Celanese
The chemistry inside innovation™

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	PA610		ISO 1043
Part Marking Code	>PA610<		ISO 11469
ISO designation	ISO 16396-PA610,,M1G1N,S14-020		

Rheological properties

	dry/cond.		
Viscosity number	4150[1]/*	in³/lb	ISO 307, 1628
Intrinsic viscosity	1.33		ISO 307, 1628
Molding shrinkage, parallel	1.4 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5 / -	%	ISO 294-4, 2577

[1]: Sulfuric acid 96%

Typical mechanical properties

	dry/cond.		
Tensile modulus	290000 / 174000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	9300 / 7500	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	5 / 30	%	ISO 527-1/-2
Tensile stress at break, 50mm/min	8990 / -	psi	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	276000 / 160000	psi	ISO 178
Charpy notched impact strength, 23°C	3.81 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40°C	3.33 / -	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	2.38 / 9.51	ftlb/in²	ISO 180/1A
Hardness, Rockwell, M-scale	75 / 60		ISO 2039-2
Abrasion resistance	5.5 / *	mm³	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	433 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	140 / 122	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	131 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	311 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.50 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.833 / *	E-4/°F	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	0.0591 / *	in	IEC 60695-11-10
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.1181 / *	in	IEC 60695-11-10
Oxygen index	24 / *	%	ISO 4589-1/-2
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	in/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	0.0386 / -	lb/in³	ISO 1183

Injection

Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s

Extrusion

Drying Temperature	167 - 176	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	473	°F
Melt Temperature Range	464 - 491	°F

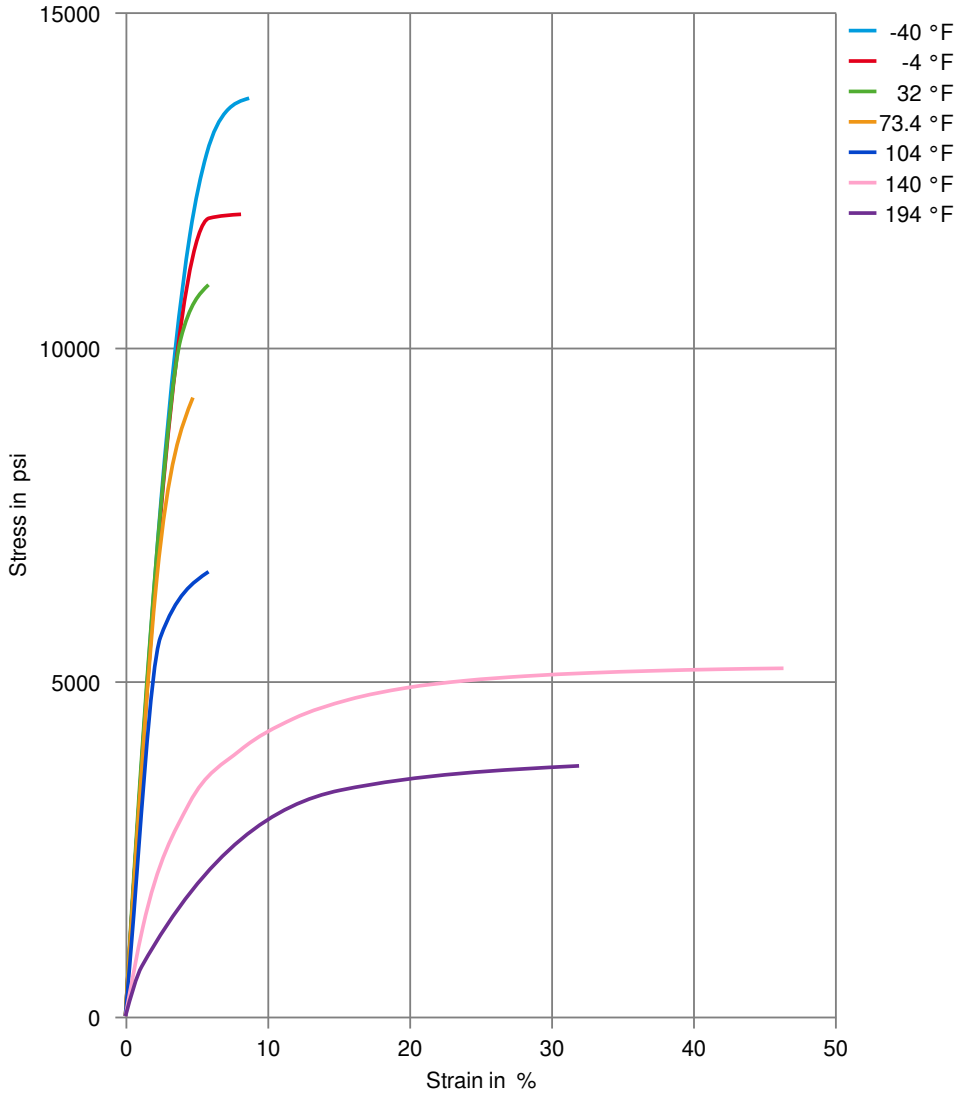
Characteristics

Processing	Injection Molding, Extrusion, Sheet Extrusion, Other Extrusion
Sustainability	Bio-Content

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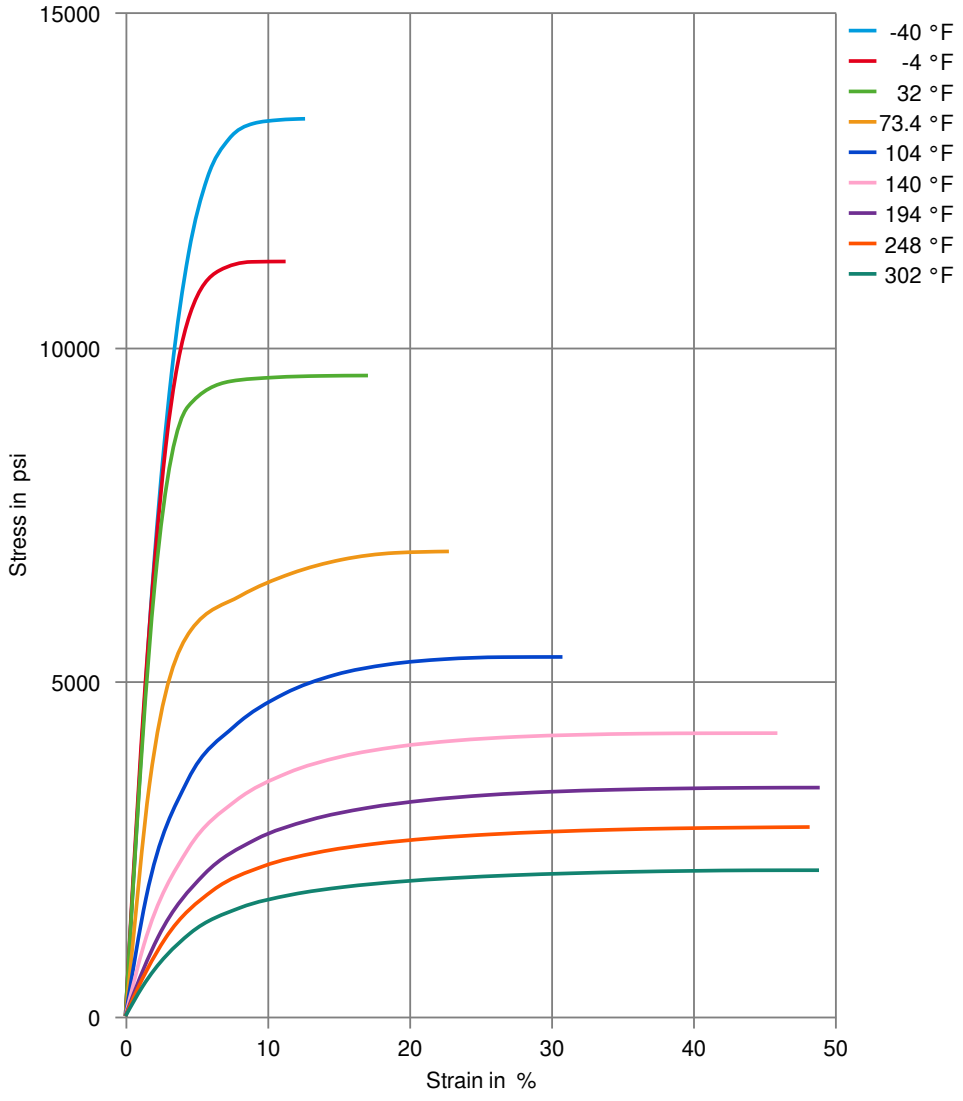
Stress-strain (dry)



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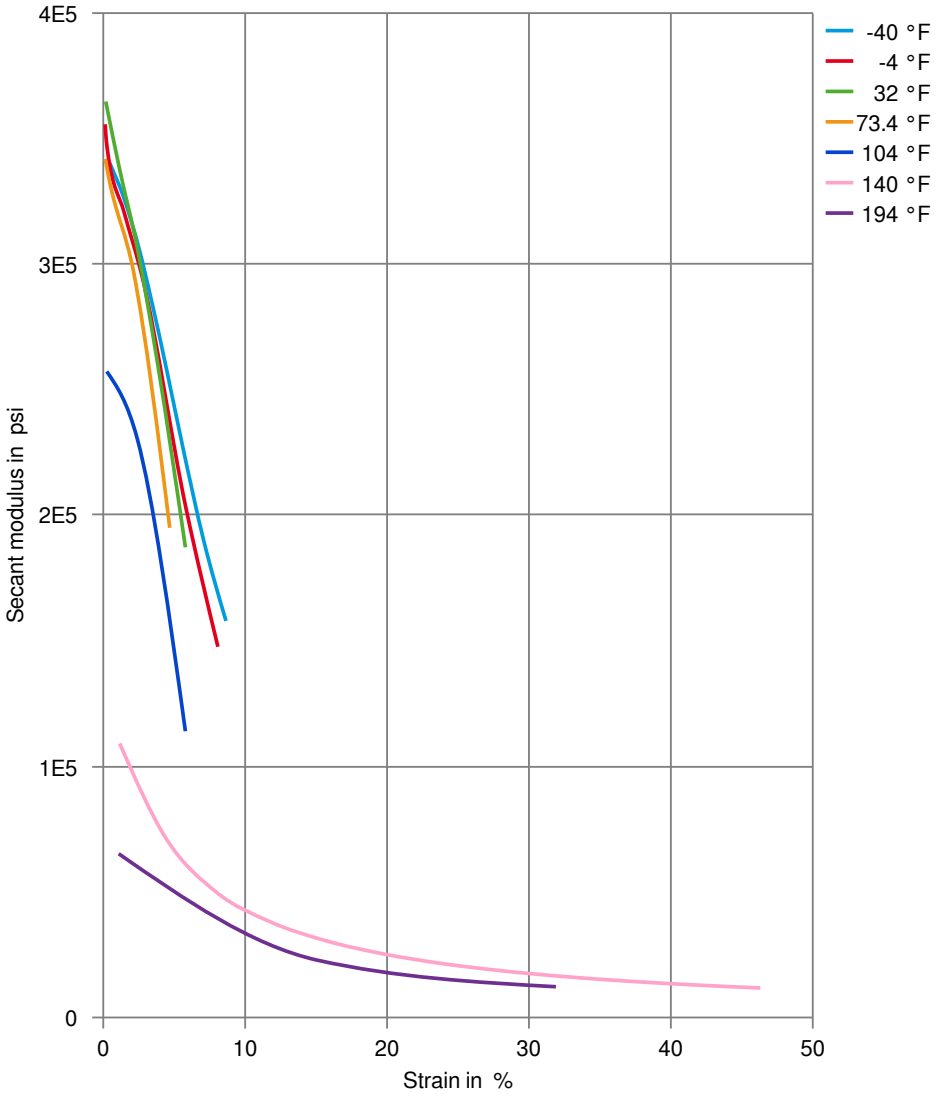
Stress-strain (cond.)



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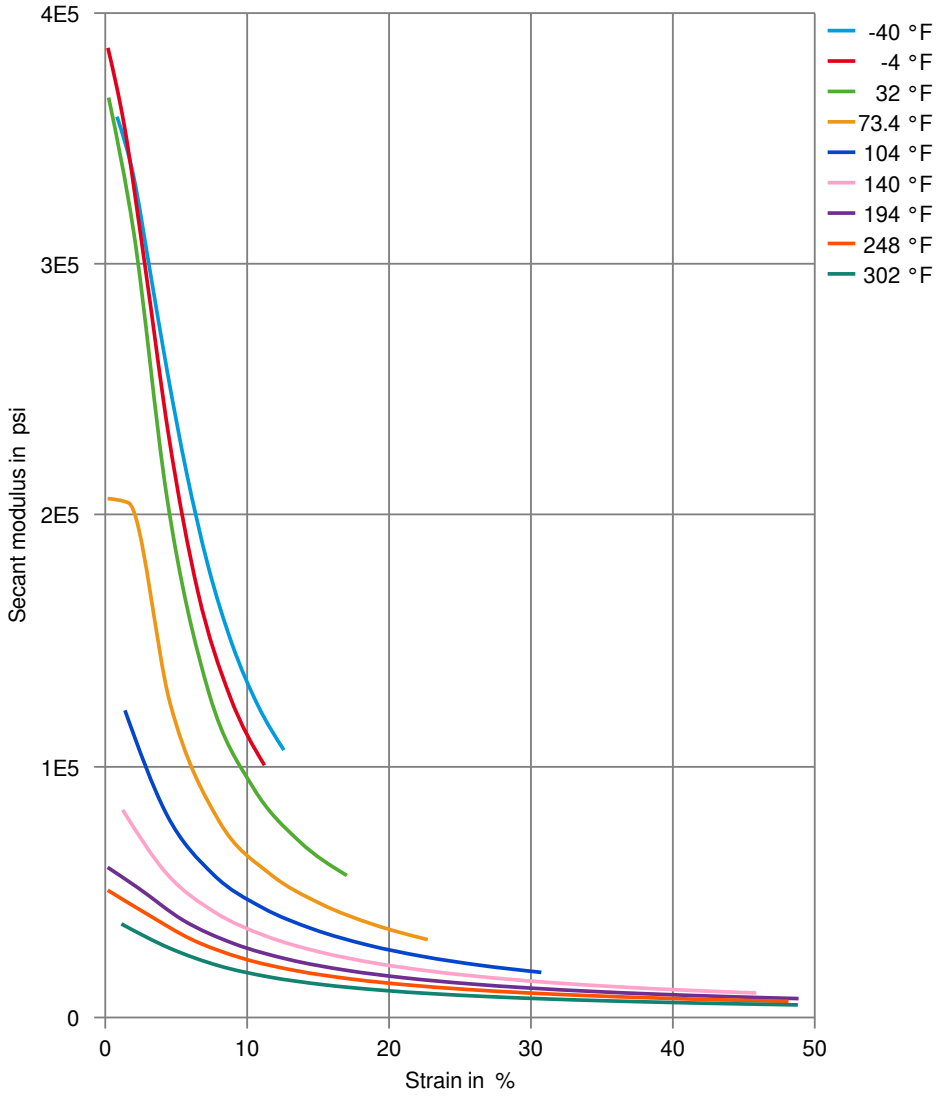
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



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