

DuPont™ Zytel® FG70G30HSR2 BK309

NYLON RESIN

Product Information

Zytel® FG70G30HSR2 BK309 is a 30% Glass Reinforced, Heat Stabilized, Polyamide 66

General information	Value	Unit	Test Standard
Resin Identification	PA66-GF30	-	ISO 1043
Part Marking Code	PA66-GF30	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.0 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	10000 / 7200	MPa	ISO 527-1/-2
Stress at break	200 / 130	MPa	ISO 527-1/-2
Strain at break	3.3 / 5	%	ISO 527-1/-2
Charpy impact strength, 73°F	75 / 90	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 73°F	12 / 15	kJ/m ²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	263 / *	°C	ISO 11357-1/-3
Glass transition temperature, 18°F/min	80 / 20	°C	ISO 11357-1/-2
Temp. of deflection under load			ISO 75-1/-2
260 psi	250 / *	°C	
65 psi	260 / *	°C	
Vicat softening temperature, 90°F/h, 11 lbf	209 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	28 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	95 / *	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.22	W/(m K)	-
Spec. heat capacity of melt	2220	J/(kg K)	-
Eff. thermal diffusivity	6.85E-8	m ² /s	-
Flammability	dry / cond	Unit	Test Standard
Oxygen index	24 / *	%	ISO 4589-1/-2
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry / cond	Unit	Test Standard
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Other properties	dry / cond	Unit	Test Standard
Density	1370 / -	kg/m ³	ISO 1183
Density of melt	1200	kg/m ³	-
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	100	°C	-
Min. mold temperature	50	°C	-
Max. mold temperature	120	°C	-
Hold pressure range	50 - 100	MPa	-
Hold pressure time	3	s/mm	-
Ejection temperature	210	°C	-

Characteristics

Processing • Injection Molding

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

North America

Asia Pacific

Europe/Middle East/Africa

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Delivery form	• Pellets		
Additives	• Release agent		
Special characteristics	• Heat stabilized or stable to heat		
Regional Availability	• North America • Europe	• Asia Pacific • South and Central America	• Near East/Africa • Global

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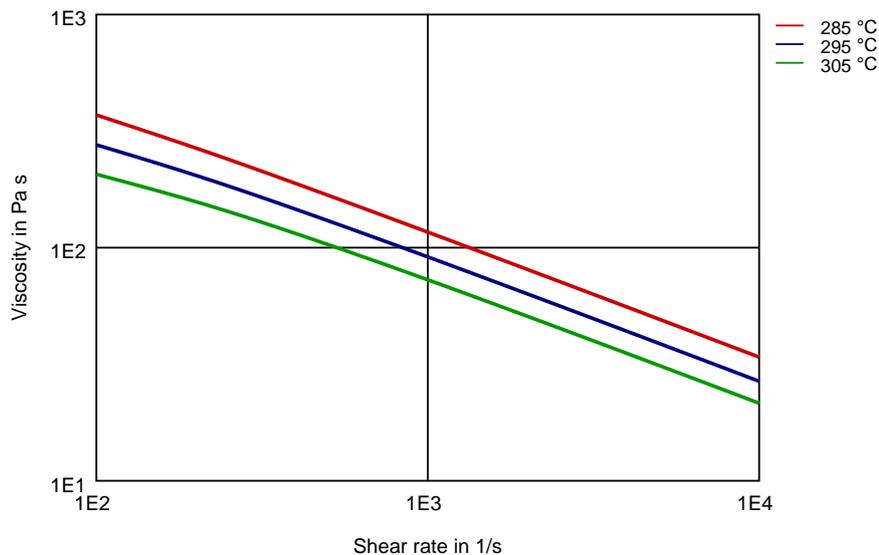


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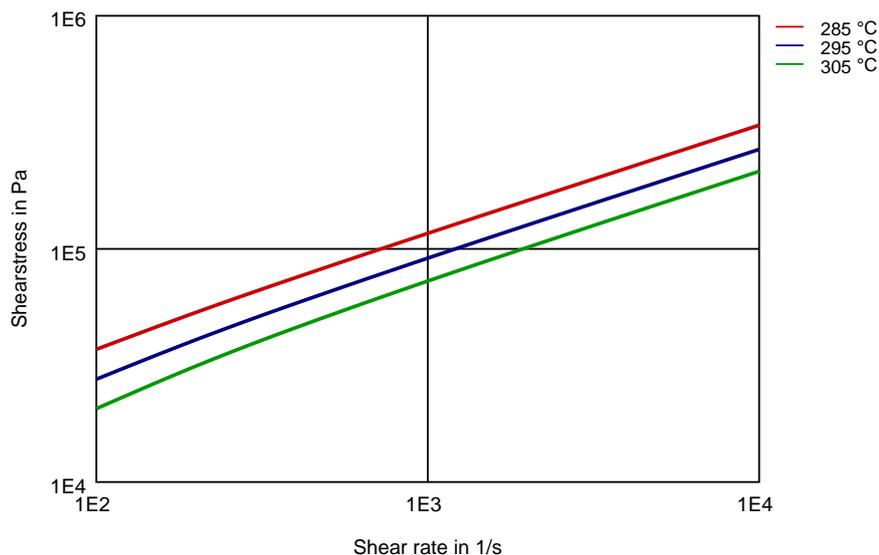
NYLON RESIN

Diagrams

Viscosity-shear rate



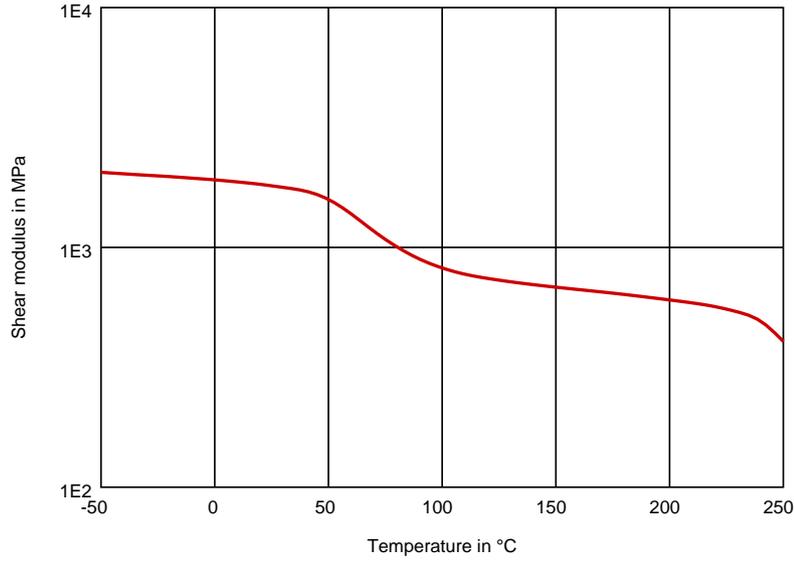
Shearstress-shear rate



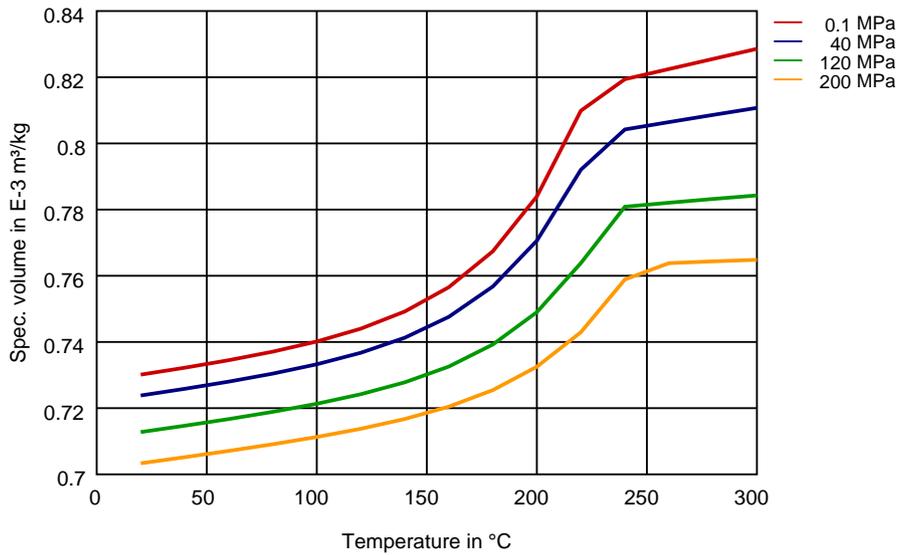
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Dynamic Shear modulus-temperature (dry)



Specific volume-temperature (pVT)



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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

- ✓ Insulating Oil (23 °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)

Other

- ✓ Ethyl Acetate (23 °C)
- ✓ Hydrogen peroxide (23 °C)
- ✓ Ethylene Glycol (50% by mass) in water (108 °C)



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- ✓ 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:

✓ possibly resistant

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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