

Delrin® 500P NC010

ACETAL RESIN

DuPont Performance Polymers

Message:

Medium Viscosity Acetal Homopolymer with Improved Processing

General Information			
UL YellowCard	E41938-257616		
Additive	Lubricant		
	Mold Release		
Features	Lubricated		
Agency Ratings	UL Unspecified Rating		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
	Shear Stress vs. Shear Rate (ISO 11403-1)		
	Specific Volume vs Temperature (ISO 11403-2)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)	>POM<		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Density	1.42	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	15	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	13.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	2.0	%	
Water Absorption			ISO 62
23°C, 24 hr, 2.00 mm	1.4	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	0.30	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	92		
R-Scale	120		
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus	3100	MPa	ISO 527-2
Tensile Stress (Yield)	71.0	MPa	ISO 527-2
Tensile Strain (Yield)	17	%	ISO 527-2
Nominal Tensile Strain at Break	30	%	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	2800	MPa	
1000 hr	1600	MPa	
Flexural Modulus	2950	MPa	ISO 178
Flexural Stress (3.5% Strain)	80.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.0	kJ/m ²	
23°C	9.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	280	kJ/m ²	
23°C	320	kJ/m ²	
Notched Izod Impact Strength			ISO 180/1A
-30°C	8.0	kJ/m ²	
23°C	9.0	kJ/m ²	
Unnotched Izod Impact Strength			ISO 180/1U
-30°C	250	kJ/m ²	
23°C	280	kJ/m ²	
Multi-Axial Instrumented Impact Energy (23°C)	3.00	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	2000	N	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	160	°C	ISO 75-2/B
1.8 MPa, Unannealed	95.0	°C	ISO 75-2/A
Vicat Softening Temperature	155	°C	ISO 306/B50
Ball Pressure Test (165°C)	Pass		IEC 60309-1
Melting Temperature ¹	178	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow	1.1E-4	cm/cm/°C	
Transverse	1.1E-4	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.0E+14	ohms	IEC 60093
Volume Resistivity	2.0E+14	ohms · cm	IEC 60093
Electric Strength	44	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.80		
1 MHz	3.80		

Dissipation Factor			IEC 60250
100 Hz	9.0E-3		
1 MHz	5.5E-3		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flammability Classification			IEC 60695-11-10, -20
0.800 mm	HB		
1.50 mm	HB		
Oxygen Index	22	%	ISO 4589-2
Additional Information	Nominal Value	Unit	Test Method
Emission	< 8.00	mg/kg	VDA 275
NOTE			
1.	10°C/min		

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