



Zytel® 79G13HSL NC010

NYLON RESIN

ISO 1874-PA66-MGH,14-050,GF13

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® 79G13HSL NC010 is a 13 % glass reinforced, heat stabilised, lubricated slightly toughened polyamide 66 for injection moulding. It has improved impact resistance.

Product information

Resin Identification	PA66-IGF13	ISO 1043
Part Marking Code	>PA66-IGF13<	ISO 11469
ISO designation	ISO 16396-PA66-I,GF13,M1GHNR,S18-050	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.5/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8/-	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	5000/3700	MPa	ISO 527-1/-2
Stress at break	120/70	MPa	ISO 527-1/-2
Strain at break	4/10	%	ISO 527-1/-2
Flexural Modulus	4700/-	MPa	ISO 178
Flexural Strength	160/-	MPa	ISO 178
Tensile creep modulus, 1h	*/3600	MPa	ISO 899-1
Tensile creep modulus, 1000h	*/3200	MPa	ISO 899-1
Charpy impact strength, 23°C	70/60	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	60/50	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	8/14	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	6/6	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	8/9	kJ/m ²	ISO 180/1A



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Izod notched impact strength, -30°C	6/4	kJ/m ²	ISO 180/1A
Hardness, Rockwell, M-scale	90/74	-	ISO 2039-2
Hardness, Rockwell, R-scale	120/110	-	ISO 2039-2
Ball indentation hardness, H 961/30	180/100	MPa	ISO 2039-1
Poisson's ratio	0.35/0.36	-	

Thermal properties

dry/cond.

Melting temperature, 10°C/min	263/*	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	242/*	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	260/*	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	239/*	°C	ISO 306
Coeff. of linear therm. expansion, parallel	50/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	130/*	E-6/K	ISO 11359-1/-2
Spec. heat capacity of melt	2140	J/(kg K)	
Spec. heat capacity solid	1130 ^[DS]	J/(kg K)	
RTI, electrical, 0.75mm	105	°C	UL 746B
RTI, electrical, 1.5mm	120	°C	UL 746B
RTI, electrical, 3mm	120	°C	UL 746B
RTI, impact, 0.75mm	65	°C	UL 746B
RTI, impact, 1.5mm	105	°C	UL 746B
RTI, impact, 3mm	105	°C	UL 746B
RTI, strength, 0.75mm	105	°C	UL 746B
RTI, strength, 1.5mm	120/*	°C	UL 746B
RTI, strength, 3mm	120	°C	UL 746B

[DS]: Derived from similar grade

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
UL recognition	yes/*	-	UL 94
Burning Behav. at thickness h	HB/*	class	IEC 60695-11-10
Thickness tested	0.8/*	mm	IEC 60695-11-10
UL recognition	yes/*	-	UL 94
Glow Wire Flammability Index, 1mm	650/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2mm	650/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3mm	650/-	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1mm	650/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2mm	650/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3mm	650/-	°C	IEC 60695-2-13
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	22	mm/min	ISO 3795 (FMVSS 302)

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Electrical properties

	dry/cond.		
Comparative tracking index	250/-		IEC 60112

Other properties

	dry/cond.		
Humidity absorption, 2mm	2.2/*	%	Sim. to ISO 62
Water absorption, 2mm	6.5/*	%	Sim. to ISO 62
Density	1210/-	kg/m ³	ISO 1183
Density of melt	1040	kg/m ³	

VDA Properties

	dry/cond.		
Emission of organic compounds	13	µgC/g	VDA 277
Odour	4 ^[1]	class	VDA 270
Fogging, G-value (condensate)	0.3/*	mg	ISO 6452
[1]: C3			

Injection

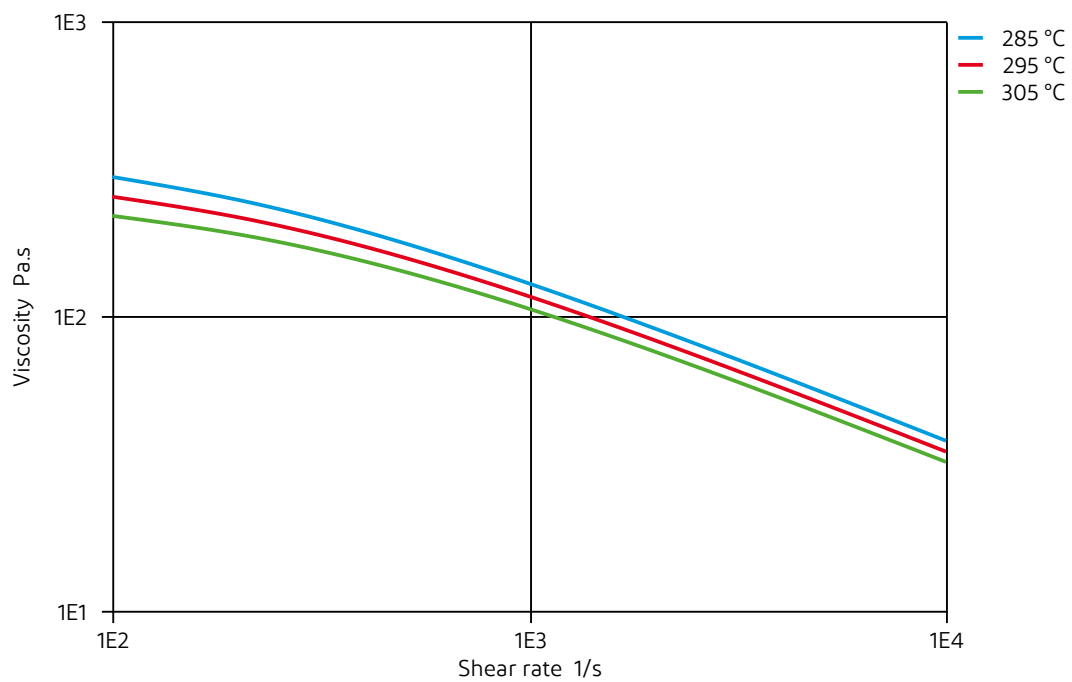
Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.2 %
Melt Temperature Optimum	295 °C
Min. melt temperature	285 °C
Max. melt temperature	305 °C
Max. screw tangential speed	0.2 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	50 °C
Max. mould temperature	100 °C
Hold pressure range	50 - 100 MPa
Hold pressure time	3 s/mm
Ejection temperature	210 °C



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Viscosity-shear rate

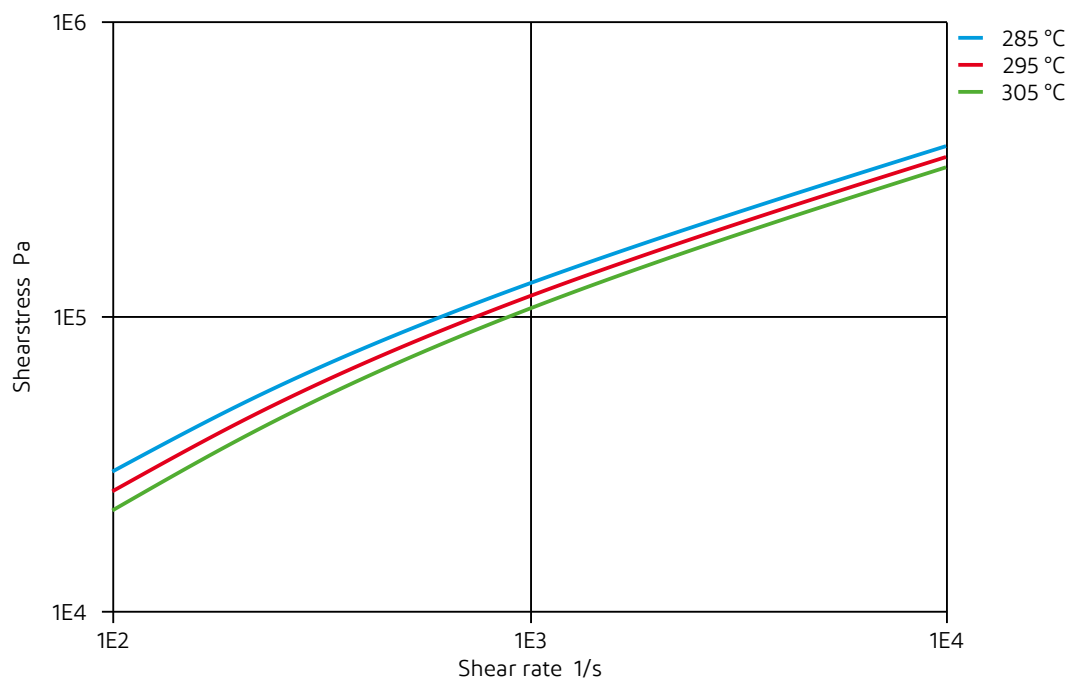




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Shearstress-shear rate



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