

DuPont™ Zytel® SC315 NC010

NYLON RESIN

Product Information

Zytel® SC315 NC010 is an unreinforced, lubricated 612 polyamide suitable for injection molding. It has been developed for applications such as parts for the healthcare industry.

SPECIAL CONTROL for HEALTHCARE APPLICATIONS

This product is manufactured according to Good Manufacturing Practice (GMP) principles and generally accepted in food contact applications in Europe and the USA when meeting applicable use conditions. This product is also tested against ISO 10993-5 and -11 and selected parts of USP Class VI. For details, individual compliance statements are available from your DuPont representative.

General information	Value	Unit	Test Standard
Resin Identification	PA612	-	ISO 1043
Part Marking Code	PA612	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Viscosity number	95 ^[1] / *	cm ³ /g	ISO 307, 1157, 1628
Molding shrinkage, parallel	1.3 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.4 / -	%	ISO 294-4, 2577
1: sulphuric acid 96%			
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	2400 / 1700	MPa	ISO 527-1/-2
Yield stress	62 / 54	MPa	ISO 527-1/-2
Yield strain	4.5 / 18	%	ISO 527-1/-2
Nominal strain at break	17 / >50	%	ISO 527-1/-2
Flexural Modulus	2100 / 1440	MPa	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	N / N	kJ/m ²	
-22°F	N / 40	kJ/m ²	
Charpy notched impact strength			ISO 179/1eA
73°F	3.5 / 4	kJ/m ²	
-22°F	3.5 / 3	kJ/m ²	
Izod notched impact strength			ISO 180/1A
73°F	4 / 4.5	kJ/m ²	
-22°F	4.5 / 3	kJ/m ²	
Hardness, Rockwell, R-scale	114 / -	-	ISO 2039-2
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	218 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	62 / *	°C	
65 psi	135 / *	°C	
Vicat softening temperature, 90°F/h, 11 lbf	181 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	110 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	120 / *	E-6/K	
Normal, -40-23°C	90 / *	E-6/K	
Normal, 55-160°C	180 / *	E-6/K	
Parallel, -40-23°C	90 / *	E-6/K	
Parallel, 55-160°C	160 / *	E-6/K	
Thermal conductivity of melt	0.18	W/(m K)	-
Spec. heat capacity of melt	2750	J/(kg K)	-
Flammability	dry / cond	Unit	Test Standard
Oxygen index	27 / *	%	ISO 4589-1/-2
Electrical properties	dry / cond	Unit	Test Standard

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Asia Pacific

Europe/Middle East/Africa

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Relative permittivity			IEC 62631-2-1
100Hz	3.6 / 5.1	-	
1MHz	3.2 / 4	-	
Dissipation factor			IEC 62631-2-1
100Hz	135 / 700	E-4	
1MHz	160 / 400	E-4	
Volume resistivity	1E13 / 1E11	Ohm*m	IEC 62631-3-1
Electric strength	30 / 30	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112
Electric Strength, Short Time, 2mm	22 / 21	kV/mm	IEC 60243-1
Other properties	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	1.3 / *	%	Sim. to ISO 62
Water absorption, 80mil	3 / *	%	Sim. to ISO 62
Density	1060 / -	kg/m ³	ISO 1183
Density of melt	900	kg/m ³	-
VDA Properties	Value	Unit	Test Standard
Emission of organic compounds	3.1	µgC/g	VDA 277
Injection	Value	Unit	Test Standard
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. mold temperature	50	°C	-
Max. mold temperature	90	°C	-
Hold pressure range	50 - 100	MPa	-
Hold pressure time	4	s/mm	-
Extrusion	Value	Unit	Test Standard
Drying Temperature	≤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 Molding	
Delivery form		• Pellets	
Additives		• Release agent	

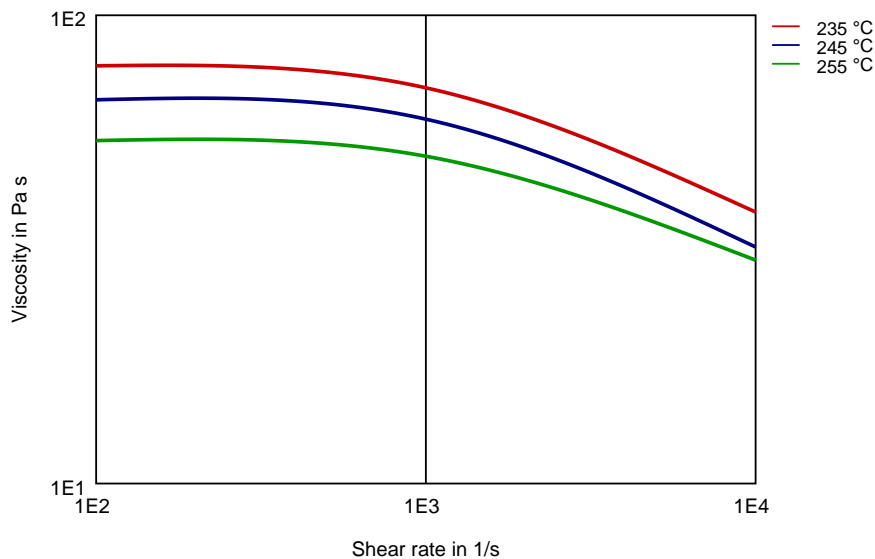


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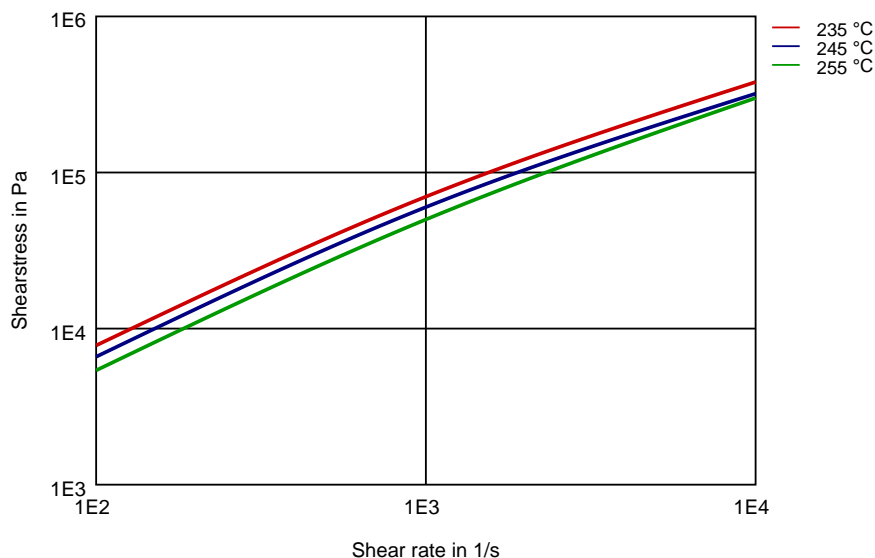
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Diagrams

Viscosity-shear rate



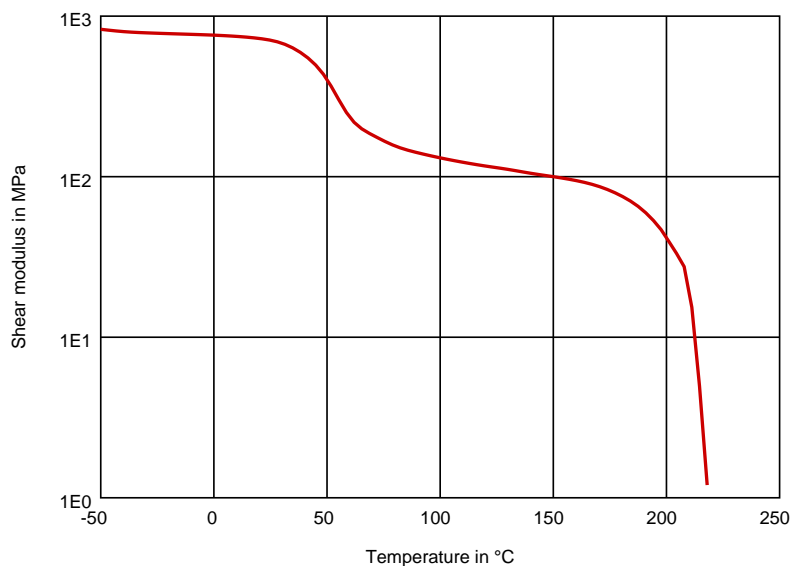
Shearstress-shear rate



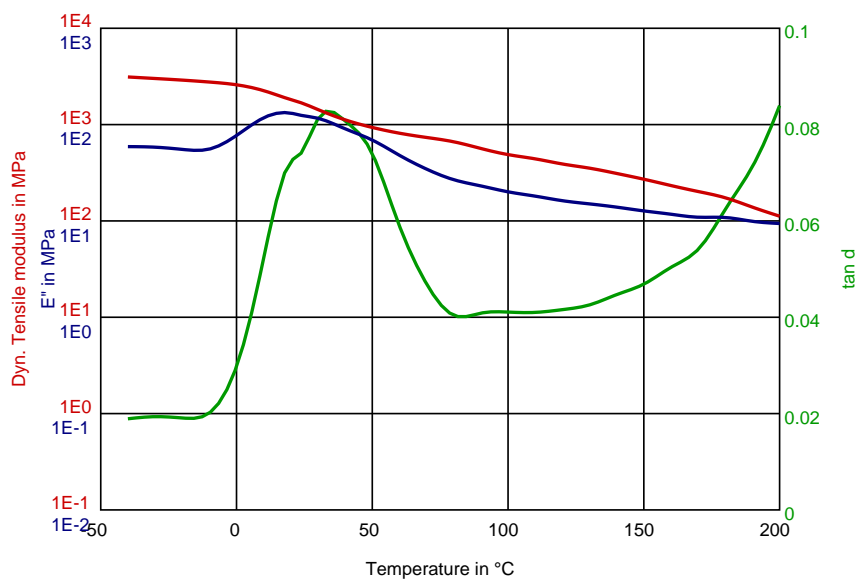
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Dynamic Shear modulus-temperature (dry)



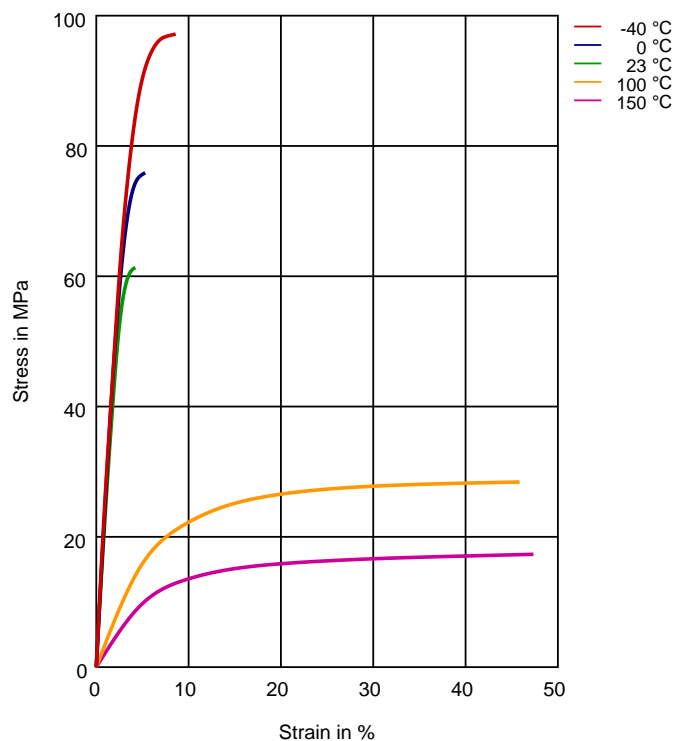
Dynamic Tensile modulus-temperature (dry)



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Stress-strain (dry)



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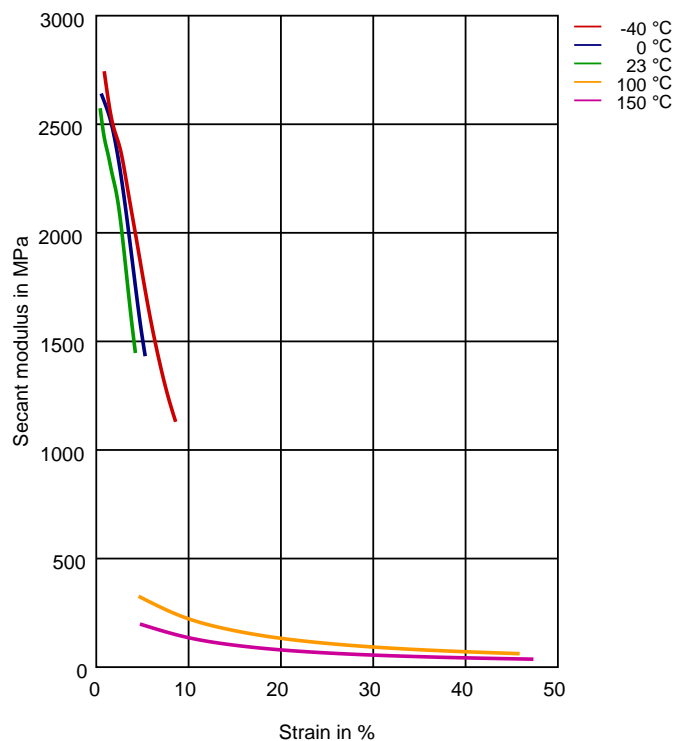
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Secant modulus-strain (dry)



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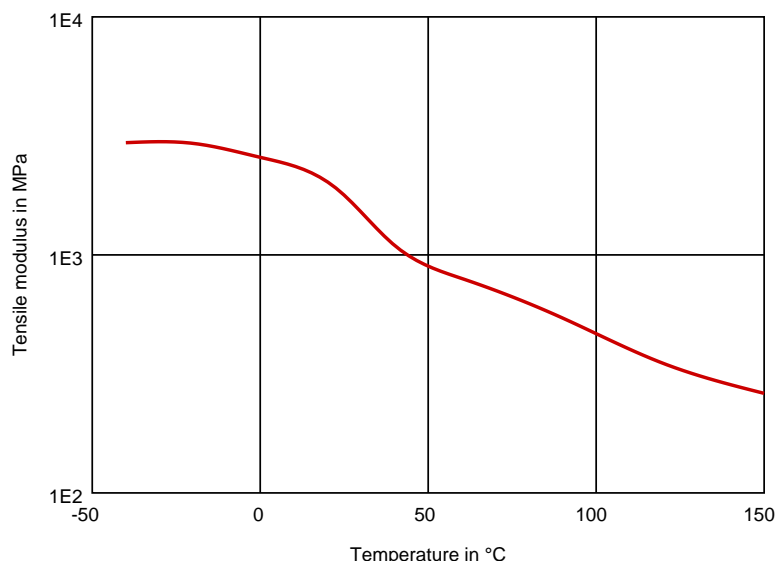
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Tensile modulus-temperature (cond.)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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