

Zytel® 101 NC010

NYLON RESIN
DuPont Performance Polymers

Message:
Unreinforced Polyamide 66

General Information				
UL YellowCard		E41938-100726136	E41938-234369	
Forms		Pellets		
Processing Method		Injection Molding		
Part Marking Code (ISO 11469)		>PA66<		
Resin ID (ISO 1043)		PA66		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/1.2 kg)	24.0	--	cm³/10min	ISO 1133
Molding Shrinkage				ISO 294-4
Across Flow	1.4	--	%	
Flow	1.4	--	%	
Water Absorption				ISO 62
23°C, 24 hr, 2.00 mm	8.5	--	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	2.6	--	%	
Viscosity Number	145	--	cm³/g	ISO 307
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness				ISO 2039-1
H 358/30	180	85.0	MPa	
H 961/30	160	--	MPa	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3100	1400	MPa	ISO 527-2
Tensile Stress (Yield)	82.0	55.0	MPa	ISO 527-2
Tensile Strain (Yield)	4.5	25	%	ISO 527-2
Nominal Tensile Strain at Break	25	> 50	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	1200	MPa	
1000 hr	--	700	MPa	
Flexural Modulus	2800	1200	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA

-30°C	4.5	3.0	kJ/m ²	
23°C	5.5	15	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	400 kJ/m ²	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180/1A
-40°C	5.5	--	kJ/m ²	
-30°C	5.5	--	kJ/m ²	
23°C	5.5	12	kJ/m ²	
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	300	--	kJ/m ²	
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	200	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	70.0	--	°C	ISO 75-2/A
Glass Transition Temperature ¹	60.0	--	°C	ISO 11357-2
Vicat Softening Temperature	240	--	°C	ISO 306/B50
Melting Temperature ²	262	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	1.0E-4	--	cm/cm/°C	
Transverse	1.1E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+12	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+13	ohms·cm	IEC 60093
Electric Strength	32	28	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.80	6.00		
1 MHz	3.50	4.00		
Dissipation Factor				IEC 60250
100 Hz	8.0E-3	0.21		
1 MHz	0.018	0.075		
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.710 mm	V-2	--		
1.50 mm	V-2	--		
Oxygen Index	28	--	%	ISO 4589-2
Fill Analysis	Dry	Conditioned	Unit	

Melt Density	0.980	--	g/cm ³
Specific Heat Capacity of Melt	2790	--	J/kg/°C
Thermal Conductivity of Melt	0.16	--	W/m/K
Effective Thermal Diffusivity	0.0500	--	cSt

NOTE

1. 10°C/min
2. 10°C/min

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