

# DuPont™ Zytel®

nylon resin

## Zytel® 105 BK010A

Zytel® 105 BK010A is a weather resistant PA 66 resin that contains finely dispersed carbon black.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Identification</b>				
Resin Identification	ISO 1043		PA66	
Part Marking Code	ISO 11469		>PA66<	
<b>Mechanical</b>				
Yield Stress	ISO 527	MPa (kpsi)	85 (12.3)	55 (7.9)
Nominal Strain at Break	ISO 527	%	20	>50
Yield Strain	ISO 527	%	4.1	25
Tensile Modulus	ISO 527	MPa (kpsi)	3200 (464)	1350 (195)
Poissons Ratio			0.4	
Flexural Modulus	ISO 178	MPa (kpsi)	2900 (420)	1240 (179)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>		
-30°C (-22°F)			4	
23°C (73°F)			5	15
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>		
-30°C (-22°F)			70	
23°C (73°F)			NB	NB
<b>Thermal</b>				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			205 (401)	
1.80MPa			70 (158)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min				263 (505)

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.

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Property	Test Method	Units	Value	
			DAM	50%RH
<b>Electrical</b>				
CTI 3.0mm	UL 746A	V	>600	
<b>Flammability</b>				
Flammability Classification 0.71mm	IEC 60695-11-10		V-2	
1.5mm			V-2	
3.0mm			V-2	
6.0mm			V-2	
Flammability Classification 0.71mm	UL94		V-2	
1.5mm			V-2	
3.0mm			V-2	
6.0mm			V-2	
Oxygen Index	ISO 4589-1/-2	%	27	
High Amperage Arc Ignition Resistance 0.71mm	UL 746A	arcs	120	
1.5mm			120	
3.0mm			120	
6.0mm			120	
Hot Wire Ignition 0.71mm	UL 746A	s	7	
1.5mm			15	
3.0mm			30	
6.0mm			30	

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			DAM	50%RH
<b>Temperature Index</b>				
RTI, Electrical	UL 746B	°C		
0.71mm			125	
1.5mm			125	
3.0mm			125	
6.0mm			125	
RTI, Impact	UL 746B	°C		
0.71mm			65	
1.5mm			75	
3.0mm			75	
6.0mm			75	
RTI, Strength	UL 746B	°C		
0.71mm			65	
1.5mm			85	
3.0mm			85	
6.0mm			85	
<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1140 (1.14)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.7	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			1.5	
<b>Processing</b>				
Melt Temperature Range		°C (°F)	280-300 (535-570)	
Melt Temperature Optimum		°C (°F)	290 (555)	
Mold Temperature Range		°C (°F)	50-90 (120-190)	
Mold Temperature Optimum		°C (°F)	70 (160)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.20	

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