

DuPont™ Zytel®

nylon resin

Zytel® FR50 NC010A

Zytel® FR50 NC010A is a 25% glass fiber reinforced, flame retardant polyamide 66 resin for injection molding.

Property	Test Method	Units	Value
			DAM
Identification			
Resin Identification	ISO 1043		PA66-GF25FR(17)
Part Marking Code	ISO 11469		>PA66-GF25FR(17)<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	170 (24.7)
Strain at Break	ISO 527	%	2.5
Tensile Modulus	ISO 527	MPa (kpsi)	10640 (1543)
Flexural Modulus	ISO 178	MPa (kpsi)	9446 (1370)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	-40°C (-40°F)
			23°C (73°F)
Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	246 (475)
1.80MPa			
Melting Temperature	ISO 11357-1/-3	°C (°F)	261 (502)
Electrical			
CTI	UL 746A	PLC	2

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.

ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.

Test temperatures are 23°C 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.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2007.

070911/070912

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, additives or pigments 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. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. CAUTION: Do not use DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2.

Zytel® FR50 NC010A

Property	Test Method	Units	Value
			DAM
Flammability			
Flammability Classification	IEC 60695-11-10		
0.35mm			V-0
0.75mm			V-0
1.5mm			V-0
3.0mm			V-0
Flammability Classification	UL94		
0.35mm			V-0
0.75mm			V-0
1.5mm			5VA
3.0mm			5VA
5V Rating	IEC 60695-11-20		5VA
5V Rating	UL94		5VA
5V Min. Thickness Tested	IEC 60695-11-20	mm	1.5
5V Min. Thickness Tested	UL94	mm	1.5
Glow Wire Flammability Index	IEC 60695-2-12	°C	
0.75mm			960
1.5mm			960
3.0mm			960
Glow Wire Ignition Temperature	IEC 60695-2-13	°C	
0.75mm			900
1.5mm			900
3.0mm			930
High Current Arc Ignition Resistance	UL 746A	PLC	
0.75mm			0
1.5mm			0
3.0mm			0

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2007.

070911/070912

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, additives or pigments 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. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. CAUTION: Do not use DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2.

Zytel® FR50 NC010A

Property	Test Method	Units	Value
			DAM
Flammability			
High Voltage Arc Tracking Rate	UL 746A	PLC	
0.75mm			1
1.5mm			1
3.0mm			1
Hot Wire Ignition	UL 746A	PLC	
0.75mm			0
1.5mm			0
3.0mm			0
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			130
1.5mm			130
3.0mm			130
RTI, Impact	UL 746B	°C	
0.75mm			105
1.5mm			115
3.0mm			115
RTI, Strength	UL 746B	°C	
0.75mm			105
1.5mm			115
3.0mm			120
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1600 (1.6)
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.8
Parallel, 2.0mm			0.3

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2007.

070911/070912

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, additives or pigments 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. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. CAUTION: Do not use DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2.

Zytel® FR50 NC010A

Property	Test Method	Units	Value
			DAM
Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Melt Temperature Optimum		°C (°F)	290 (555)
Mold Temperature Range		°C (°F)	70-120 (160-250)
Mold Temperature Optimum		°C (°F)	100 (210)
Injection Speed		s	Fast
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.20

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2007.

070911/070912

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, additives or pigments 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. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. CAUTION: Do not use DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2.