## OUPONT >

# Zytel® 105F BK010

Common features of Zytel<sup>®</sup> nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel<sup>®</sup> nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel<sup>®</sup> nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel<sup>®</sup> nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, DuPont recommends, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel<sup>®</sup> nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel<sup>®</sup> 105F BK010 is a lubricated, fast cycling, weather resistant polyamide 66 resin. Zytel<sup>®</sup> 105F BK010 contains finely dispersed carbon black.

### Product information

Resin Identification Part Marking Code ISO designation	PA66 >PA66< ISO 16396-PA66,,M1CG1L1R,S14-030		ISO 1043 ISO 11469
Rheological properties Viscosity number Moulding shrinkage, parallel Moulding shrinkage, normal [1]: Sulfuric acid 96%	dry/cond. 150/* <sup>[1]</sup> 1.3/- 1.3/-	cm³/g % %	ISO 307, 1157, 1628 ISO 294-4, 2577 ISO 294-4, 2577
Typical mechanical properties Tensile Modulus Yield stress Yield strain Nominal strain at break Tensile creep modulus, 1h Tensile creep modulus, 1000h Charpy impact strength, 23°C Charpy impact strength, -30°C Charpy notched impact strength, 23°C Charpy notched impact strength, -30°C Izod notched impact strength, -30°C Izod notched impact strength, -30°C	dry/cond. 3200/1500 85/60 4.3/25 24/>50 */1340 */600 45/N 55/55 6/15 4/3 5/12 4/3 0.37/0.43	MPa MPa % MPa MPa kJ/m² kJ/m² kJ/m² kJ/m² kJ/m²	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 899-1 ISO 899-1 ISO 179/1eU ISO 179/1eU ISO 179/1eA ISO 179/1eA ISO 180/1A ISO 180/1A

Revised: 2019-07-30



### Zytel® 105F BK010 NYLON RESIN

### Thermal properties

Thermal properties	dry/cond.		
Melting temperature, 10°C/min	263/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60/-	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.8 MPa	70/*	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	205/*	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	240/*	°C	ISO 306
Coeff. of linear therm. expansion, parallel	100/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	110/*	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.75mm	125	°C	UL 746B
RTI, electrical, 1.5mm	125	°C	UL 746B
RTI, electrical, 3mm	125	°C	UL 746B
RTI, electrical, 6mm	125	°C	UL 746B
RTI, impact, 0.75mm	65	°C	UL 746B
RTI, impact, 1.5mm	75	°C	UL 746B
RTI, impact, 3mm	75	°C	UL 746B
RTI, impact, 6mm	75	°C	UL 746B
RTI, strength, 0.75mm	65	°C	UL 746B
RTI, strength, 1.5mm	85/*	°C	UL 746B
RTI, strength, 3mm	85	°C	UL 746B
RTI, strength, 6mm	85	°C	UL 746B
Flammability	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-2/*	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-2/* 0.71/*	class	IEC 60695-11-10
Thickness tested	0.717 yes/*	mm -	IEC 60695-11-10 UL 94
UL recognition Oxygen index	27/*	- %	ISO 4589-1/-2
Glow Wire Flammability Index, 1mm	800/-	°C	IEC 60695-2-12
	900/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2mm	960/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3mm Glow Wire Ignition Temperature, 0.75mm	725/-	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1mm	725/-	°C	IEC 60695-2-13
	725/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm Glow Wire Ignition Temperature, 2mm	725/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3mm	725/-	°C	IEC 60695-2-13
		°C	
Glow Wire Temperature, No Flame, 0.75mm	700/- 700/-	°C	IEC 60335-1 IEC 60335-1
Glow Wire Temperature, No Flame, 1mm Glow Wire Temperature, No Flame, 1.5mm	700/-	°C	
Glow Wire Temperature, No Flame, 2mm	700/-	°C	IEC 60335-1 IEC 60335-1
Glow Wire Temperature, No Flame, 3mm	700/-	°C	IEC 60335-1
FMVSS Class	SE		ISO 3795 (FMVSS 302)
	JL		



## Zytel® 105F BK010

NYLON RESIN

Electrical properties	dry/cond.		
Relative permittivity, 1MHz	3.6/4.6	-	IEC 62631-2-1
Dissipation factor, 1MHz	300/600	E-4	IEC 62631-2-1
Comparative tracking index	600/-	-	IEC 60112
Other properties	dry/cond.		
Humidity absorption, 2mm	2.7/*	%	Sim. to ISO 62
Water absorption, 2mm	8.5/*	%	Sim. to ISO 62
Density	1140/-	kg/m³	ISO 1183
Water Absorption, Immersion 24h	0.95/*	%	Sim. to ISO 62
VDA Properties	dry/cond.		
Emission of organic compounds	6.6	µqC/q	VDA 277
Odour	2.5	class	VDA 270
Fogging, G-value (condensate)	0.1/*	mg	ISO 6452
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		
Max. screw tangential speed	0.4 m/s		
Mold Temperature Optimum	70 °C		
Min. mould temperature	50 °C		
Max. mould temperature	90 °C		
Hold pressure range	50 - 100 MPa		
Hold pressure time	4 s/mm		
Ejection temperature	19	0 °C	
Characteristics			

### Characteristics

Add	itives

Release agent

### Revised: 2019-07-30

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