

DUPONT Delrin[®] 100P

High Viscosity Acetal Homopolymer with Improved Processing
Information provided by DuPont; Delrin was sold by DuPont in 2023.

Vendors:

No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Melt Density	1.19 g/cc @Temperature 215 °C	0.0430 lb/in ³ @Temperature 419 °F	
Water Absorption	0.40 % @Time 86400 sec	0.40 % @Time 24.0 hour	Immersion; Sim. to ISO 62
	1.4 % @Thickness 2.00 mm	1.4 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.300 % @Thickness 2.00 mm	0.300 % @Thickness 0.0787 in	Sim. to ISO 62
Linear Mold Shrinkage, Flow	0.022 cm/cm	0.022 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.019 cm/cm	0.019 in/in	ISO 294-4, 2577
Melt Flow	2.1 g/10 min @Load 2.16 kg, Temperature 190 °C	2.1 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10min Volumetric; ISO 1133
	2.5 g/10 min @Load 2.16 kg, Temperature 190 °C	2.5 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ISO 2039-2
Hardness, Rockwell R	119	119	ISO 2039-2
Ball Indentation Hardness	173 MPa	25100 psi	H 358/30; ISO 2039-1
Tensile Strength, Yield	70.0 MPa	10200 psi	ISO 527-1/-2
Elongation at Break	45 %	45 %	Nominal; ISO 527-1/-2
Elongation at Yield	26 %	26 %	ISO 527-1/-2
Tensile Modulus	2.90 GPa	421 ksi	ISO 527-1/-2
Flexural Strength	75.0 MPa @Strain 3.5 %	10900 psi @Strain 3.5 %	ISO 178
Flexural Modulus	2.80 GPa	406 ksi	ISO 178
Poissons Ratio	0.37	0.37	
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature -40.0 °C	5.71 ft-lb/in ² @Temperature -40.0 °F	ISO 180/1A
	14.0 kJ/m ² @Temperature 23.0 °C	6.66 ft-lb/in ² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact Unnotched	40.0 J/cm ² @Temperature -30.0 °C	190 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	1.30 J/cm ² @Temperature -30.0 °C	6.19 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	1.40 J/cm ² @Temperature 23.0 °C	6.66 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	2700 MPa	392000 psi	1h; ISO 899-1
Tensile Creep Modulus, 1000 hours	1500 MPa	218000 psi	1000h; ISO 899-1

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 62631-3-1
Surface Resistance	2.00e+13 ohm	2.00e+13 ohm	IEC 62631-3-2
Dielectric Constant	3.9	3.9	IEC 62631-2-1
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	3.9	3.9	IEC 62631-2-1
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	41.0 kV/mm	1040 kV/in	IEC 60243-1
Comparative Tracking Index	0.0035	0.0035	IEC 62631-2-1
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	0.0055	0.0055	IEC 62631-2-1
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
	100 µm/m-°C	55.6 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	100 µm/m-°C	55.6 µin/in-°F	ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
Thermal Conductivity	3.00 J/g-°C	0.717 BTU/lb-°F	Melt
	@Temperature 215 °C	@Temperature 419 °F	
Melting Point	0.220 W/m-K	1.53 BTU-in/hr-ft ² -°F	Melt
	@Temperature 215 °C	@Temperature 419 °F	
Deflection Temperature at 0.46 MPa (66 psi)	178 °C	352 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 1.8 MPa (264 psi)	155 °C	311 °F	ISO 75-1/-2
Vicat Softening Point	95.0 °C	203 °F	ISO 75-1/-2
	110 °C	230 °F	Annealed; ISO 75-1/-2
Flammability, UL94	160 °C	320 °F	50°C/h, 50N; ISO 306
	175 °C	347 °F	50°C/h 10N; ISO 306
Flame Spread	HB	HB	IEC 60695-11-10
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Flame Spread	HB	HB	IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Processing Properties	50.0 mm/min	1.97 in/min	ISO 3795 (FMVSS 302)
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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
	80.0 °C	176 °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
Emissions (mg/kg)	<8	VDA 275
FMVSS Class	B	ISO 3795 (FMVSS 302)
Max. screw tangential speed (m/s)	0.2	Injection
Part Marking Code	>POM<	ISO 11469
Polymer	POM	
Processing Hold Pressure Time (s/mm)	8	Injection
Resin Identification	POM	ISO 1043