

# 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 <sup>[1]/*</sup>	cm <sup>3</sup> /g	ISO 307, 1628
Intrinsic viscosity	1.33		ISO 307, 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
Tensile stress at yield, 50mm/min	64 / 52	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	5 / 30	%	ISO 527-1/-2
Tensile stress at break, 50mm/min	62 / -	MPa	ISO 527-1/-2
Nominal strain at break	>50 / >50	%	ISO 527-1/-2
Tensile 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 <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -40°C	7 / -	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	5 / 20	kJ/m <sup>2</sup>	ISO 180/1A
Hardness, Rockwell, M-scale	75 / 60		ISO 2039-2
Poisson's ratio	0.4 / 0.44		
Abrasion resistance	5.5 / *	mm <sup>3</sup>	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

### 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
Temperature of deflection under load, 1.8 MPa	55 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	155 / *	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	90 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	150 / *	E-6/K	ISO 11359-1/-2

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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
Burning Behav. at thickness h	HB/*	class		IEC 60695-11-10
Thickness tested	3/*	mm		IEC 60695-11-10
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, 23°C, 10 GHz	2.7/-			ASTM D 2520 B / IPC-TM-650

### Physical/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/m <sup>3</sup>		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

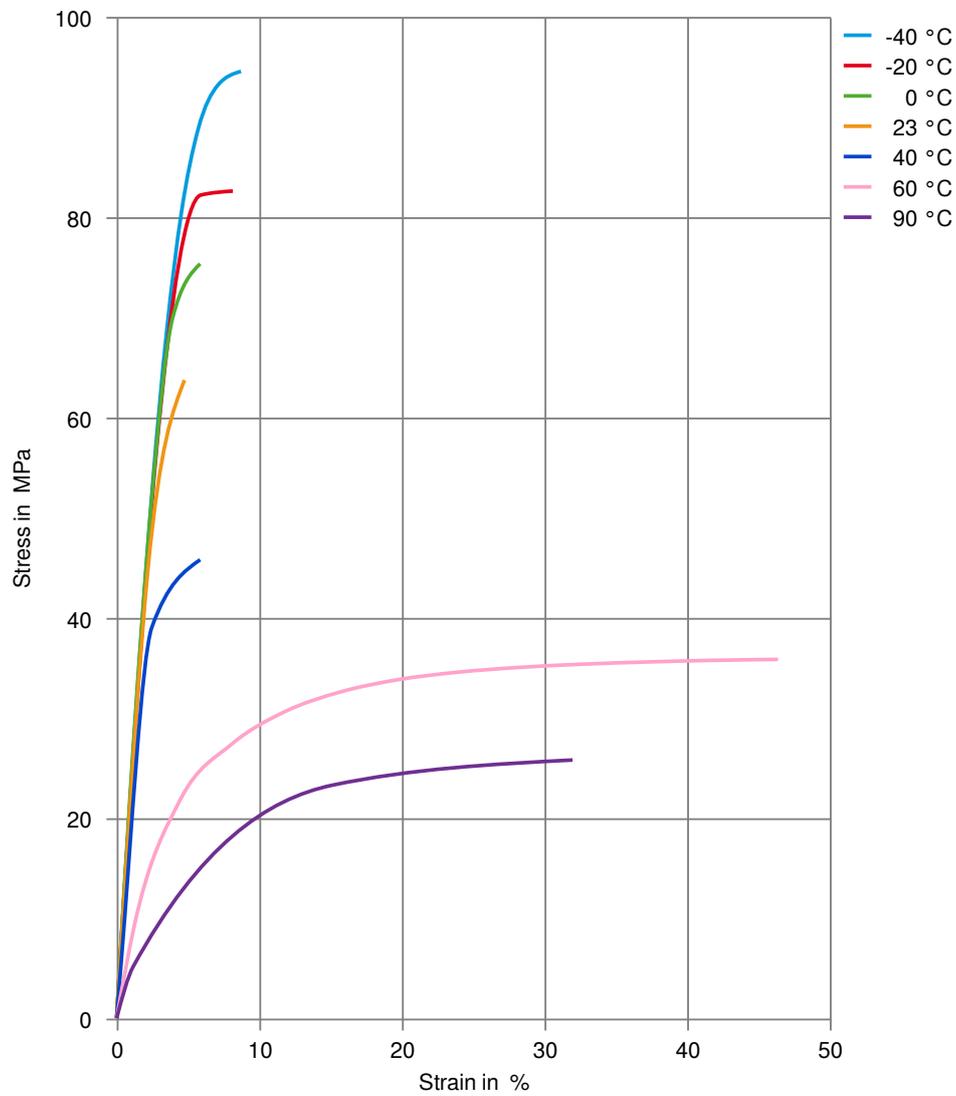
### Characteristics

Processing	Injection Moulding, Extrusion, Sheet Extrusion, Other Extrusion
Delivery form	Pellets
Sustainability	Bio-Content

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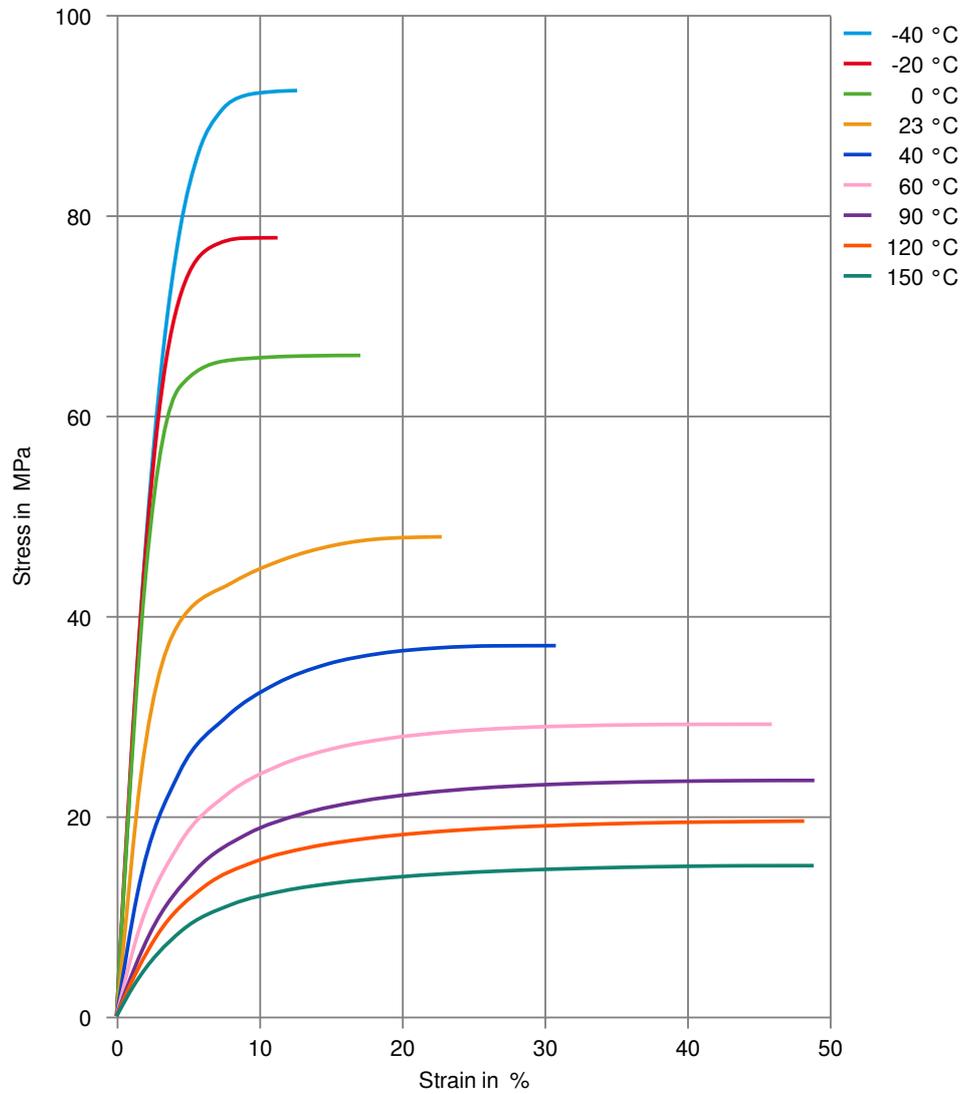
## Stress-strain (dry)



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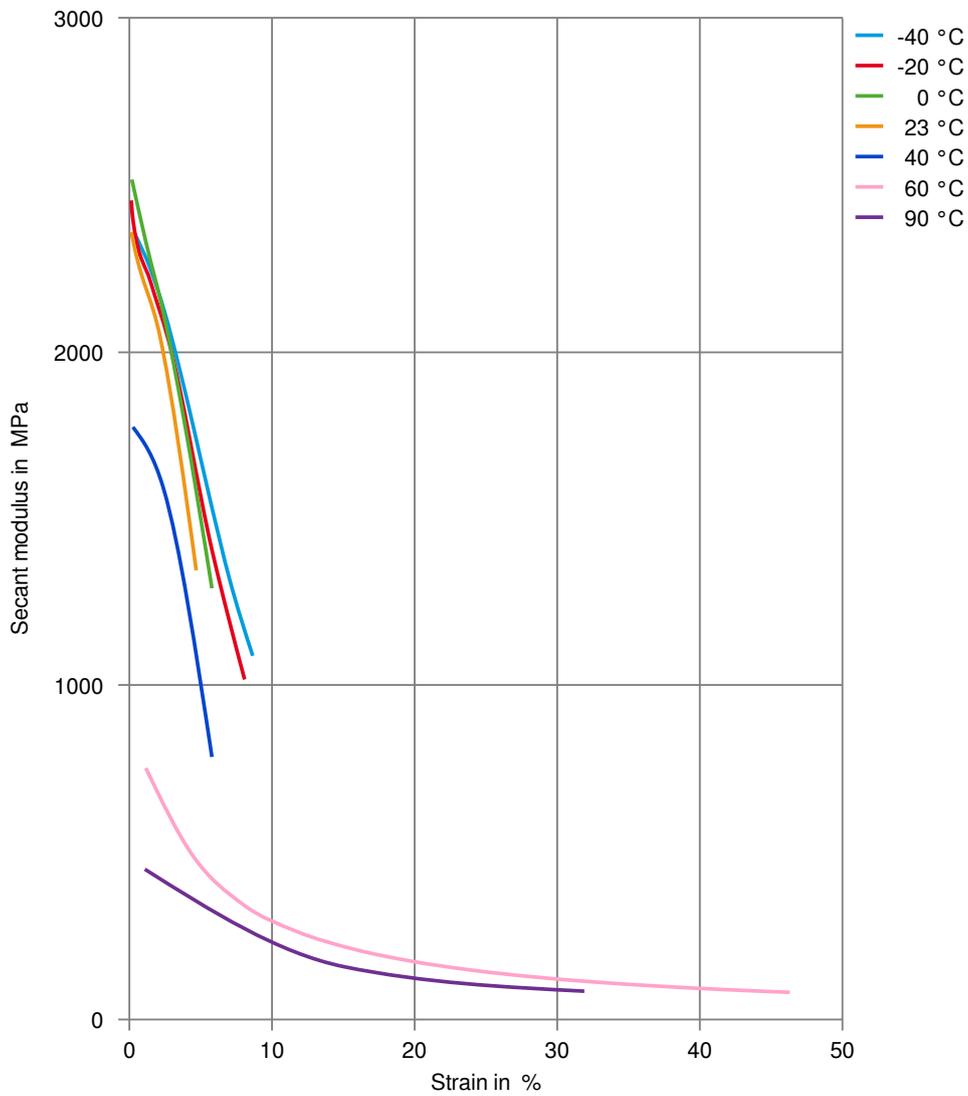
## Stress-strain (cond.)



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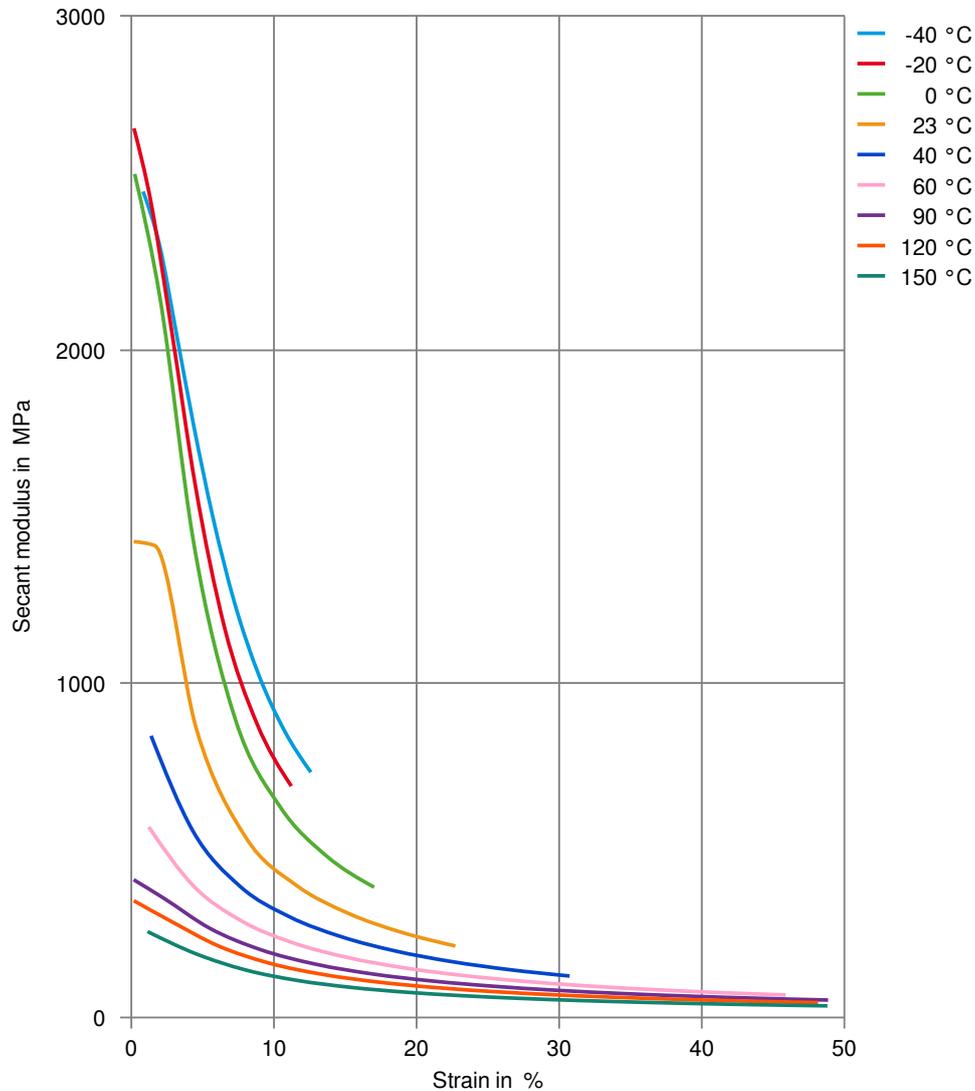
Secant modulus-strain (dry)



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## Secant modulus-strain (cond.)



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