

Zytel® FR50 BK153J

NYLON RESIN

Zytel® FR50 BK153J is a 25% Glass Reinforced, Flame Retardant, Polyamide 66

Product information

Resin Identification	PA66-GF25FR(17)	ISO 1043
Part Marking Code	>PA66-GF25FR(17)<	ISO 11469
ISO designation	ISO 16396-PA66,GF25 FR(17),M1CF1GR,S14-100	

Rheological properties

	dry/cond.		
Viscosity number	150 ^{[1]/*[DS]}	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.3 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577

[DS]: Derived from similar grade

[1]: Sulfuric acid 96%

Typical mechanical properties

	dry/cond.		
Tensile modulus	10400 / -	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	160 / -	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.6 / -	%	ISO 527-1/-2
Flexural modulus	9160 / -	MPa	ISO 178
Flexural strength	240 / -	MPa	ISO 178
Charpy impact strength, 23°C	55 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.5 / -	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	11 / -	kJ/m ²	ISO 180/1A
Poisson's ratio	0.34 / -		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 ^{[2]/*}	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	80 / 20	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	240 / *	°C	ISO 75-1/-2
RTI, electrical, 0.75mm	130	°C	UL 746B
RTI, electrical, 1.5mm	130	°C	UL 746B
RTI, electrical, 3.0mm	130	°C	UL 746B
RTI, impact, 0.75mm	105	°C	UL 746B
RTI, impact, 1.5mm	115	°C	UL 746B
RTI, impact, 3.0mm	115	°C	UL 746B
RTI, strength, 0.75mm	105	°C	UL 746B
RTI, strength, 1.5mm	115 / *	°C	UL 746B
RTI, strength, 3.0mm	120	°C	UL 746B

[2]: 1st heating

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Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0/*	class	IEC 60695-11-10
Thickness tested	1.5/*	mm	IEC 60695-11-10
UL recognition	yes/*		UL 94
Burning Behav. at thickness h	V-0/*	class	IEC 60695-11-10
Thickness tested	0.35/*	mm	IEC 60695-11-10
UL recognition	yes/*		UL 94
Burning Behav. 5V at thickness h	5VA/*	class	IEC 60695-11-20
Thickness tested	1.5/*	mm	IEC 60695-11-20
UL recognition	yes/*		UL 94
FMVSS Class	DNI		ISO 3795 (FMVSS 302)
Hot Wire Ignition, 0.75mm	300/*	s	UL 746A
Hot Wire Ignition, 1.5mm	300/*	s	UL 746A
Hot Wire Ignition, 3mm	300/*	s	UL 746A

Electrical properties

	dry/cond.		
Volume resistivity	>1E13/2.7E10	Ohm.m	IEC 62631-3-1
Electric strength	24/22 ^[DS]	kV/mm	IEC 60243-1
Comparative tracking index	275/-		IEC 60112
Comparative tracking index, 23°C	2/-	PLC	UL 746A
High Amperage Arc Ignition Resistance, 0.75 mm	166/*	arcs	UL 746A
High Amperage Arc Ignition Resistance, 1.5 mm	171/*	arcs	UL 746A
High Amperage Arc Ignition Category, 1.5 mm	187/*	class	UL 746A

[DS]: Derived from similar grade

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.3/*	%	Sim. to ISO 62
Water absorption, 2mm	3.4/*	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.6 ^[3] /*	%	Sim. to ISO 62
Density	1570/-	kg/m ³	ISO 1183

[3]: thickness 2mm

Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.2 %
Melt Temperature Optimum	290 °C
Min. melt temperature	280 °C
Max. melt temperature	300 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	70 °C
Max. mould temperature	120 °C
Hold pressure range	50 - 100 MPa
Hold pressure time	3 s/mm
Ejection temperature	210 °C

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Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Flame retardant
Special characteristics	Flame retardant

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
CATL	MCR0000561	
General Motors	GMW17481P-PA66-GF25	Black
Hyundai	MS941-03 Type A-5 FRV0	