

DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Product Information

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTN53G50HSLR NC010 is a 50% glass reinforced, heat stabilized, lubricated high performance polyamide resin developed for moderate temperature structural applications requiring retention of high impact and stiffness.

General information	Value	Unit	Test Standard
Resin Identification	PA-GF50	-	ISO 1043
Part Marking Code	PA-GF50	-	ISO 11469
Part Marking Code	>PA-GF50<	-	SAE J1344
Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.4 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	16500 / 16300	MPa	ISO 527-1/-2
Stress at break	250 / 215	MPa	ISO 527-1/-2
Strain at break	2.8 / 3.2	%	ISO 527-1/-2
Flexural Modulus	15000 / -	MPa	ISO 178
Poisson's ratio	0.38 / -	-	ISO 527-1/-2
Charpy impact strength, 73°F	95 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength			ISO 179/1eA
73°F	15 / -	kJ/m ²	
-40°F	14 / -	kJ/m ²	
Izod notched impact strength			ISO 180/1A
73°F	15 / -	kJ/m ²	
-40°F	13.5 / -	kJ/m ²	
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, first heat	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 260 psi	236 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	14 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	55 / *	E-6/K	
Normal, -40-23°C	55 / *	E-6/K	
Parallel, -40-23°C	17 / *	E-6/K	
RTI, electrical			UL 746B
30mil	65 / *	°C	
60mil	65 / *	°C	
120mil	65	°C	
RTI, impact			UL 746B
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°C	
RTI, strength			UL 746B
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°C	
Flammability	dry / cond	Unit	Test Standard
Burning Behav. at 60mil nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10

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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

Tel: +41 22 717 51 11



DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

UL recognition	yes / *	-	UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	IEC 60695-11-10
UL recognition	yes / *	-	UL 94
Oxygen index	27 / *	%	ISO 4589-1/-2
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	25	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	1E13 / -	Ohm*m	IEC 60093
Comparative tracking index	600 / -	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Density	1590 / -	kg/m ³	ISO 1183
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	100	°C	-
Drying Time, Dehumidified Dryer	6 - 8	h	-
Processing Moisture Content	≤0.1	%	-
Melt Temperature Optimum	290	°C	-
Min. melt temperature	280	°C	-
Max. melt temperature	300	°C	-
Min. mold temperature	90	°C	-
Max. mold temperature	110	°C	-

Characteristics

Processing	<ul style="list-style-type: none"> Injection Molding
Special characteristics	<ul style="list-style-type: none"> Heat stabilized or stable to heat
Regional Availability	<ul style="list-style-type: none"> North America Europe Asia Pacific South and Central America Near East/Africa Global

Processing Texts

Injection molding

During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

Tel: +41 22 717 51 11

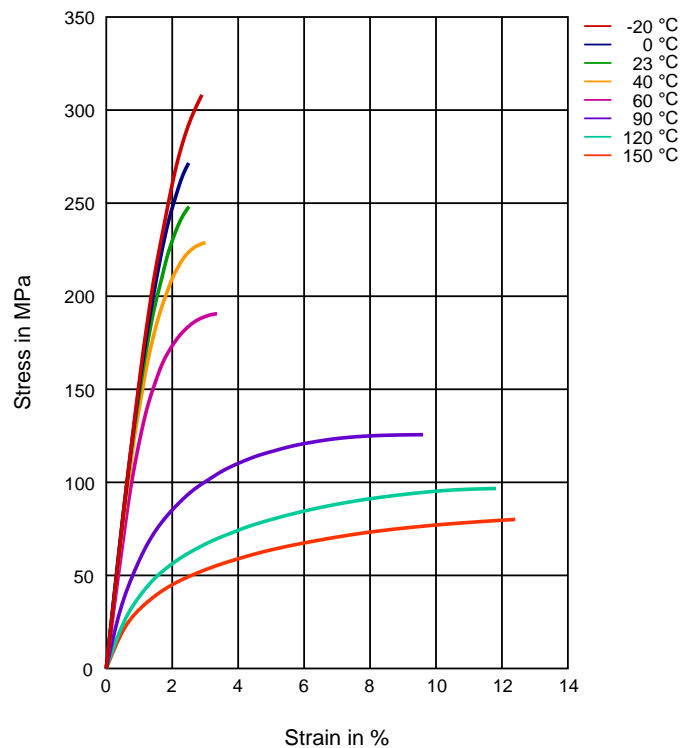


DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Diagrams

Stress-strain (dry)



Revised: 2016-10-14

Page: 3 of 6

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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

Tel: +41 22 717 51 11

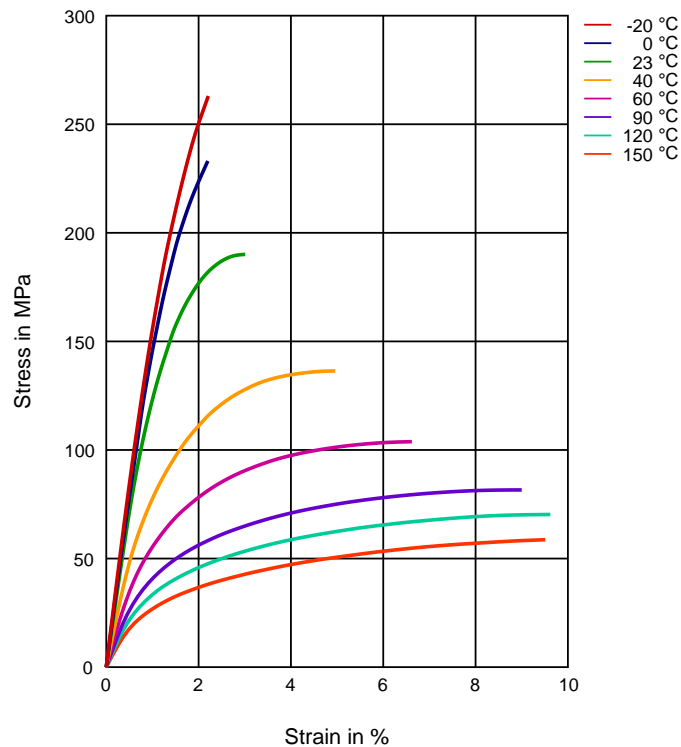
Copyright 2017 DuPont. The DuPont Oval Logo is a trademark or registered trademark of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved.



DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (cond.)



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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

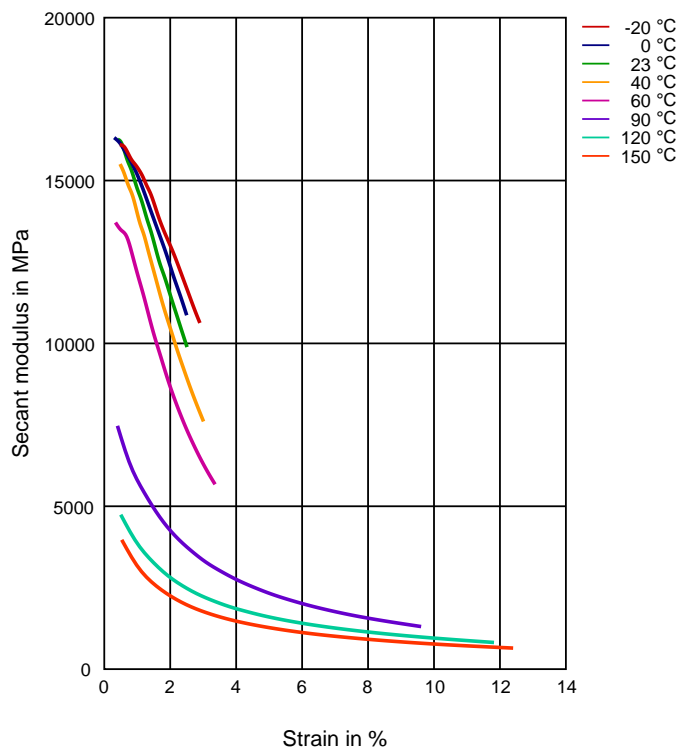
Tel: +41 22 717 51 11



DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (dry)



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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

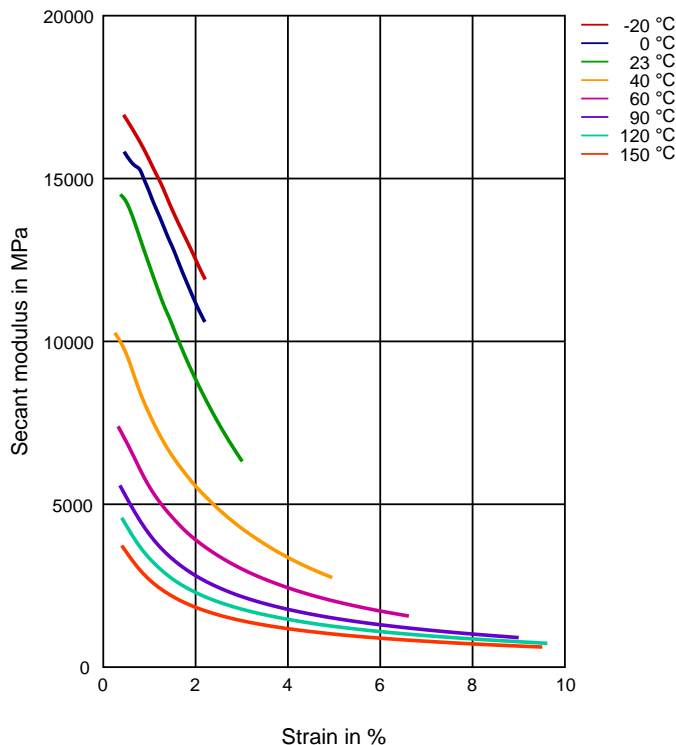
Tel: +41 22 717 51 11



DuPont™ Zytel® HTN53G50HSLR NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (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.

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable and falls within the normal range of properties. It is intended for use by persons having technical skill, at their own discretion and risk. This data should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents. Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont customer representative and read Medical Caution H-50103-5.

Copyright © 2017 DuPont or its affiliates. All Rights Reserved. The DuPont Oval Logo, DuPont™, The miracles of science™ and all products denoted with ® or ™ are registered trademarks or trademarks of E.I. du Pont de Nemours and Company or its affiliates.

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

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

Tel: +41 22 717 51 11

