

# Delrin® 150 NC010

ACETAL RESIN

DuPont Performance Polymers

# PROSPECTOR®

www.ulprospector.com

## Technical Data

### Product Description

Nucleated High Viscosity Acetal Homopolymer Developed for Extrusion

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Mold Release	• Nucleating Agent	
Features	• High Viscosity	• Homopolymer	• Nucleated
RoHS Compliance	• Contact Manufacturer		
Forms	• Pellets		
Processing Method	• Extrusion • Injection Molding	• Profile Extrusion • Sheet Extrusion	
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1)	• Secant Modulus vs. Strain (ISO 11403-1)	
Part Marking Code (ISO 11469)	• POM		
Resin ID (ISO 1043)	• POM		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.42 g/cm <sup>3</sup>	1.42 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.3 g/10 min	2.3 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.90 cm <sup>3</sup> /10min	1.90 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	2.0 %	2.0 %	
Flow	1.8 %	1.8 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	450000 psi	3100 MPa	ISO 527-2
Tensile Stress (Yield)	10600 psi	73.0 MPa	ISO 527-2
Tensile Strain (Yield)	22 %	22 %	ISO 527-2
Nominal Tensile Strain at Break	40 %	40 %	ISO 527-2
Flexural Modulus	421000 psi	2900 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	4.3 ft·lb/in <sup>2</sup>	9.0 kJ/m <sup>2</sup>	
73°F (23°C)	5.0 ft·lb/in <sup>2</sup>	11 kJ/m <sup>2</sup>	
Notched Izod Impact Strength (73°F (23°C))	4.8 ft·lb/in <sup>2</sup>	10 kJ/m <sup>2</sup>	ISO 180/1A

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	94	94	
R-Scale	122	122	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	329 °F	165 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	210 °F	99.0 °C	ISO 75-2/A
Melting Temperature <sup>2</sup>	352 °F	178 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow	6.1E-5 in/in/°F	1.1E-4 cm/cm/°C	
Flow : -40 to 73°F (-40 to 23°C)	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	
Flow : 131 to 320°F (55 to 160°C)	7.8E-5 in/in/°F	1.4E-4 cm/cm/°C	
Transverse	5.6E-5 in/in/°F	1.0E-4 cm/cm/°C	
Transverse : -40 to 73°F (-40 to 23°C)	5.0E-5 in/in/°F	9.0E-5 cm/cm/°C	
Transverse : 131 to 320°F (55 to 160°C)	8.9E-5 in/in/°F	1.6E-4 cm/cm/°C	



Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Annealing Temperature	320 °F	160 °C	
Annealing Time - Optional	30.0 min/mm	30.0 min/mm	

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate <sup>3</sup> (0.0394 in (1.00 mm))	< 3.1 in/min	< 80 mm/min	ISO 3795
Flame Rating (0.06 in (1.5 mm))	HB	HB	UL 94 IEC 60695-11-10, -20
FMVSS Flammability	B	B	FMVSS 302

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time - Desiccant Dryer	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.20 %	0.20 %
Processing (Melt) Temp	410 to 428 °F	210 to 220 °C
Melt Temperature, Optimum	419 °F	215 °C
Mold Temperature	176 to 212 °F	80 to 100 °C
Mold Temperature, Optimum	194 °F	90 °C
Holding Pressure	13100 to 16000 psi	90.0 to 110 MPa
Drying Recommended	yes	yes
Hold Pressure Time	7.50 s/mm	7.50 s/mm

Extrusion	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	167 to 185 °F	75 to 85 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.20 %	0.20 %
Melt Temperature	383 to 401 °F	195 to 205 °C
Extrusion Melt Temperature, Optimum	392 °F	200 °C

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> FMVSS 302

