

DUPONT Delrin[®] 100KM

Kevlar[®] Modified High Viscosity Acetal Homopolymer with Low Wear and Low Friction
Information provided by DuPont; Delrin was sold by DuPont in 2023.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Melt Density	1.18 g/cc @Temperature 215 °C	0.0426 lb/in ³ @Temperature 419 °F	
Linear Mold Shrinkage, Flow	0.018 cm/cm	0.018 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	ISO 294-4, 2577
Melt Flow	1.7 g/10 min @Load 2.16 kg, Temperature 190 °C	1.7 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10min Volumetric; ISO 1133
	2.0 g/10 min @Load 2.16 kg, Temperature 190 °C	2.0 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	65.0 MPa	9430 psi	ISO 527-1/-2
Elongation at Break	15 %	15 %	ISO 527-1/-2
Tensile Modulus	3.10 GPa	450 ksi	ISO 527-1/-2
Flexural Modulus	3.00 GPa	435 ksi	ISO 178
Poissons Ratio	0.37	0.37	
Charpy Impact Unnotched	5.00 J/cm ² @Temperature 23.0 °C	23.8 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
	6.00 J/cm ² @Temperature -30.0 °C	28.6 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.350 J/cm ² @Temperature -30.0 °C	1.67 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.450 J/cm ² @Temperature 23.0 °C	2.14 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 μm/m-°C	61.1 μin/in-°F	ISO 11359-1/-2
	94.0 μm/m-°C @Temperature -40.0 - 23.0 °C	52.2 μin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	100 μm/m-°C	55.6 μin/in-°F	ISO 11359-1/-2
	92.0 μm/m-°C @Temperature -40.0 - 23.0 °C	51.1 μin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
Melting Point	178 °C	352 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	160 °C	320 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	98.0 °C	208 °F	ISO 75-1/-2

Flame Spread

34.0 mm/min
@Thickness 1.00 mm

1.34 in/min
@Thickness 0.0394 in

ISO 3795 (FMVSS
302)

Processing Properties	Metric	English	Comments
Melt Temperature	195 - 205 °C	383 - 401 °F	Range, Extrusion
	200 °C	392 °F	Optimum, Extrusion
	215 °C	419 °F	Optimum, Injection
	210 - 220 °C	410 - 428 °F	Range, Injection
Mold Temperature	90.0 °C	194 °F	Optimum, Injection
	80.0 - 100 °C	176 - 212 °F	Injection
Drying Temperature	80.0 °C	176 °F	Injection
	75.0 - 85.0 °C	167 - 185 °F	Extrusion
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Extrusion, Dehumidified Dryer
	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection, Dehumidified Dryer
Moisture Content	<= 0.20 %	<= 0.20 %	Extrusion
	<= 0.20 %	<= 0.20 %	Injection
Hold Pressure	90.0 - 110 MPa	13100 - 16000 psi	Injection
	110 MPa	16000 psi	Injection
Annealing Temperature	160 °C	320 °F	Optional; 2 mm/min; Injection

Descriptive Properties

Additives	Release agent	
Annealing time (min/mm)	30	Optional, Injection
Drying Recommended	yes	Injection
FMVSS Class	B	ISO 3795 (FMVSS 302)
Max. screw tangential speed (m/s)	0.2	Injection
Part Marking Code	>POM-AG10<	ISO 11469
Polymer	POM-Z	
Processing Hold Pressure Time (s/mm)	8	Injection
Resin Identification	POM-AG10	ISO 1043