

Zytel® 151 NC010

NYLON RESIN
DuPont Performance Polymers

Message:
Unreinforced Polyamide 612

General Information				
UL YellowCard		E41938-234355		
Agency Ratings		UL Unspecified Rating		
Forms		Pellets		
Processing Method		Extrusion		
		Injection Molding		
Multi-Point Data		Shear Stress vs. Shear Rate (ISO 11403-1)		
		Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)		>PA612<		
Resin ID (ISO 1043)		PA612		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.06	--	g/cm ³	ISO 1183
Molding Shrinkage				
Flow : 3.20 mm	1.1	--	%	Internal Method
Across Flow : 3.20 mm	1.1	--	%	Internal Method
Across Flow	1.4	--	%	ISO 294-4
Flow	1.3	--	%	ISO 294-4
Water Absorption				
24 hr	0.40	--	%	ASTM D570
23°C, 24 hr, 2.00 mm	3.0	--	%	ISO 62
Equilibrium, 23°C, 2.00 mm, 50% RH	1.3	--	%	ISO 62
Viscosity Number	95.0	--	cm ³ /g	ISO 307
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	114	--		ISO 2039-2
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2400	1700	MPa	ISO 527-2
Tensile Stress (Yield)	62.0	54.0	MPa	ISO 527-2
Tensile Strain (Yield)	4.5	18	%	ISO 527-2
Nominal Tensile Strain at Break	17	> 50	%	ISO 527-2

Flexural Modulus	2100	1440	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	3.5	3.0	kJ/m ²	
23°C	3.5	4.0	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	40 kJ/m ²		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180/1A
-30°C	4.5	3.0	kJ/m ²	
23°C	4.0	4.5	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	135	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	62.0	--	°C	ISO 75-2/A
Glass Transition Temperature ¹	65.0	--	°C	ISO 11357-2
Vicat Softening Temperature	181	--	°C	ISO 306/B50
Melting Temperature ²	218	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	1.1E-4	--	cm/cm/°C	
Flow : -40 to 23°C	9.0E-5	--	cm/cm/°C	
Flow : 55 to 160°C	1.6E-4	--	cm/cm/°C	
Transverse	1.2E-4	--	cm/cm/°C	
Transverse : -40 to 23°C	9.0E-5	--	cm/cm/°C	
Transverse : 55 to 160°C	1.8E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	> 1.0E+15	1.0E+13	ohms·cm	IEC 60093
Electric Strength	30	30	kV/mm	IEC 60243-1
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.850 mm	V-2	--		
1.50 mm	V-2	--		
Oxygen Index	27	--	%	ISO 4589-2
Fill Analysis	Dry	Conditioned	Unit	
Melt Density	0.900	--	g/cm ³	
Specific Heat Capacity of Melt	2750	--	J/kg/°C	

Thermal Conductivity of Melt	0.18	--	W/m/K
NOTE			
1.	10°C/min		
2.	10°C/min		

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