



# Zytel®

nylon resin

## Zytel® FR50 NC010 Reinforced Flame Retardant PA 66 Resin

Zytel® FR50 NC010 is a 25% glass fiber reinforced flame retardant PA 66 resin that meets UL94V-0 rating at 0.35mm thickness and UL94-5V at 1.5mm thickness.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Mechanical</b>				
Tensile Strength	ASTM D 638	MPa (kpsi)	169 (24.5)	134 (19.4)
Elongation at Break	ASTM D 638	%	2.5	4
Flexural Modulus	ASTM D 790	MPa (kpsi)	8960 (1300)	6900 (1000)
Flexural Strength	ASTM D 790	MPa (kpsi)	240 (34.5)	
Izod Impact	ASTM D 256	J/m (ft lb/in)	100 (1.9)	105 (2.0)
<b>Thermal</b>				
Heat Deflection Temperature 0.45MPa (66psi) 1.8MPa (264psi)	ASTM D 648	°C (°F)	257 (495) 235 (455)	
Melting Point	ASTM D 3418	°C (°F)	262 (504)	
<b>Electrical</b>				
Surface Resistivity	ASTM D 257	ohm	1 E14	1 E11
Volume Resistivity	ASTM D 257	ohm cm	1 E14	1 E11
Dielectric Strength, Short Time 3.2mm (0.126in)	ASTM D 149	kV/mm (V/mil)	17.2 (435)	15.6 (395)
Dielectric Constant	ASTM D 150			
1E3 Hz			3.6	5.1
1E6 Hz			3.5	3.8
Dissipation Factor	ASTM D 150			
1E3 Hz			0.009	0.113
1E6 Hz			0.014	0.041

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.  
Mechanical properties measured at 23°C (73°F) unless otherwise stated.

During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

Zytel® is a DuPont registered trademark.

980417/991026

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-51459 or H-50102.

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# Product Information

## Zytel® FR50 NC010

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Flammability</b>				
Rating @ Thickness	UL94		V-0	
Thickness Tested	UL94	mm	0.35	
5V Rating	UL94		5VA	
5V Min. Thickness Tested	UL94	mm	1.5	
<b>Other</b>				
Specific Gravity	ASTM D 792		1.56	
Water Absorption	ASTM D 570	%		
Immersion 24h			0.5	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			0.4	
Transverse, 3.2mm (0.126in)			0.8	
<b>Processing</b>				
Melt Temperature Range		°C (°F)	270-290 (520-555)	
Mold Temperature Range		°C (°F)	65-120 (150-250)	
Processing Moisture Content		%	<0.20	

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