Delrin® 500T NC010
ACETAL RESIN

Product Description
Delrin® 500T NC010 is a toughened, medium viscosity acetal homopolymer resin with impact resistance similar to Delrin® 100. It can be used in parts requiring noise reduction.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific • Central America	• Europe • Latin America • North America	• South America
Additive	• Impact Modifier		
Features	• Good Toughness • High Impact Resistance	• Homopolymer • Impact Modified	• Medium Viscosity • Ultrasonic Weldable
Uses	• Engineering Parts • Gears	• Tubing • Wire & Cable Applications	
RoHS Compliance	• Contact Manufacturer		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	• Profile Extrusion
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1)	• Shear Modulus vs. Temperature (ISO 11403-1)	• Viscosity vs. Shear Rate (ISO 11403-2)
Part Marking Code (ISO 11469)	• >POM-I<		
Resin ID (ISO 1043)	• POM-I		
Product Category	• Toughened Resins	• Unreinforced Resins	

Physical	Nominal Value Unit	Test Method
Density	1.38 g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	12 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	10.0 cm³/10min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow: 2.00 mm	1.6 %	
Flow: 2.00 mm	1.7 %	
Water Absorption		ISO 62
Saturation, 23°C	0.82 %	
Equilibrium, 23°C, 50% RH	0.21 %	
Mechanical	**Nominal Value Unit**	**Test Method**
Tensile Modulus (23°C)	2400 MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	56.0 MPa	ISO 527-2
Tensile Strain		
Yield, 23°C	18 %	ISO 527-2
Break, 23°C	> 50 %	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	35 %	ISO 527-2
Tensile Creep Modulus		ISO 899-1
1 hr	2300 MPa	
1000 hr	1200 MPa	
Flexural Modulus (23°C)	2100 MPa	ISO 178
Flexural Strength (3.5% Strain, 23°C)	60.0 MPa	ISO 178
Impact	**Nominal Value Unit**	**Test Method**
Charpy Notched Impact Strength		ISO 179/1eA
-30°C	9.0 kJ/m²	
23°C	14 kJ/m²	

To find out more, visit DuPont Performance Polymers or contact the nearest DuPont location.

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Toll-Free (USA): 800 441-0575

Asia Pacific
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Europe/Middle East/Africa
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Impact	Nominal Value Unit	Test Method
Charpy Unnotched Impact Strength		ISO 179/1eU
-30°C	330 kJ/m²	
23°C	No Break	
Notched Izod Impact Strength		ISO 180/1A
-40°C	9.0 kJ/m²	
23°C	14 kJ/m²	
Hardness	**Nominal Value Unit**	**Test Method**
Rockwell Hardness		ISO 2039-2
M-Scale	79	
R-Scale	117	
Thermal	**Nominal Value Unit**	**Test Method**
Heat Deflection Temperature		
0.45 MPa, Unannealed	146 °C	ISO 75-2/B
1.8 MPa, Unannealed	78.0 °C	ISO 75-2/A
Melting Temperature [2]	178 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow: -40 to 23°C	0.00011 cm/cm/°C	
Flow: 23 to 55°C	0.00013 cm/cm/°C	
Flow: 55 to 100°C	0.00013 cm/cm/°C	
Transverse: -40 to 23°C	0.00011 cm/cm/°C	
Transverse: 23 to 55°C	0.00012 cm/cm/°C	
Transverse: 55 to 100°C	0.00016 cm/cm/°C	
RTI Elec (0.750 mm)	105 °C	UL 746
RTI Imp (0.750 mm)	85.0 °C	UL 746
RTI Str (0.750 mm)	85.0 °C	UL 746
Electrical	**Nominal Value Unit**	**Test Method**
Surface Resistivity	1.0E+15 ohm	IEC 60093
Volume Resistivity	> 1.0E+15 ohm·cm	IEC 60093
Relative Permittivity		IEC 60250
23°C, 100 Hz	3.60	
23°C, 1 MHz	3.60	
Dissipation Factor (23°C, 1 MHz)	0.016	IEC 60250
Comparative Tracking Index	600 V	IEC 60112
Flammability	**Nominal Value Unit**	**Test Method**
Flame Rating (0.750 mm)	HB	UL 94 IEC 60695-11-10, -20
Oxygen Index	23 %	ISO 4589-2

Injection	Nominal Value Unit
Drying Temperature	80.0 °C
Drying Time - Desiccant Dryer	2.0 to 4.0 hr
Suggested Max Moisture	< 0.050 %
Processing (Melt) Temp	200 to 210 °C
Melt Temperature, Optimum - Injection Molding	205 °C
Mold Temperature	40.0 to 60.0 °C
Mold Temperature, Optimum - Injection Molding	50 °C
Drying Recommended	Yes, if moisture content of resin exceeds recommended level

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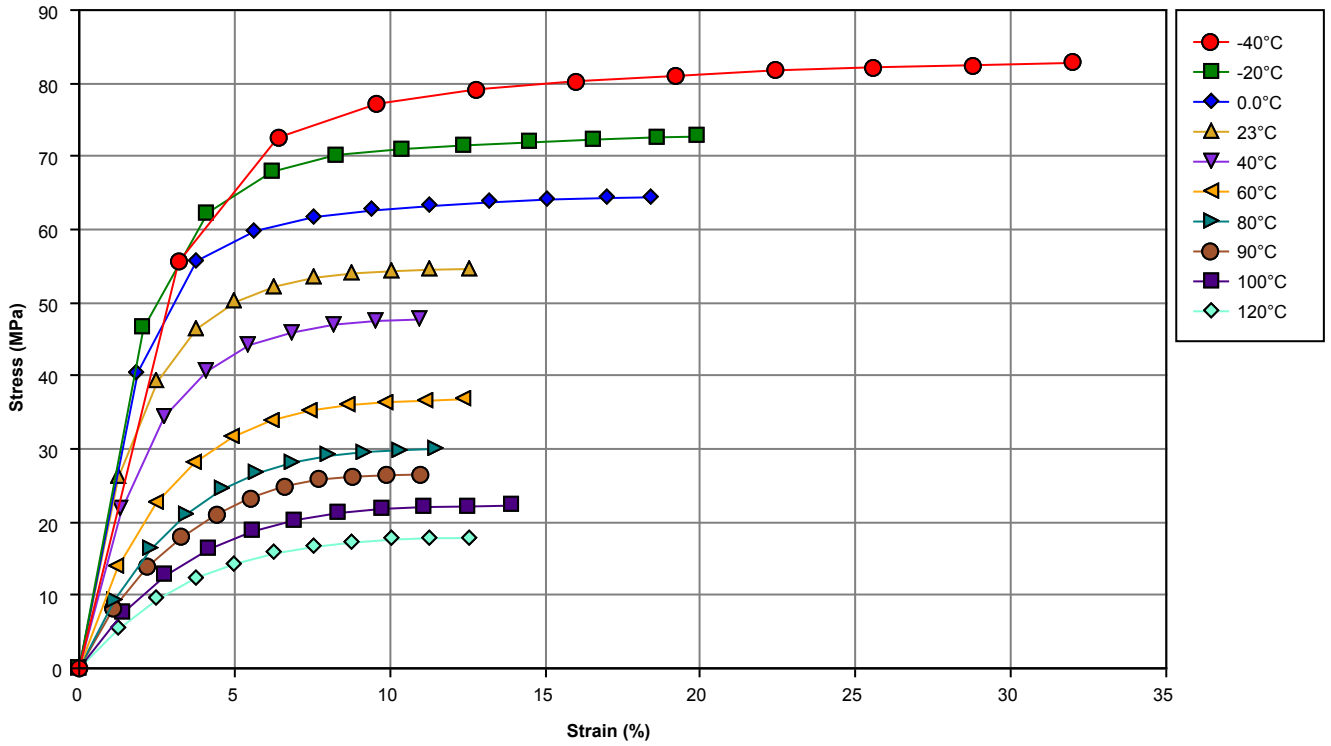
Isothermal Stress vs. Strain (ISO 11403-1)



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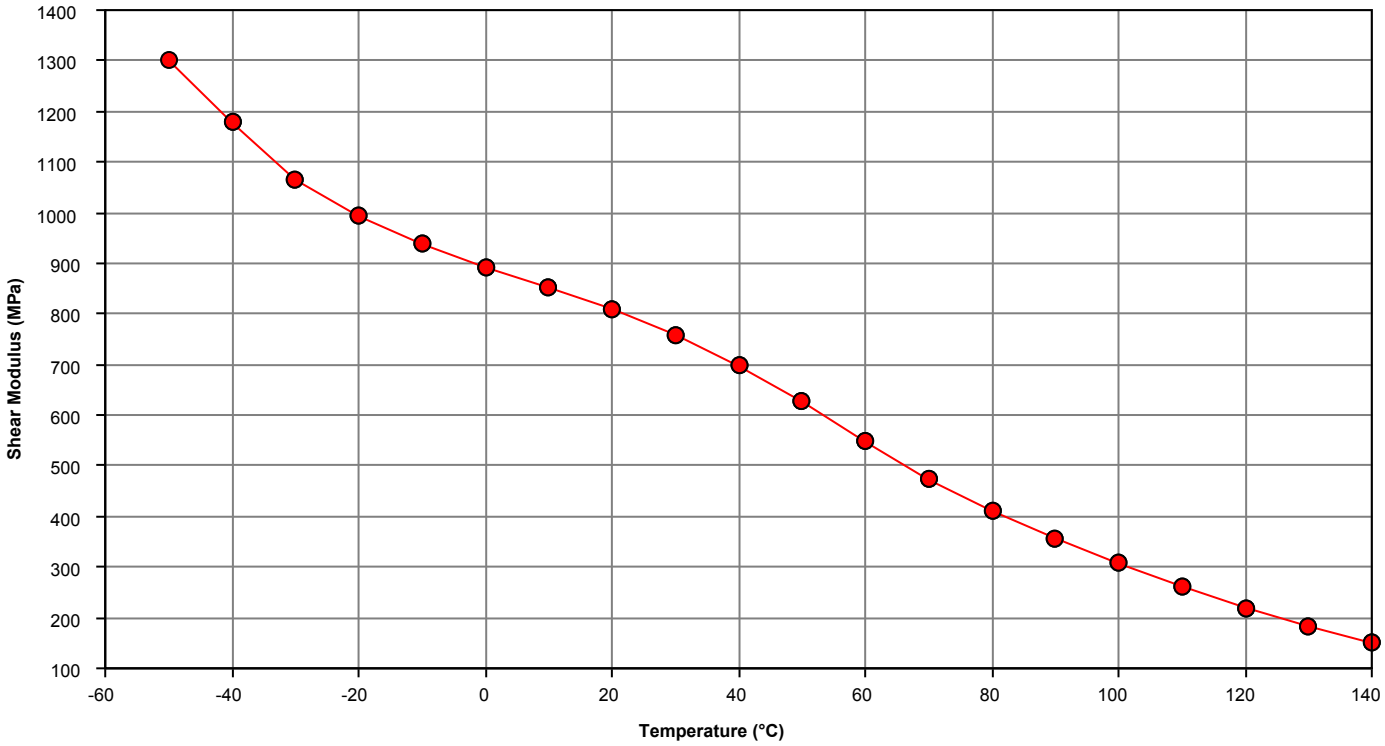
Shear Modulus vs. Temperature (ISO 11403-1)



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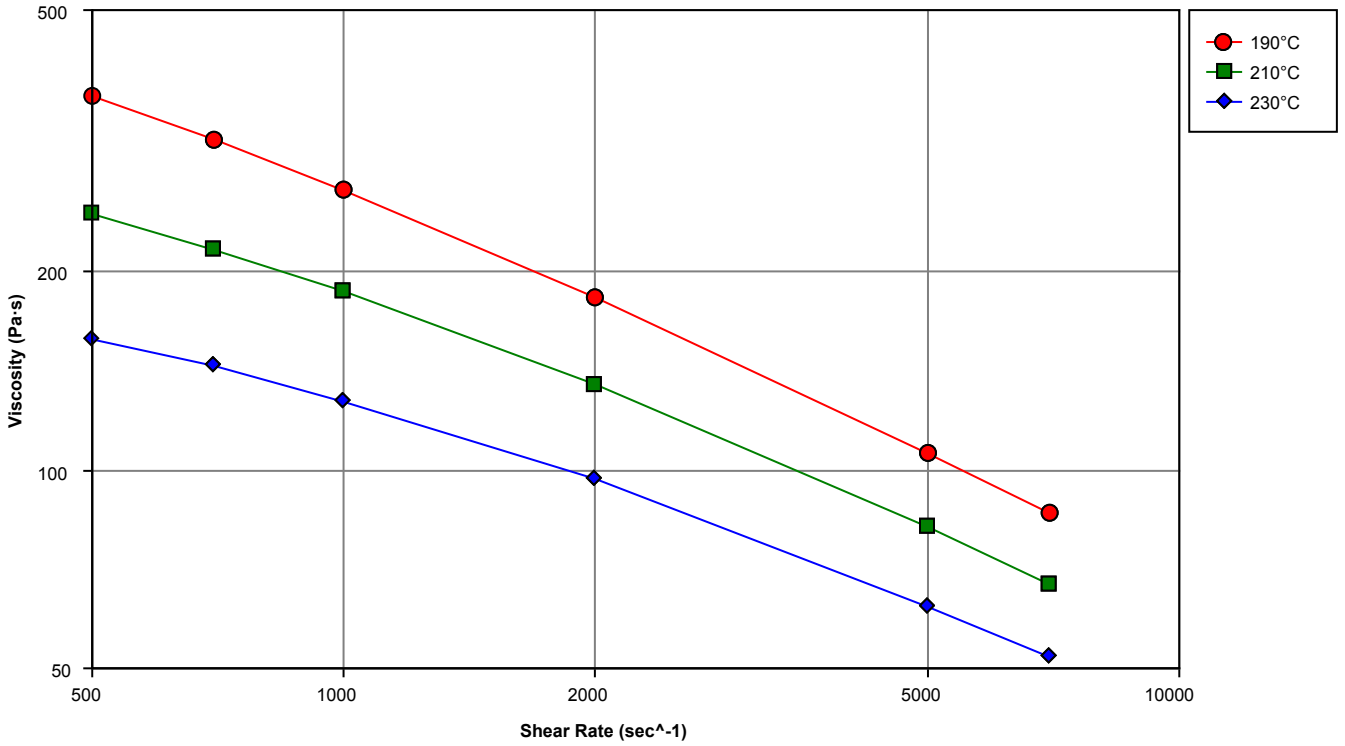
Viscosity vs. Shear Rate (ISO 11403-2)



Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 10°C/min

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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