

# DuPont™ Zytel®

nylon resin

## Zytel® MT409AHS BK010

Zytel® MT409AHS BK010 is a Medium Toughened, high performance, heat stabilized, black polyamide 66 resin having good stiffness and improved knit line strength with superior toughness and processability.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Identification</b>				
Resin Identification	ISO 1043		PA66-I	
Part Marking Code	ISO 11469		>PA66-I<	
<b>Mechanical</b>				
Yield Stress	ISO 527	MPa (kpsi)	60 (8.7)	42 (6.1)
Yield Strain	ISO 527	%	6	27
Nominal Strain at Break	ISO 527	%	29	>50
Tensile Modulus	ISO 527	MPa (kpsi)	2400 (348)	1075 (156)
Tensile Stress @ 50% Strain	ISO 527	MPa (kpsi)	61 (8.8)	43 (6.2)
Flexural Modulus	ISO 178	MPa (kpsi)	2200 (319)	1075 (156)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>		
-40°C (-40°F)			12	
23°C (73°F)			19	

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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<b>Thermal</b>				
Deflection Temperature 0.45MPa	ISO 75-1/-2	°C (°F)	187 (369)	
1.80MPa			65 (149)	
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	262 (504)	
CLTE, Parallel -40 - 23°C (-40 - 73°F) -30 - 30°C (-22 - 86°F) 23 - 55°C (73 - 130°F) 55 - 160°C (130 - 320°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)	
			0.9 (0.5)	
			1.0 (0.6)	
			1.2 (0.7)	
CLTE, Normal -40 - 23°C (-40 - 73°F) -30 - 30°C (-22 - 86°F) 23 - 55°C (73 - 130°F) 55 - 160°C (130 - 320°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.0 (0.6)	
			1.0 (0.6)	
			1.0 (0.6)	
			1.4 (0.8)	
<b>Electrical</b>				
Surface Resistivity	IEC 60093	ohm	3.0E15	4.7E11
Volume Resistivity	IEC 60093	ohm m	2.0E13	9.7E9
Electric Strength	IEC 60243-1	kV/mm (V/mil)	25 (635)	22 (560)
Relative Permittivity	IEC 60250			
1E2 Hz			3.9	9.8
1E6 Hz			3.7	4.0
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			60	4350
1E6 Hz			130	5100
CTI	IEC 60112	V	525	
CTI	UL 746A	V	600	

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<b>Flammability</b>				
Flammability Classification 0.8mm	IEC 60695-11-10		HB	
Flammability Classification 0.8mm	UL94		HB	
High Amperage Arc Ignition Resistance 0.8mm	UL 746A	arcs	120	
1.5mm			120	
3.0mm			120	
Hot Wire Ignition 0.8mm	UL 746A	s	7	
1.5mm			7	
3.0mm			7	
<b>Temperature Index</b>				
RTI, Electrical 0.8mm	UL 746B	°C	130	
RTI, Impact 0.8mm	UL 746B	°C	65	
1.5mm			105	
RTI, Strength 0.8mm	UL 746B	°C	95	
1.5mm			105	
3.0mm			110	
<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1110 (1.11)	
Water Absorption Immersion 24h	ISO 62, Similar to	%	0.9	
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.7	
Parallel, 2.0mm			1.7	

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			DAM	50%RH
<b>Processing</b>				
Melt Temperature Range		°C (°F)	270-300 (520-570)	
Melt Temperature Optimum		°C (°F)	280 (535)	
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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