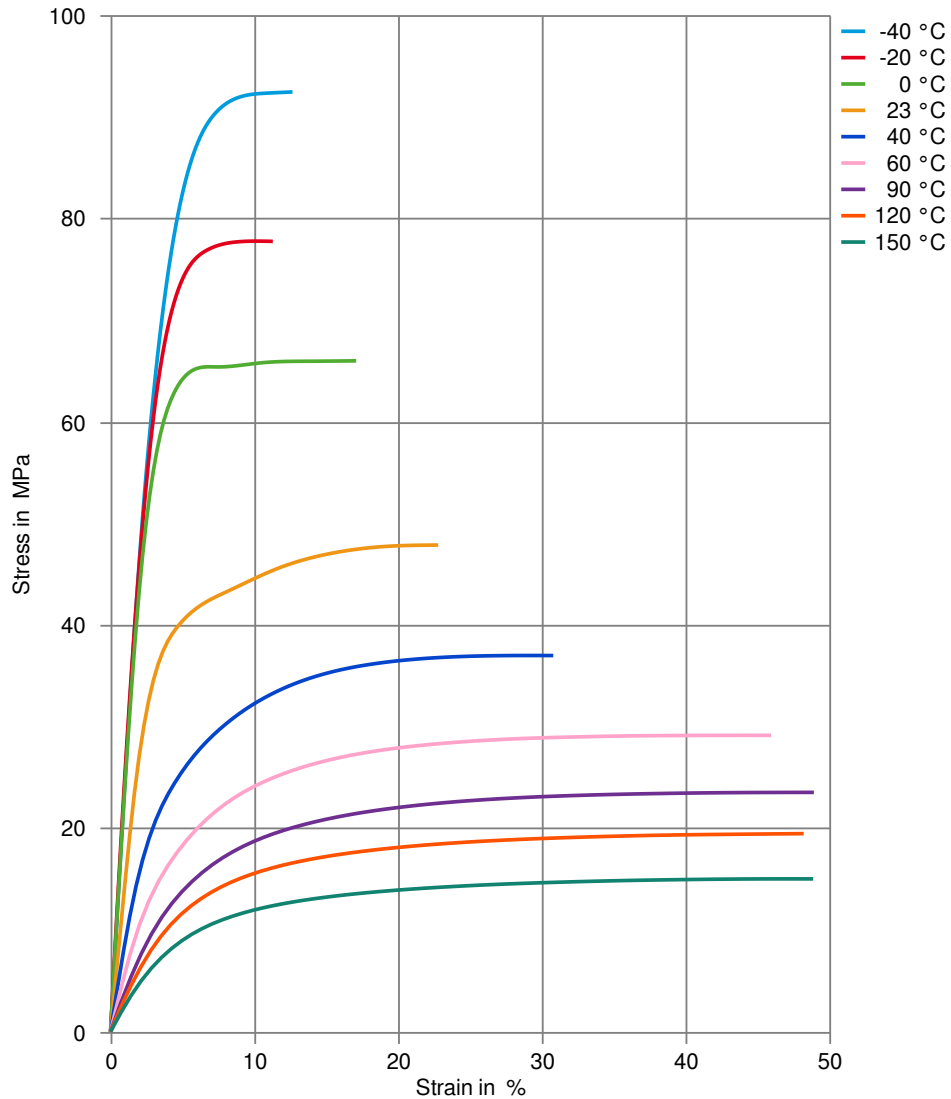
Stress-strain (dry)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

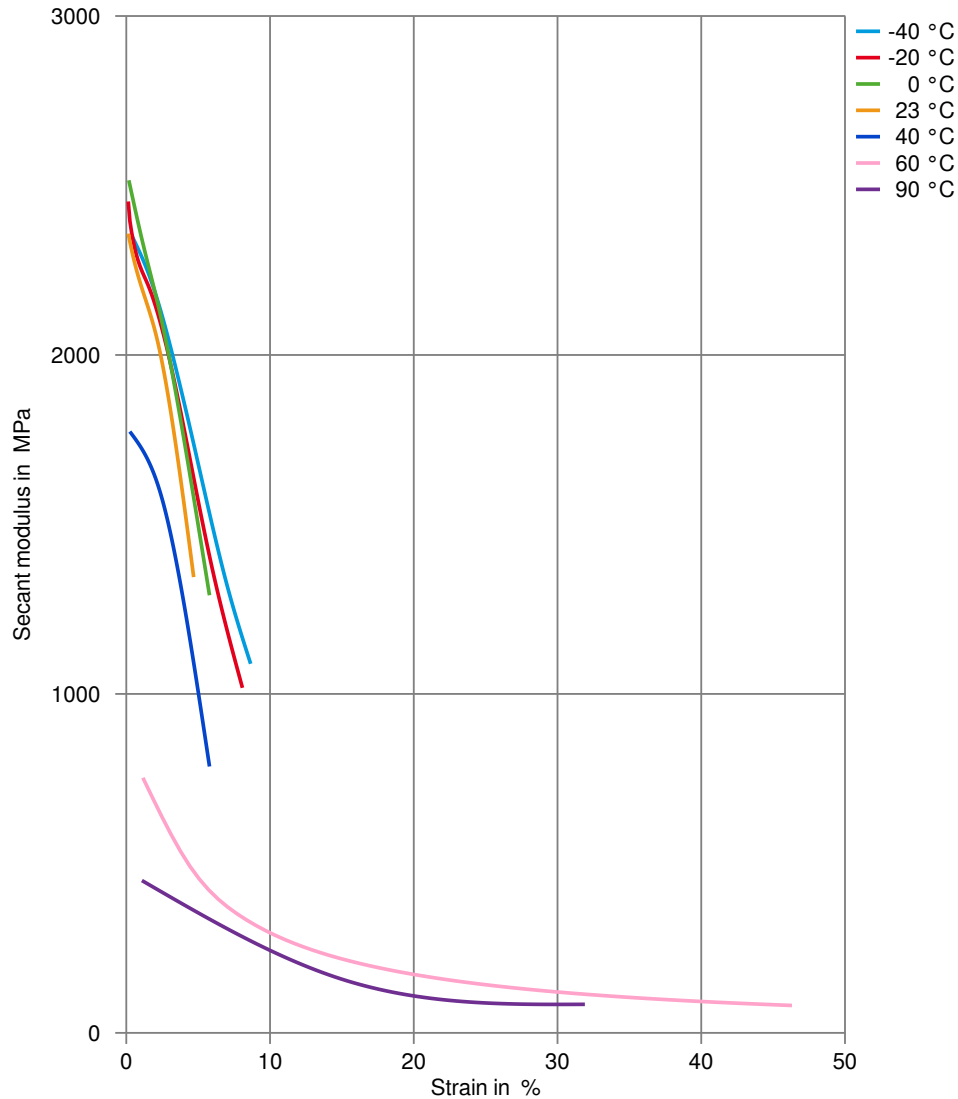
Stress-strain (cond.)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

Secant modulus-strain (dry)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

Secant modulus-strain (cond.)

