

# Zytel® FR50 NC010

NYLON RESIN

DuPont Mobility & Materials

PROSPECTOR®

www.ulprospector.com

## Technical Data

### Product Description

25% Glass Reinforced, Flame Retardant, Polyamide 66

### General

Material Status	• Commercial: Active
UL Yellow Card <sup>1</sup>	• E41938-234494
Search for UL Yellow Card	• DuPont Mobility & Materials • Zytel®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight
Additive	• Flame Retardant
Features	• Flame Retardant
RoHS Compliance	• Contact Manufacturer
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1)
Part Marking Code (ISO 11469)	• >PA66-GF25FR(17)<
Resin ID (ISO 1043)	• PA66-GF25FR(17)
ISO Designation	• ISO 16396-PA66,GF25 FR(17),M1F1GNR,S14-100

Physical	Dry	Conditioned	Unit	Test Method
Density	1.57	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.80	--	%	
Flow	0.30	--	%	
Water Absorption				ISO 62
Equilibrium, 23°C, 2.00 mm, 50% RH	1.3	--	%	
Viscosity Number (Reduced Viscosity) <sup>3</sup>	150.0	--	ml/g	ISO 1628
Viscosity Number 96% H <sub>2</sub> SO <sub>4</sub> (Sulphuric Acid)	150	--	cm <sup>3</sup> /g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	10000	8000	MPa	ISO 527-1
Tensile Stress (Break)	170	120	MPa	ISO 527-2
Tensile Strain (Break)	2.6	3.0	%	ISO 527-2
Poisson's Ratio	0.34	0.34		
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	12	10	kJ/m <sup>2</sup>	
-30°C	12	11	kJ/m <sup>2</sup>	
23°C	12	13	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°C	50	--	kJ/m <sup>2</sup>	
-30°C	50	--	kJ/m <sup>2</sup>	
23°C	60	--	kJ/m <sup>2</sup>	



Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	240	--	°C	ISO 75-2/A
Glass Transition Temperature <sup>4</sup>	80.0	20.0	°C	ISO 11357-2
Melting Temperature <sup>5</sup>	262	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : -40 to 23°C	2.0E-5	--	cm/cm/°C	
Flow : 55 to 160°C	2.1E-5	--	cm/cm/°C	
Transverse : -40 to 23°C	5.5E-5	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.8E+14	ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13	2.7E+10	ohms·m	IEC 62631-3-1
Electric Strength (2.00 mm)	24	22	kV/mm	IEC 60243-1
Comparative Tracking Index	275	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.35 mm	V-0	--		IEC 60695-11-10, -20
1.5 mm	• V-0 • 5VA	--		
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	900	--	°C	
1.5 mm	900	--	°C	
3.0 mm	930	--	°C	
FMVSS Flammability	SE/B	--		FMVSS 302
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	280 to 300 °C			
Melt Temperature, Optimum	290 °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**

<sup>1</sup> 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.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 96% Sulphuric Acid

<sup>4</sup> 10°C/min

<sup>5</sup> 10°C/min, First Heat



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Where to Buy

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Supplier

**DuPont Mobility & Materials**  
Wilmington, Wilmington USA  
**Telephone:** 302-999-4592  
**Web:** <http://plastics.dupont.com/>

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Distributor

**Avient Distribution**

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