

# Delrin® 520MP NC010

ACETAL RESIN

DuPont Mobility & Materials

PROSPECTOR®

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## Technical Data

### Product Description

20% PTFE Lubricated Medium Viscosity Acetal Homopolymer with Low Wear and Low Friction

### General

Material Status	• Commercial: Active
UL Yellow Card <sup>1</sup>	• E530507-104597287
Search for UL Yellow Card	• DuPont Mobility & Materials • Delrin®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• PTFE, 20% Filler by Weight
Additive	• Mold Release
RoHS Compliance	• Contact Manufacturer
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403) • Secant Modulus vs. Strain (ISO 11403)
Part Marking Code (ISO 11469)	• >POM-SD20<
Resin ID (ISO 1043)	• POM-SD20

Physical	Nominal Value Unit	Test Method
Density	1.54 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	8.0 g/10 min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow	1.5 %	
Flow	1.9 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	2900 MPa	ISO 527-1
Tensile Stress (Yield)	53.0 MPa	ISO 527-2
Tensile Strain (Yield)	13 %	ISO 527-2
Nominal Tensile Strain at Break	10 %	ISO 527-2
Tensile Creep Modulus		ISO 899-1
1 hr	1500 MPa	
1000 hr	800 MPa	
Flexural Modulus	2700 MPa	ISO 178
Poisson's Ratio	0.37	

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-30°C	4.0 kJ/m <sup>2</sup>	
23°C	3.0 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength (23°C)	50 kJ/m <sup>2</sup>	ISO 179/1eU
Notched Izod Impact Strength (23°C)	4.0 kJ/m <sup>2</sup>	ISO 180/1A

Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		ISO 2039-2
M-Scale	85	
R-Scale	121	



Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed	160 °C	ISO 75-2/B
1.8 MPa, Unannealed	94.0 °C	ISO 75-2/A
Melting Temperature <sup>3</sup>	178 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	1.0E-4 cm/cm/°C	
Flow : -40 to 23°C	9.0E-5 cm/cm/°C	
Transverse	1.0E-4 cm/cm/°C	
Transverse : -40 to 23°C	9.0E-5 cm/cm/°C	
Annealing Temperature	160 °C	
Annealing Time - Optional	30.0 min/mm	
Flammability	Nominal Value Unit	Test Method
Burning Rate <sup>4</sup> (1.00 mm)	37 mm/min	ISO 3795
Flame Rating		UL 94
1.5 mm	HB	IEC 60695-11-10, -20
3.0 mm	HB	
FMVSS Flammability	B	FMVSS 302
Injection	Nominal Value Unit	
Drying Temperature	80 °C	
Drying Time - Desiccant Dryer	2.0 to 4.0 hr	
Suggested Max Moisture	< 0.20 %	
Processing (Melt) Temp	210 to 220 °C	
Melt Temperature, Optimum	215 °C	
Mold Temperature	80 to 100 °C	
Mold Temperature, Optimum	90 °C	
Holding Pressure	80.0 to 100 MPa	
Drying Recommended	yes	
Hold Pressure Time	8.00 s/mm	
Maximum Screw Tangential Speed	18 m/min	

**Notes**

<sup>1</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 10°C/min

<sup>4</sup> FMVSS 302

