DuPont™ Zytel® PLS95G35DH1 NC010 (Preliminary Data)

ZYTEL® PLUS NYLON RESIN

Product Information

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, DuPont recommends, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel® PLS95G35DH1 NC010 is a high flow, 35% glass fiber reinforced, DuPont™ SHIELD protected polyamide resin for injection molding. It provides excellent surface appearance, excellent welding, excellent fatigue retention and exceptional resistance to hot air and hot oil.

Resin Identification PA66/6T-GF35 - ISO 1043 Part Marking Code >PA66/6T-GF35 - ISO 11469 Rheological properties dry Out Test Standard Molding shrinkage, parallel 0.1/- % ISO 294-4, 2577 Molding shrinkage, normal 0.6/- % ISO 294-4, 2577 Mechanical properties dry / cond Unit Test Standard Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU Charpy impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eU Charpy impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eU Charpy impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / ° ° C ISO 113	General information	Value	Unit	Test Standard
Rheological properties dry / cond Unit Test Standard Molding shrinkage, parallel 0.1 / - % ISO 294-4, 2577 Molding shrinkage, normal 0.6 / - % ISO 294-4, 2577 Mechanical properties dry / cond Unit Test Standard Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 ISO 179/1eU Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 175-1/-2 Flammability dry / cond Unit Test Standard Burning Behav. at 60mil nom. thickn. HB / * class IEC 60695-11-10 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm	Resin Identification	PA66/6T-GF35	-	ISO 1043
Molding shrinkage, parallel 0.1 / - % ISO 294-4, 2577 Molding shrinkage, normal 0.6 / - % ISO 294-4, 2577 Mechanical properties dry / cond Unit Test Standard Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU Charpy notched impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 /* °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 1795-1/-2 Flammability dry / cond Unit Test Standard Burning Behav. at 60mil nom. thickn. HB /* class IEC 60695-11-10 FMVSS Class B -	Part Marking Code	>PA66/6T-GF35<	-	ISO 11469
Molding shrinkage, normal 0.6 / - % ISO 294-4, 2577 Mechanical properties dry / cond Unit Test Standard Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU Charpy notched impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 Flammability dry / cond Unit Test Standard Burning Behav. at 60mil nom. thickn. HB / * class IEC 60695-11-10 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100	Rheological properties	dry / cond	Unit	Test Standard
Mechanical properties dry / cond Unit Test Standard Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU Charpy notched impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100	Molding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Tensile Modulus 11000 / 8000 MPa ISO 527-1/-2 Stress at break 209 / 148 MPa ISO 527-1/-2 Strain at break 3.1 / 5.4 % ISO 527-1/-2 Charpy impact strength, 73°F 80 / 100 kJ/m² ISO 179/1eU Charpy notched impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * ° C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - ° C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * ° C ISO 75-1/-2 Flammability dry / cond Unit Test Standard Burning Behav. at 60mil nom. thickn. HB / * class IEC 60695-11-10 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100	Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577
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Strain at break Charpy impact strength, 73°F B80 / 100 KJ/m² ISO 179/1eU Charpy notched impact strength, 73°F 12 / 14 KJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * C ISO 150 75-1/-2 Flammability dry / cond Unit Test Standard Melting temperature, 18°F/min 65 / - C ISO 179/1eA Test Standard Unit Test Standard Burning Behav. at 60mil nom. thickn. HB / * Class IEC 60695-11-10 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm Cond Unit Test Standard Unit Test Standard IEC 60695-11-10 Thickness tested Thickness 1 mm C Thickness 1 mm C ISO 3795 (FMVSS 302) Unit Test Standard ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard Unit Test Standard ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard ISO 3183 ISO 1183	Tensile Modulus	11000 / 8000	MPa	ISO 527-1/-2
Charpy impact strength, 73°F Charpy notched impa	Stress at break	209 / 148	MPa	ISO 527-1/-2
Charpy notched impact strength, 73°F 12 / 14 kJ/m² ISO 179/1eA Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm < 100 mm/min ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard Density 1430 / - kg/m³ ISO 1183	Strain at break	3.1 / 5.4	%	ISO 527-1/-2
Thermal properties dry / cond Unit Test Standard Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100 mm/min	Charpy impact strength, 73°F	80 / 100	kJ/m²	ISO 179/1eU
Melting temperature, 18°F/min 269 / * °C ISO 11357-1/-3 Glass transition temperature, 18°F/min 65 / - °C ISO 11357-1/-2 Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100 mm/min		12 / 14	kJ/m²	ISO 179/1eA
Glass transition temperature, 18°F/min Genome of deflection under load, 260 psi Temp. of deflection under load, 260 psi 249 / * °C ISO 75-1/-2 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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm < 100 mm/min ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard Density 1430 / - kg/m³ ISO 1183		dry / cond	Unit	Test Standard
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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 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100 mm/min	Glass transition temperature, 18°F/min	65 / -		ISO 11357-1/-2
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Thickness tested 1.5 / * mm IEC 60695-11-10 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100	Flammability	dry / cond	Unit	Test Standard
FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <100 mm/min ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard Density 1430 / - kg/m³ ISO 1183	Burning Behav. at 60mil nom. thickn.	HB / *	class	IEC 60695-11-10
Burning rate, Thickness 1 mm < 100 mm/min ISO 3795 (FMVSS 302) Other properties dry / cond Unit Test Standard Density 1430 / - kg/m³ ISO 1183	Thickness tested	1.5 / *	mm	IEC 60695-11-10
Other properties dry / cond Unit Test Standard Density 1430 / - kg/m³ ISO 1183	FMVSS Class	В	-	ISO 3795 (FMVSS 302)
Density 1430 / - kg/m³ ISO 1183	Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
	Other properties	dry / cond	Unit	Test Standard
	Density	1430 / -	kg/m³	ISO 1183
Injection dry / cond Unit Test Standard	Injection	dry / cond	Unit	Test Standard
Drying Recommended yes	Drying Recommended		-	-
Drying Temperature ≥80 °C -	Drying Temperature	≥80	°C	-
Drying Time, Dehumidified Dryer 2 - 4 h -	Drying Time, Dehumidified Dryer	2 - 4		-
Processing Moisture Content ≤0.2 % -	Processing Moisture Content	≤0.2	%	-
Melt Temperature Optimum 285 °C -	Melt Temperature Optimum	285		-
Min. melt temperature 280 °C -	Min. melt temperature	280		-
Max. melt temperature 290 °C -	Max. melt temperature	290	°C	-
Max. screw tangential speed 0.2 / * m/s -	Max. screw tangential speed	0.2 / *		-
Mold Temperature Optimum 100 °C -				-
Min. mold temperature 70 °C -	Min. mold temperature	70		-
Max. mold temperature 120 °C -	Max. mold temperature	120	°C	-

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To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

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DuPont™ Zytel® PLS95G35DH1 NC010 (Preliminary Data)

ZYTEL® PLUS NYLON RESIN

Hold pressure range

Hold pressure time	3	s/mm	-	
Ejection temperature	210	°C	-	
Characteristics				
Processing	 Injection Molding 			
Delivery form	 Pellets 			
Additives	Release agent			
Special characteristics	 Heat stabilized or stable 			
	to heat			
Regional Availability	North America	Asia Pacific		Near East/Africa
	 Europe 	 South and Cent 	ral America	 Global

50 - 100

MPa

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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.

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