

Delrin® FG311DP NC010

ACETAL RESIN

DuPont Performance Polymers

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

Nucleated Medium-high Viscosity Acetal Homopolymer Developed for Food Contact Applications

General

Material Status	• Commercial: Active
Literature ¹	• Processing - Injection Molding (English) • Typical Processing for DuPont Engineering Polymers (English) • White Paper - Property Advantages of Delrin® Acetal Homopolymer - a guide for design engineers (English)
UL Yellow Card ²	• E41938-100907470
Search for UL Yellow Card	• DuPont Performance Polymers • Delrin®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Lubricant • Mold Release • Nucleating Agent
Features	• Food Contact Acceptable • Homopolymer • Medium-high Viscosity • Nucleated
Uses	• Non-specific Food Applications
RoHS Compliance	• Contact Manufacturer
Forms	• Pellets
Processing Method	• Extrusion • Film 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 Unit	Test Method
Density	1.42 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)	7.0 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	6.00 cm ³ /10min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow	1.8 %	
Flow	1.9 %	
Water Absorption		ISO 62
Saturation, 23°C, 2.00 mm	0.90 %	
Equilibrium, 23°C, 2.00 mm, 50% RH	0.20 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	3300 MPa	ISO 527-2
Tensile Stress (Yield)	74.0 MPa	ISO 527-2
Tensile Strain (Yield)	15 %	ISO 527-2
Nominal Tensile Strain at Break	35 %	ISO 527-2
Flexural Modulus	3100 MPa	ISO 178
Flexural Stress (3.5% Strain)	86.0 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	250 kJ/m ²	
23°C	300 kJ/m ²	



Impact	Nominal Value Unit	Test Method
Notched Izod Impact Strength		ISO 180/1A
-40°C	8.0 kJ/m ²	
23°C	10 kJ/m ²	
Thermal	Nominal Value Unit	Test Method
Heat Deflection Temperature		
0.45 MPa, Unannealed	165 °C	ISO 75-2/B
1.8 MPa, Unannealed	103 °C	ISO 75-2/A
Vicat Softening Temperature	160 °C	ISO 306/B50
Melting Temperature ⁴	178 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	1.1E-4 cm/cm/°C	
Transverse	1.1E-4 cm/cm/°C	
Annealing Temperature	160 °C	
Annealing Time - Optional	30.0 min/mm	
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.75 mm	HB	IEC 60695-11-10, -20
1.5 mm	HB	
Fogging - G-value (condensate)	4.0E-4 g	ISO 6452
Additional Information	Nominal Value Unit	Test Method
Emission	< 8.00 mg/kg	VDA 275
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	7.50 s/mm	
Extrusion	Nominal Value Unit	
Drying Temperature	75 to 85 °C	
Drying Time	2.0 to 4.0 hr	
Suggested Max Moisture	0.20 %	
Melt Temperature	195 to 205 °C	
Extrusion Melt Temperature, Optimum	200 °C	

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² 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.

³ Typical properties: these are not to be construed as specifications.

⁴ 10°C/min



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Where to Buy

Supplier

DuPont Performance Polymers

Wilmington, DE USA

Telephone: 302-999-4592

Web: <http://plastics.dupont.com/>

Distributor

CCC Plastics

Telephone: 800-465-6917

Web: <http://www.cccplastics.com/>

Availability: Canada

Distrupol Ltd

Distrupol Ltd is a Pan European distribution company. Contact Distrupol Ltd for availability of individual products by country.

Telephone: 08452003040

Web: <http://www.distrupol.com/>

Availability: Denmark, Finland, Ireland, Norway, Sweden, United Kingdom

PolyOne Distribution

PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country.

Telephone: 800-894-4266

Web: <http://polyonedistribution.com/>

Availability: Global

