

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, 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 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

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

Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

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/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

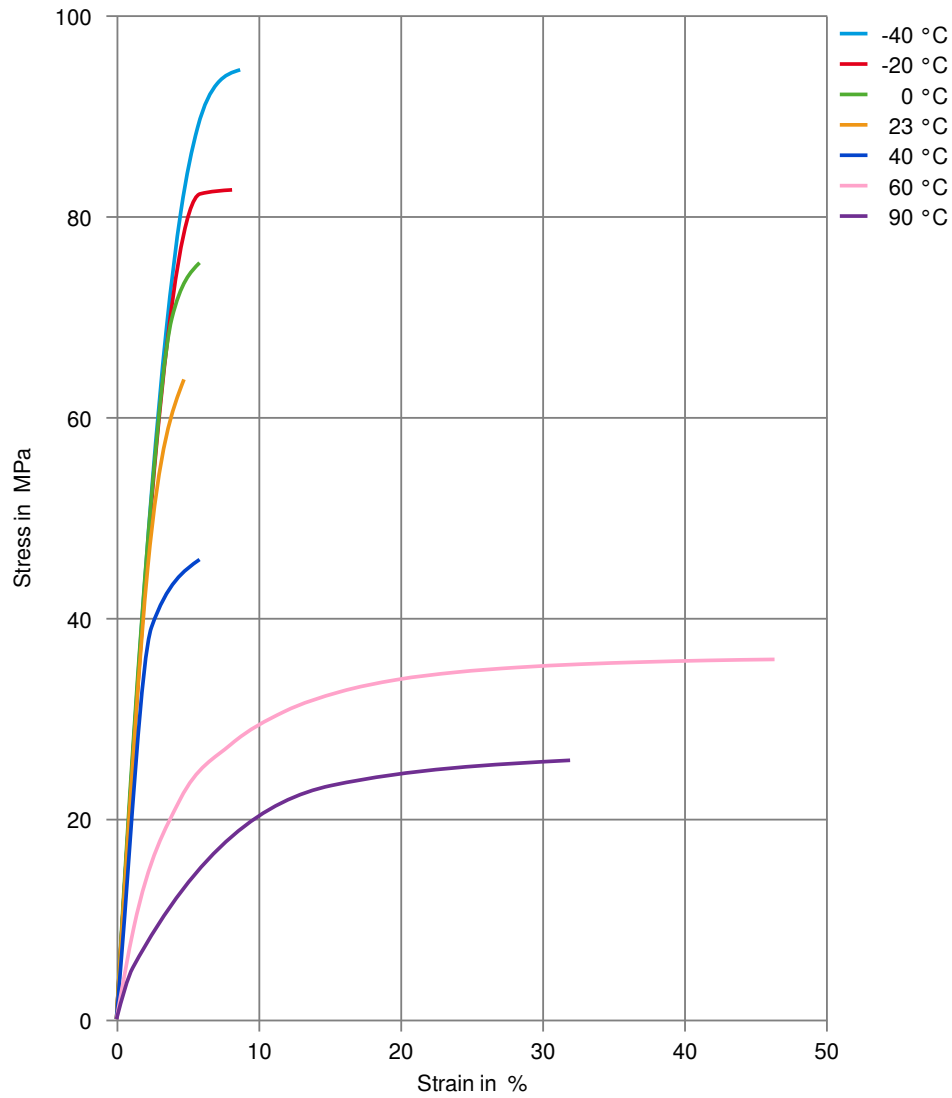
Characteristics

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

Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

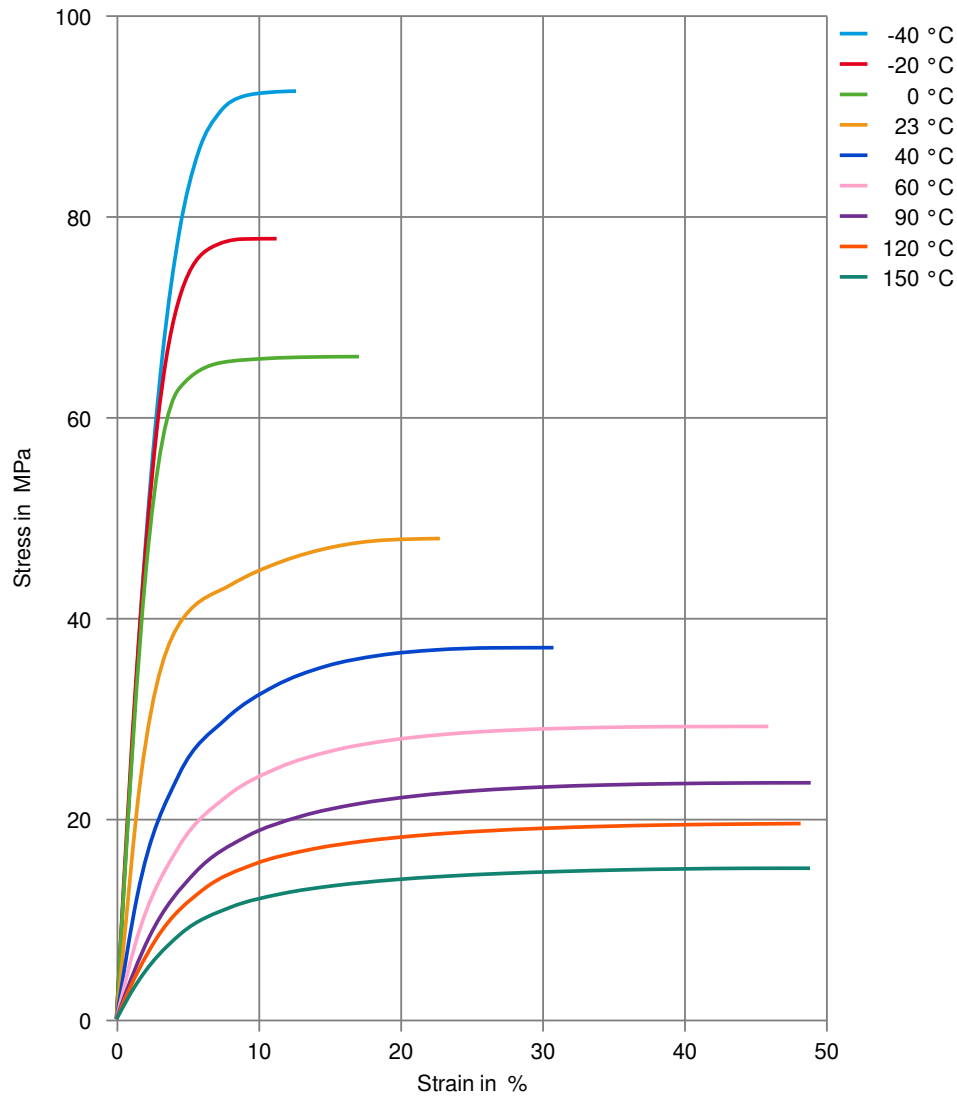
Stress-strain (dry)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

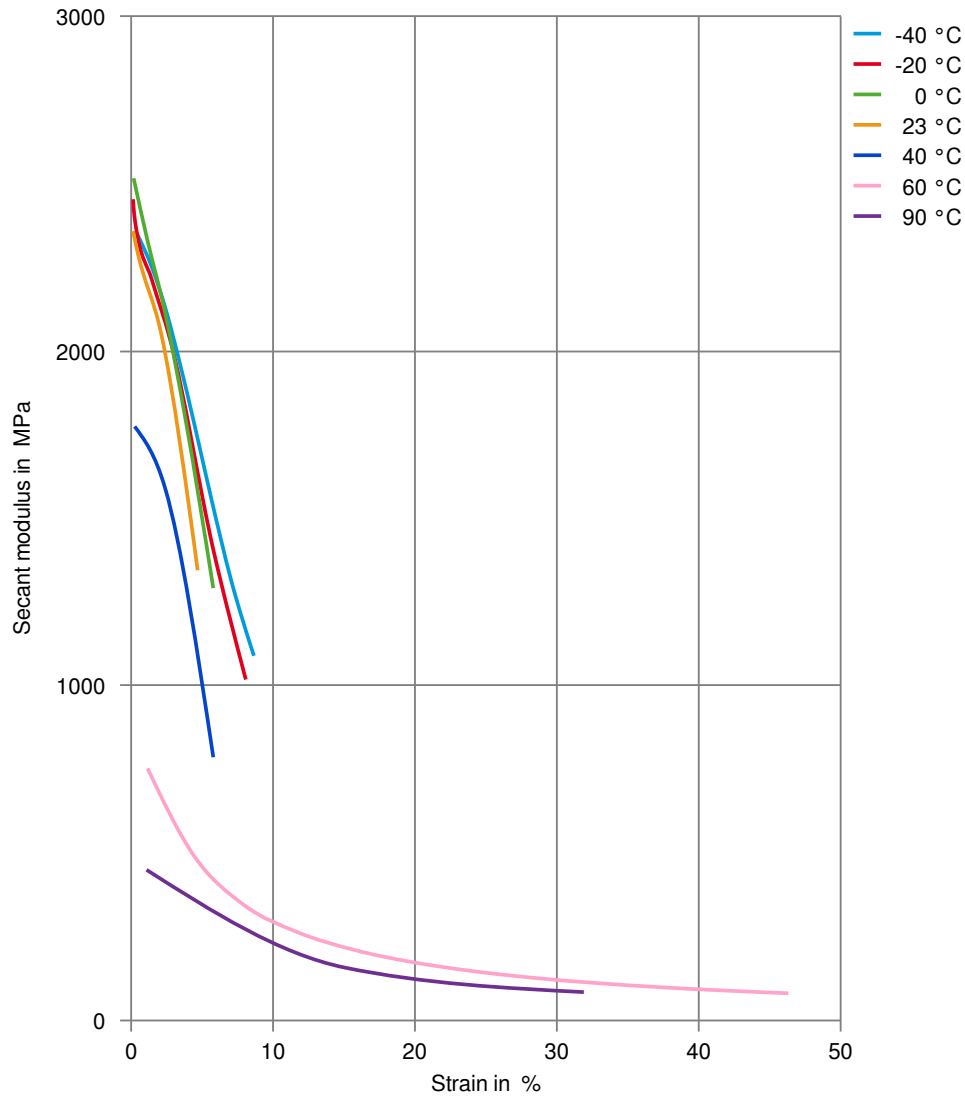
Stress-strain (cond.)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

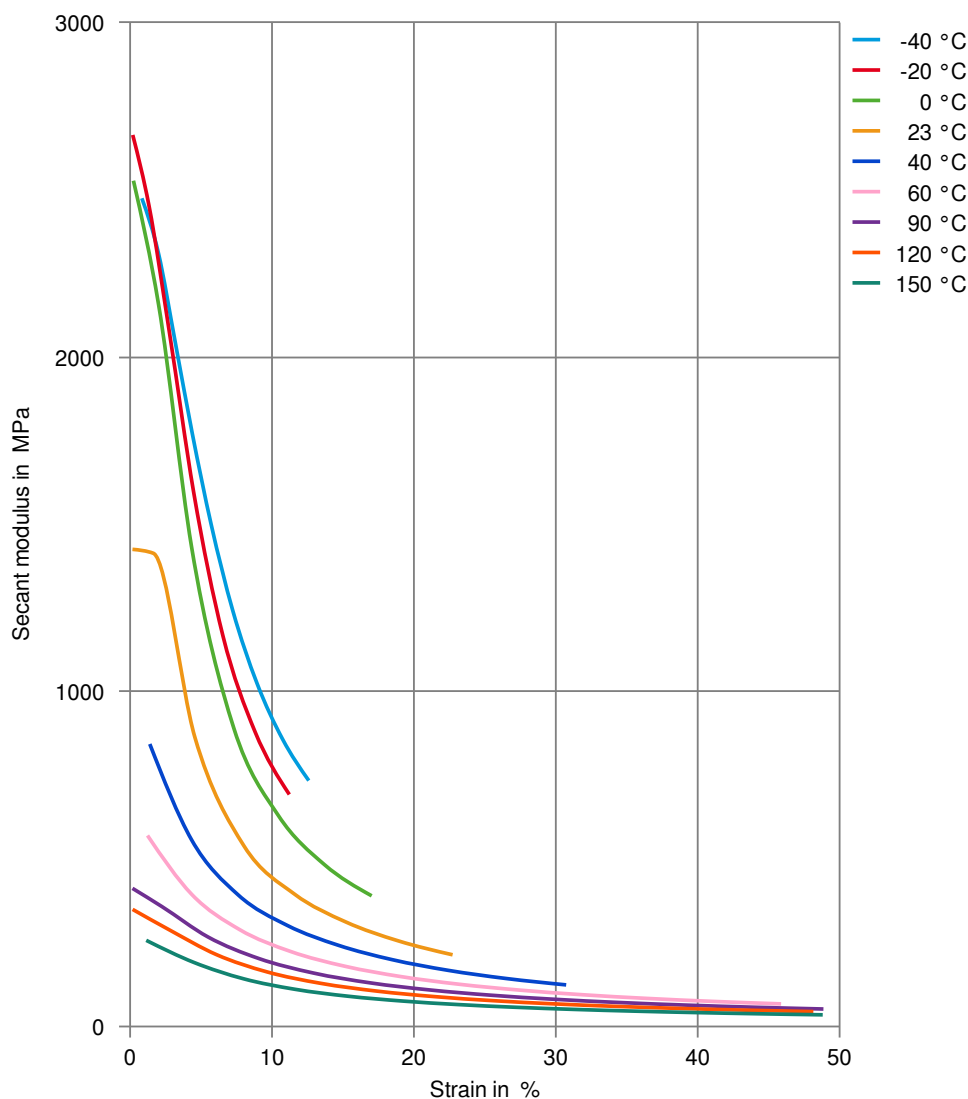
Secant modulus-strain (dry)



Zytel® RS LC3060 NC010

LONG CHAIN POLYAMIDE RESIN

Secant modulus-strain (cond.)



Printed: 2025-05-29

Page: 6 of 6

Revised: 2025-04-23 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.