

DuPont™ Zytel®

nylon resin

Zytel® FR50 BK505

Zytel® FR50 BK505 is a 25% glass fiber reinforced, flame retardant black 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)	158 (22.9)
Strain at Break	ISO 527	%	2.1
Tensile Modulus	ISO 527	MPa (kpsi)	10640 (1543)
Flexural Modulus	ISO 178	MPa (kpsi)	9410 (1365)
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)	242 (468)
1.80MPa			
Melting Temperature	ISO 11357-1/-3	°C (°F)	260 (500)
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.

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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

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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			0.7
Parallel, 2.0mm			0.3

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			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

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