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® 80G25HS BK117 is a 25% glass fiber reinforced, toughened, heat stabilized, black polyamide 66 resin for injection molding.

General information	Value	Unit	Test Standard	
Resin Identification	PA66-IGF25	-	ISO 1043	
Part Marking Code	PA66-IGF25	-	ISO 11469	
Rheological properties	dry / cond	Unit	Test Standard	
Molding shrinkage, parallel	0.3 / -	%	ISO 294-4, 2577	
Molding shrinkage, normal	0.8 / -	%	ISO 294-4, 2577	
Mechanical properties	dry / cond	Unit	Test Standard	
Tensile Modulus	7000 / 4500	MPa	ISO 527-1/-2	
Stress at break	120 / 90	MPa	ISO 527-1/-2	
Strain at break	4 / 8	%	ISO 527-1/-2	
Flexural Modulus	6000 / -	MPa	ISO 178	
Charpy impact strength			ISO 179/1eU	
73°F	80 / 80	kJ/m²		
-22°F	80 / 80	kJ/m²		
Charpy notched impact strength			ISO 179/1eA	
73°F	22 / 24	kJ/m²		
-22°F	14 / 13	kJ/m²		
Izod notched impact strength		-	ISO 180/1A	
73°F	20 / 23	kJ/m²		
-22°F	13 / 12	kJ/m²		
-40°F	13 / 12	kJ/m²		
Ball indentation hardness, H 961/30	200 / 140	MPa	ISO 2039-1	DS
DS: Derived from similar grade				
Thermal properties	dry / cond	Unit	Test Standard	
Melting temperature, 18°F/min	262 / *	°C	ISO 11357-1/-3	
Temp. of deflection under load			ISO 75-1/-2	
260 psi	240 / *	°C		
65 psi	258 / *	°C		
Thermal conductivity of melt	0.21	W/(m K)	-	
Flammability	Value	Unit	Test Standard	
FMVSS Class	В	-	ISO 3795 (FMVSS 302)	
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)	
Other properties	dry / cond	Unit	Test Standard	
Density	1250 / -	kg/m³	ISO 1183	
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	-	

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

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Toll-Free (USA): 800 441-0575



Max. melt temperature	305	°C	-	
Max. screw tangential speed	0.2 / *	m/s	-	
Mold Temperature Optimum	80	°C	-	
Min. mold temperature	50	°C	-	
Max. mold temperature	100	°C	-	
Hold pressure range	50 - 100	MPa	-	
Hold pressure time	3	s/mm	-	
Ejection temperature	210	°C	-	

Characteristics			
Processing	 Injection Molding 		
Special characteristics	 Heat stabilized or stable to heat 		
Regional Availability	North AmericaEurope	Asia PacificSouth and Central America	Near East/AfricaGlobal

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Chemical Media Resistance

Acids

Acetic Acid (5% by mass) (23°C)

Citric Acid solution (10% by mass) (23°C)

Lactic Acid (10% by mass) (23°C)

Hydrochloric Acid (36% by mass) (23°C)

Nitric Acid (40% by mass) (23°C)

Sulfuric Acid (38% by mass) (23°C)

Sulfuric Acid (5% by mass) (23°C)

Chromic Acid solution (40% by mass) (23°C)

Bases

Sodium Hydroxide solution (35% by mass) (23°C)

Sodium Hydroxide solution (1% by mass) (23°C)

Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

✓ Isopropyl alcohol (23°C)

✓ Methanol (23°C)

✓ Ethanol (23°C)

Hydrocarbons

√ n-Hexane (23°C)

√ Toluene (23°C)

√ iso-Octane (23°C)

Ketones

✓ Acetone (23°C)

Ethers

Diethyl ether (23°C)

Mineral oils

✓ SAE 10W40 multigrade motor oil (23°C)

SAE 10W40 multigrade motor oil (130°C)

SAE 80/90 hypoid-gear oil (130°C)

Insulating Oil (23°C)

Standard Fuels

✓ ISO 1817 Liquid 1 - E5 (60°C)

ISO 1817 Liquid 2 - M15E4 (60°C)

√ ISO 1817 Liquid 3 - M3E7 (60°C)

✓ ISO 1817 Liquid 4 - M15 (60°C)

Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)

✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)

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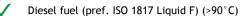


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Diesel fuel (pref. ISO 1817 Liquid F) (23°C)

Diesel fuel (pref. ISO 1817 Liquid F) (90°C)



Salt solutions



Sodium Chloride solution (10% by mass) (23°C)



Sodium Hypochlorite solution (10% by mass) (23°C)



Sodium Carbonate solution (20% by mass) (23°C) Sodium Carbonate solution (2% by mass) (23°C)



Zinc Chloride solution (50% by mass) (23°C)



Ethyl Acetate (23°C)



Hydrogen peroxide (23°C)



DOT No. 4 Brake fluid (130°C)



Ethylene Glycol (50% by mass) in water (108°C)



1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)



50% Oleic acid + 50% Olive Oil (23°C)



Water (23°C)

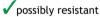


Water (90°C)



Phenol solution (5% by mass) (23°C)

Symbols used:



Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).



not recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

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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