

DuPont™ Zytel® 79G13HSL BK039

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® 79G13HSL BK039 is a 13 % glass reinforced, heat stabilised, lubricated slightly toughened black polyamide 66 for injection moulding. It has improved impact resistance.

General information	Value	Unit	Test Standard
Resin Identification	PA66-IGF13	-	ISO 1043
Part Marking Code	PA66-IGF13	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Moulding shrinkage, parallel	0.5 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	5100 / 3700	MPa	ISO 527-1/-2
Stress at break	115 / 67	MPa	ISO 527-1/-2
Strain at break	4 / 10	%	ISO 527-1/-2
Poisson's ratio	0.35 / 0.36	-	ISO 527-1/-2
Charpy impact strength			ISO 179/1eU
23°C	67 / 59	kJ/m²	
-30°C	59 / 54	kJ/m²	
Charpy notched impact strength			ISO 179/1eA
23°C	8 / 12	kJ/m²	
-30°C	6 / 6	kJ/m²	
Izod notched impact strength, 23°C	7.5 / 10	kJ/m²	ISO 180/1A
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 10°C/min	262 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	240 / *	°C	
0.45 MPa	260 / *	°C	
RTI, electrical			UL 746B
0.75mm	105 / *	°C	
1.5mm	120 / *	°C	
3mm	120	°C	
RTI, impact			UL 746B
0.75mm	65	°C	
1.5mm	105 / *	°C	
3mm	105	°C	
RTI, strength			UL 746B
0.75mm	105	°C	
1.5mm	120 / *	°C	
3mm	120	°C	
Flammability	dry / cond	Unit	Test Standard
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	UL 94

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Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	UL 94
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	24	mm/min	ISO 3795 (FMVSS 302)
Other properties	dry / cond	Unit	Test Standard
Density	1210 / -	kg/m ³	ISO 1183
VDA Properties	dry / cond	Unit	Test Standard
Emission of organic compounds	13	µgC/g	VDA 277
Odour	4	class	VDA 270
Fogging, G-value (condensate)	0.3 / *	mg	ISO 6452
Injection	dry / cond	Unit	Test Standard
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	-
Characteristics			
Processing	• Injection Moulding		
Special characteristics	• Heat stabilised or stable to heat		
Regional Availability	• Europe	• Near East/Africa	

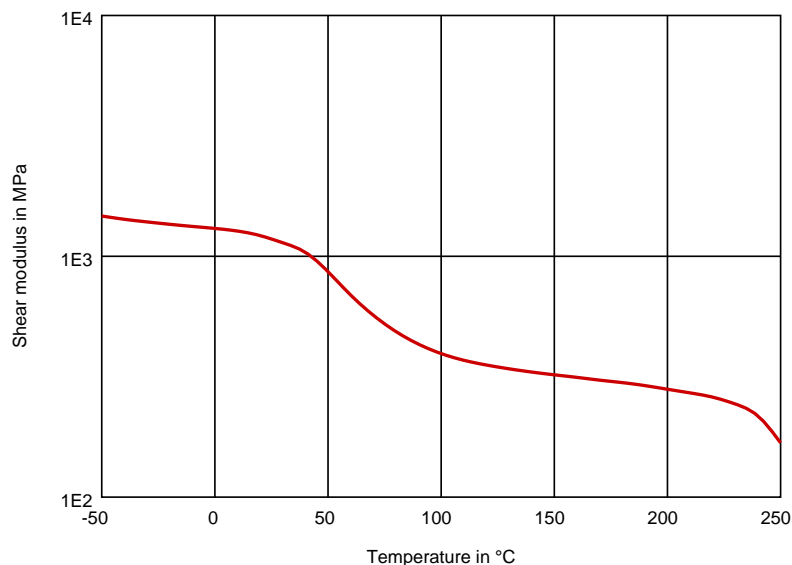


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Diagrams

Dynamic Shear modulus-temperature (dry)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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