

Zytel® 70G50HSL NC010

NYLON RESIN

DuPont Transportation & Industrial

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

50% Glass Reinforced, Heat Stabilized, 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	• E41938-234413
Search for UL Yellow Card	• DuPont Transportation & Industrial • Zytel®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight
Additive	• Heat Stabilizer
Features	• Heat Stabilized
RoHS Compliance	• Contact Manufacturer
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)
Part Marking Code (ISO 11469)	• >PA66-GF50<
Resin ID (ISO 1043)	• PA66-GF50
ISO Designation	• ISO 16396-PA66,GF50,M1GHN,S14-160

Physical	Dry	Conditioned	Unit	Test Method
Density	1.58	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.80	--	%	
Flow	0.20	--	%	
Water Absorption				ISO 62
24 hr, 23°C	0.80	--	%	
Saturation, 23°C, 2.00 mm	4.2	--	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	1.2	--	%	
Viscosity Number				ISO 307
96% H2SO4 (Sulphuric Acid)	150	--	cm ³ /g	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	17000	14000	MPa	ISO 527-2
Tensile Stress (Break)	240	170	MPa	ISO 527-2
Tensile Strain (Break)	2.6	3.5	%	ISO 527-2
Flexural Modulus	16000	10000	MPa	ISO 178
Flexural Stress				ISO 178
--	390	280	MPa	
3.5% Strain	--	250	MPa	
Compressive Stress	--	215	MPa	ISO 604
Shear Strength	--	90.0	MPa	ASTM D732
Poisson's Ratio	0.33	0.33		



Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	14	13	kJ/m ²	
23°C	17	19	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	100	100	kJ/m ²	
23°C ⁴	100	120	kJ/m ²	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness (H 961/30)	300	--	MPa	ISO 2039-1
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
1.8 MPa, Unannealed	258	--	°C	
Vicat Softening Temperature	255	--	°C	ISO 306/B50
Melting Temperature ⁵	262	--	°C	ISO 11357-3
CLTE				
Flow : 23 to 55°C ⁶	1.7E-5	--	cm/cm/°C	ASTM E831
Flow	1.5E-5	--	cm/cm/°C	ISO 11359-2
Flow : -40 to 23°C ⁶	1.3E-5	--	cm/cm/°C	ISO 11359-2
Flow : 55 to 160°C ⁶	2.0E-5	--	cm/cm/°C	ISO 11359-2
Transverse : 23 to 55°C ⁶	6.1E-5	--	cm/cm/°C	ASTM E831
Transverse	7.5E-5	--	cm/cm/°C	ISO 11359-2
Transverse : -40 to 23°C ⁶	4.4E-5	--	cm/cm/°C	ISO 11359-2
Transverse : 55 to 160°C ⁶	1.1E-4	--	cm/cm/°C	ISO 11359-2
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.8 mm	HB	--		IEC 60695-11-10,
1.5 mm	HB	--		-20
Glow Wire Ignition Temperature (0.75 mm)	700	--	°C	IEC 60695-2-13
FMVSS Flammability	SE	--		FMVSS 302
Fill Analysis	Dry	Conditioned	Unit	
Ejection Temperature	210	--	°C	
Additional Information	Dry	Conditioned	Unit	Test Method
Fogging - G-value (condensate)	0.40	--	mg	ISO 6452
Odor	3.00	--		VDA 270
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 Assessed

⁵ 10°C/min

⁶ Derived from Similar Grade



Where to Buy

Supplier

DuPont Transportation & Industrial
Wilmington, DE USA
Telephone: 302-999-4592
Web: <http://plastics.dupont.com/>

Distributor

Avient Distribution (formerly PolyOne Distribution)

Avient Distribution is a global distribution company. Contact Avient Distribution for availability of individual products by country.
Telephone: +1-888-502-0951 (USA); +86-21-6028-4805 (China)
Web: <https://www.avientdistribution.com/>
Availability: Global

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

