

DuPont™ Delrin® 500TE NC010

ACETAL RESIN

Product Information

Common features of Delrin® acetal resins include mechanical and physical properties such as high mechanical strength and rigidity, excellent fatigue and impact resistance, as well as resistance to moisture, gasoline, lubricants, solvents, and many other neutral chemicals. Delrin® acetal resins also have excellent dimensional stability and good electrical insulating characteristics. They are naturally resilient, self-lubricating, and available in a variety of colors and speciality grades.

Delrin® acetal resin typically is used in demanding applications in the automotive, domestic appliances, sports, industrial engineering, electronics, and consumer goods industries.

Delrin® 500TE is a toughened medium viscosity acetal homopolymer for injection molding with very low VOC emissions for applications in automotive interiors. It has impact resistance similar to Delrin® 100 and can be used in parts requiring noise reduction.

General information	Value	Unit	Test Standard
Resin Identification	POM-I	-	ISO 1043
Part Marking Code	POM-I	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate	9	cm ³ /10min	ISO 1133
Temperature	190	°C	ISO 1133
Load	2.16	kg	ISO 1133
Melt mass-flow rate	10	g/10min	ISO 1133
Melt mass-flow rate, Temperature	190	°C	ISO 1133
Melt mass-flow rate, Load	2.16	kg	ISO 1133
Moulding shrinkage, parallel	1.5	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.6	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	2170	MPa	ISO 527-1/-2
Yield stress	52	MPa	ISO 527-1/-2
Yield strain	20	%	ISO 527-1/-2
Nominal strain at break	35	%	ISO 527-1/-2
Flexural Modulus	2060	MPa	ISO 178
Flexural Stress at 3.5%	57	MPa	ISO 178
Charpy notched impact strength			ISO 179/1eA
23°C	11	kJ/m ²	
-30°C	7	kJ/m ²	
Hardness, Rockwell, M-scale	70.2	-	ISO 2039-2
Hardness, Rockwell, R-scale	117	-	ISO 2039-2
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	76	°C	
0.45 MPa	142	°C	
Vicat softening temperature, 50°C/h, 10N	172	°C	ISO 306
Coeff. of linear therm. expansion, parallel	120	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	120	E-6/K	ISO 11359-1/-2
Flammability	Value	Unit	Test Standard
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	45	mm/min	ISO 3795 (FMVSS 302)
Other properties	Value	Unit	Test Standard
Density	1370	kg/m ³	ISO 1183
Density of melt	1170	kg/m ³	-
VDA Properties	Value	Unit	Test Standard
Emissions	<2	mg/kg	VDA 275
Fogging, G-value (condensate)	0.2	mg	ISO 6452
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	≥80	°C	-
Drying Time, Dehumidified Dryer	4 - 8	h	-

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

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Toll-Free (USA): 800 441-0575

Asia Pacific

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Europe/Middle East/Africa

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Processing Moisture Content	≤0.05 %	-
Melt Temperature Optimum	205 °C	-
Min. melt temperature	200 °C	-
Max. melt temperature	210 °C	-
Mold Temperature Optimum	50 °C	-
Min. mould temperature	40 °C	-
Max. mould temperature	60 °C	-
Hold pressure range	60 - 80 MPa	-
Hold pressure time	7.5 s/mm	-
Annealing time, optional	30 min/mm	-
Annealing temperature	160 °C	-

Characteristics

Processing	• Injection Moulding		
Delivery form	• Pellets		
Additives	• Lubricants	• Release agent	
Regional Availability	• North America	• Asia Pacific	• Near East/Africa
	• Europe	• South and Central America	• Global

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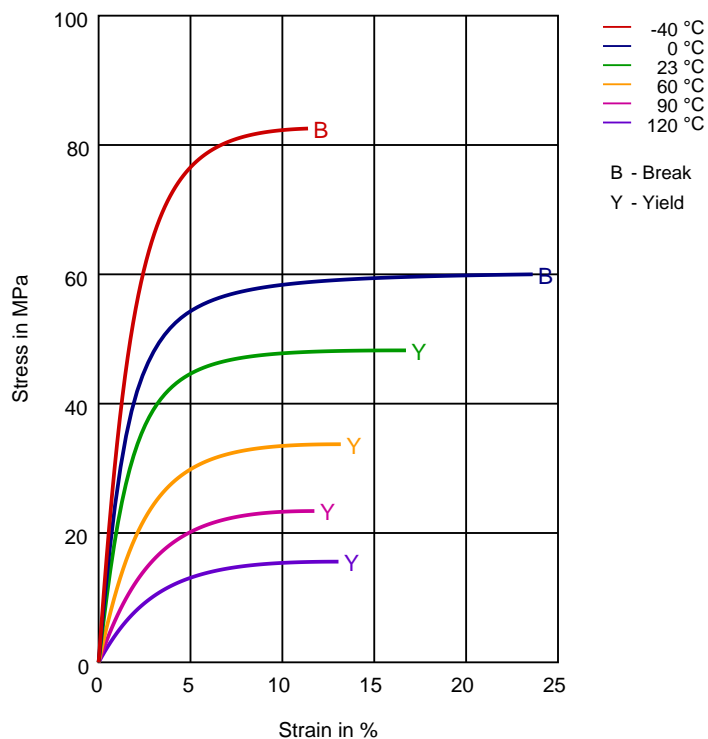


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Diagrams

Stress-strain



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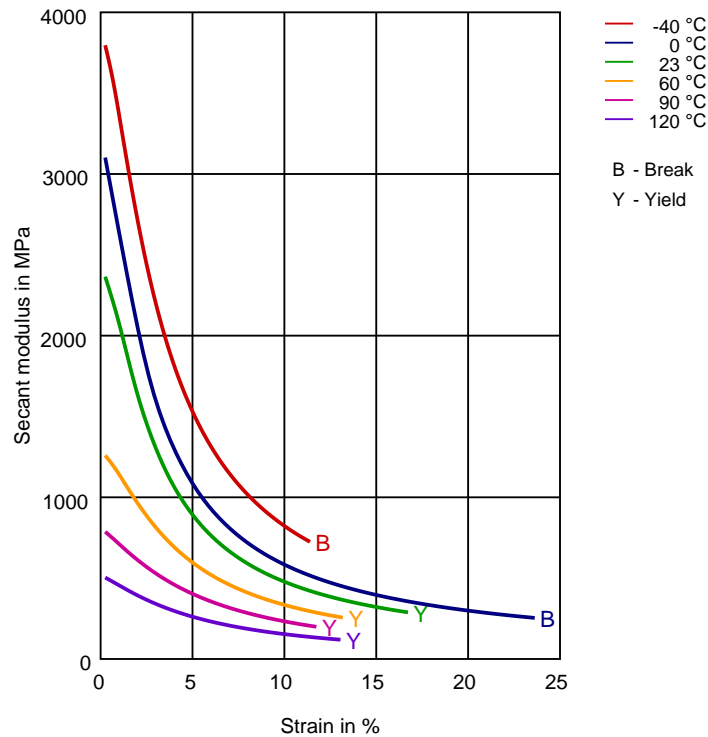


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Secant modulus-strain



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrell® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23 °C unless otherwise stated.

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