

Zytel® FG42A NC010

NYLON RESIN
DuPont Performance Polymers

Message:
Unreinforced High Viscosity Polyamide 66 with Developed for Food Contact Applications

General Information				
UL YellowCard		E41938-100907529		
Additive		Mold Release		
Uses		Film		
		Profiles		
		Sheet		
Agency Ratings		UL Unspecified Rating		
Forms		Pellets		
Processing Method		Casting		
		Coating		
		Extrusion		
		Film Extrusion		
		Injection Molding		
		Profile Extrusion		
		Sheet Extrusion		
Part Marking Code (ISO 11469)		>PA66<		
Resin ID (ISO 1043)		PA66		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm³	ISO 1183
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	280	--	cm³/g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3100	1300	MPa	ISO 527-2
Tensile Stress (Yield)	83.0	55.0	MPa	ISO 527-2
Tensile Strain (Yield)	4.4	27	%	ISO 527-2
Nominal Tensile Strain at Break	> 50	> 50	%	ISO 527-2

Flexural Modulus	2800	1070	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	6.0	4.0	kJ/m ²	
23°C	6.0	20	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180/1A
-30°C	7.0	6.0	kJ/m ²	
23°C	6.0	23	kJ/m ²	
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	No Break	No Break		
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	70.0	--	°C	ISO 11357-2
Vicat Softening Temperature	244	--	°C	ISO 306/B50
Melting Temperature ²	262	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	1.0E-4	--	cm/cm/°C	
Transverse	1.0E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+13	ohms·cm	IEC 60093
Electric Strength	31	--	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	4.30	10.0		
1 MHz	3.60	4.20		
Dissipation Factor				IEC 60250
100 Hz	0.015	0.20		
1 MHz	0.015	0.075		
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
3.00 mm	V-2	--		
1.50 mm	HB	--		

Oxygen Index	28	--	%	ISO 4589-2
Fill Analysis	Dry	Conditioned	Unit	
Melt Density	1.01	--	g/cm ³	
Specific Heat Capacity of Melt	2790	--	J/kg/°C	
Thermal Conductivity of Melt	0.16	--	W/m/K	
NOTE				
1.	10°C/min			
2.	10°C/min			

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