

Zytel® 70G30HSLR NC010

NYLON RESIN

DuPont Performance Polymers

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

30% Glass Reinforced, Heat Stabilized, Hydrolysis Resistant, Polyamide 66

General

Material Status	• Commercial: Active
Literature ¹	• Processing - Injection Molding (English) • Processing - Injection Molding of Glass-reinforced Zytel (English) • Typical Processing for DuPont Engineering Polymers (English)
UL Yellow Card ²	• E41938-234406
Search for UL Yellow Card	• DuPont Performance Polymers • Zytel®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Additive	• Heat Stabilizer • Lubricant • Mold Release
Features	• Heat Stabilized • Hydrolysis Resistant
RoHS Compliance	• Contact Manufacturer
Forms	• Pellets
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature, Dynamic (ISO 11403-1) • Shear Stress vs. Shear Rate (ISO 11403-1) • Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1) • Viscosity vs. Shear Rate (ISO 11403-2)
Part Marking Code (ISO 11469)	• >PA66-GF30<
Resin ID (ISO 1043)	• PA66-GF30

Physical	Dry	Conditioned	Unit	Test Method
Density	1.37	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	1.1	--	%	
Flow	0.30	--	%	
Water Absorption				ISO 62
24 hr, 23°C	1.3	--	%	
Saturation, 23°C, 2.00 mm	6.0	--	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	1.9	--	%	
Viscosity Number (Reduced Viscosity) ⁴	150.0	--	ml/g	ISO 1628
Viscosity Number				ISO 307
96% H2SO4 (Sulphuric Acid)	150	--	cm ³ /g	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	10000	7000	MPa	ISO 527-2
Tensile Stress (Break)	200	130	MPa	ISO 527-2
Tensile Strain (Break)	3.3	5.0	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	6800	MPa	
1000 hr	--	5100	MPa	
Flexural Modulus	9000	6300	MPa	ISO 178
Flexural Stress	280	200	MPa	ISO 178
Poisson's Ratio	0.34	0.35		



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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	10	--	kJ/m ²	
-30°C	10	10	kJ/m ²	
23°C	12	15	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	70	70	kJ/m ²	
23°C	70	80	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
-30°C	12	10	kJ/m ²	
23°C	12	14	kJ/m ²	
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	60	--	kJ/m ²	
23°C	70	--	kJ/m ²	
Multi-Axial Instrumented Impact Energy ⁵				ISO 6603-2
2.00 mm, Total Penetration Energy	5.00	--	J	
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale	104	88		
R-Scale	124	117		
Ball Indentation Hardness ⁶ (H 961/30)	270	185	MPa	ISO 2039-1
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	261	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	253	--	°C	ISO 75-2/A
Glass Transition Temperature ⁷	75.0	20.0	°C	ISO 11357-2
Vicat Softening Temperature	250	--	°C	ISO 306/B50
Melting Temperature ⁷	262	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	2.6E-5	--	cm/cm/°C	
Flow : -40 to 23°C	2.6E-5	--	cm/cm/°C	
Flow : 55 to 160°C	1.3E-5	--	cm/cm/°C	
Transverse	8.0E-5	--	cm/cm/°C	
Transverse : -40 to 23°C	7.0E-5	--	cm/cm/°C	
Transverse : 55 to 160°C	1.3E-4	--	cm/cm/°C	
Effective Thermal Diffusivity	1.10E-7	--	m ² /s	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+13	ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13	1.0E+9	ohms·m	IEC 62631-3-1
Electric Strength	38	32	kV/mm	IEC 60243-1
Relative Permittivity				IEC 62631-2-1
1 MHz	4.10	4.60		
100 Hz	4.30	11.0		
Dissipation Factor				IEC 62631-2-1
100 Hz	7.0E-3	0.46		
1 MHz	0.015	0.065		
Comparative Tracking Index (CTI) (3.00 mm)	PLC 1	--		UL 746
Comparative Tracking Index	450	--	V	IEC 60112



Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate ⁸ (1.00 mm)	24	--	mm/min	ISO 3795
Flame Rating				UL 94
0.75 mm	HB	--		IEC 60695-11-10,
1.5 mm	HB	--		-20
Oxygen Index	24	--	%	ISO 4589-2
FMVSS Flammability	SE/B	--		FMVSS 302
Fogging				ISO 6452
F-value (refraction)	95	--	%	
G-value (condensate)	3.0E-4	--	g	
Fill Analysis	Dry	Conditioned	Unit	
Melt Density	1.20	--	g/cm ³	
Ejection Temperature	210	--	°C	
Specific Heat Capacity of Melt	2290	--	J/kg/°C	
Thermal Conductivity of Melt	0.21	--	W/m/K	
Additional Information	Dry	Conditioned	Unit	Test Method
Emission of Organic Compounds	3.20	--	µgC/g	VDA 277
ISO Designation	ISO 16396- PA66,GF30,M1GHNRW,S1 4-100	--		
Odor	4.50	--		VDA 270
Thermal Desorption Analysis of Organic Emissions	5.00	--	µg/g	VDA 278
Injection	Dry Unit			
Drying Temperature	80 °C			
Drying Time - Desiccant Dryer	2.0 to 4.0 hr			
Suggested Max Moisture	0.20 %			
Processing (Melt) Temp	285 to 305 °C			
Melt Temperature, Optimum	295 °C			
Mold Temperature	70 to 120 °C			
Mold Temperature, Optimum	100 °C			
Holding Pressure	50.0 to 100 MPa			
Drying Recommended	yes			
Hold Pressure Time	3.00 s/mm			
Maximum Screw Tangential Speed	12 m/min			

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 96% Sulphuric Acid

⁵ 4.5 m/sec

⁶ Derived from Similar Grade

⁷ 10°C/min

⁸ FMVSS 302



Where to Buy

Supplier

DuPont Performance Polymers

Wilmington, DE USA

Telephone: 302-999-4592

Web: <http://plastics.dupont.com/>

Distributor

Biesterfeld

Biesterfeld is a Pan European distribution company. Contact Biesterfeld for availability of individual products by country.

Telephone: +49-40-32008-0

Web: <http://www.biesterfeld-plastic.com/>

Availability: Algeria, Austria, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Croatia, Cyprus, Czech Republic, Egypt, France, Germany, Greece, Hungary, Italy, Libyan Arab Jamahiriya, Luxembourg, Mauritania, Morocco, Netherlands, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Switzerland, Tunisia, Turkey

CCC Plastics

Telephone: 800-465-6917

Web: <https://www.ccc-group.com/>

Availability: Canada

Distrupol Ltd

Distrupol Ltd is a Pan European distribution company. Contact Distrupol Ltd for availability of individual products by country.

Telephone: 08452003040

Web: <http://www.distrupol.com/>

Availability: Denmark, Finland, Ireland, Norway, Sweden, United Kingdom

PolyOne Distribution

PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country.

Telephone: 800-894-4266

Web: <http://polyonedistribution.com/>

Availability: Global

