Delrin® 300TE NC010

ACETAL RESIN

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® 300TE is a toughened medium-high viscosity acetal homopolymer for injection molding with very low VOC emissions for applications in automotive interiors.

Product information

Resin Identification	POM-I	ISO 1043
Part Marking Code	>POM-I<	ISO 11469

Rheological properties

Melt volume-flow rate	6	cm³/10min	ISO 1133
Melt mass-flow rate	7	g/10min	ISO 1133
Temperature	190	°C	ISO 1133
Load	2.16	kg	ISO 1133
Melt mass-flow rate, Temperature	190	°C	ISO 1133
Melt mass-flow rate, Load	2.16	kg	ISO 1133
Moulding shrinkage, parallel	1.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	1900	MPa	ISO 527-1/-2
Yield stress	53	MPa	ISO 527-1/-2
Yield strain	20	%	ISO 527-1/-2
Strain at break, 50mm/min	36	%	ISO 527-1/-2
Flexural Modulus	1900	MPa	ISO 178
Flexural Stress at 3.5%	56	MPa	ISO 178
Charpy notched impact strength, 23°C	16	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	10	kJ/m²	ISO 179/1eA
Hardness, Rockwell, M-scale	69.3	-	ISO 2039-2
Hardness, Rockwell, R-scale	116	-	ISO 2039-2
Poisson's ratio	0.41	-	

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Tribological properties

Coefficient of sliding friction, 1h against steel	0.7		ASTM 1894

Thermal properties

Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	71	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	132	°C	ISO 75-1/-2
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	125	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.21	W/(m K)	
Spec. heat capacity of melt	2880	J/(kg K)	

Flammability

FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	46	mm/min	ISO 3795 (FMVSS 302)

Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.9	%	Sim. to ISO 62
Density	1380	kg/m³	ISO 1183
Density of melt	1150	kg/m³	

VDA Properties

Emissions	<2	mg/kg	VDA 275

Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	4 - 8	h
Processing Moisture Content	≤0.05	%
Melt Temperature Optimum	205	°C
Min. melt temperature	200	°C
Max. melt temperature	210	°C
Max. screw tangential speed	0.2	m/s
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
Ejection temperature	115	°C
Annealing time, optional	30	min/mm
Annealing temperature	160	°C

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Extrusion

Drying Temperature	75 - 85	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.05	%
Melt Temperature Optimum	200	°C
Melt Temperature Range	195 - 205	°C

Characteristics

Additives	Release agent

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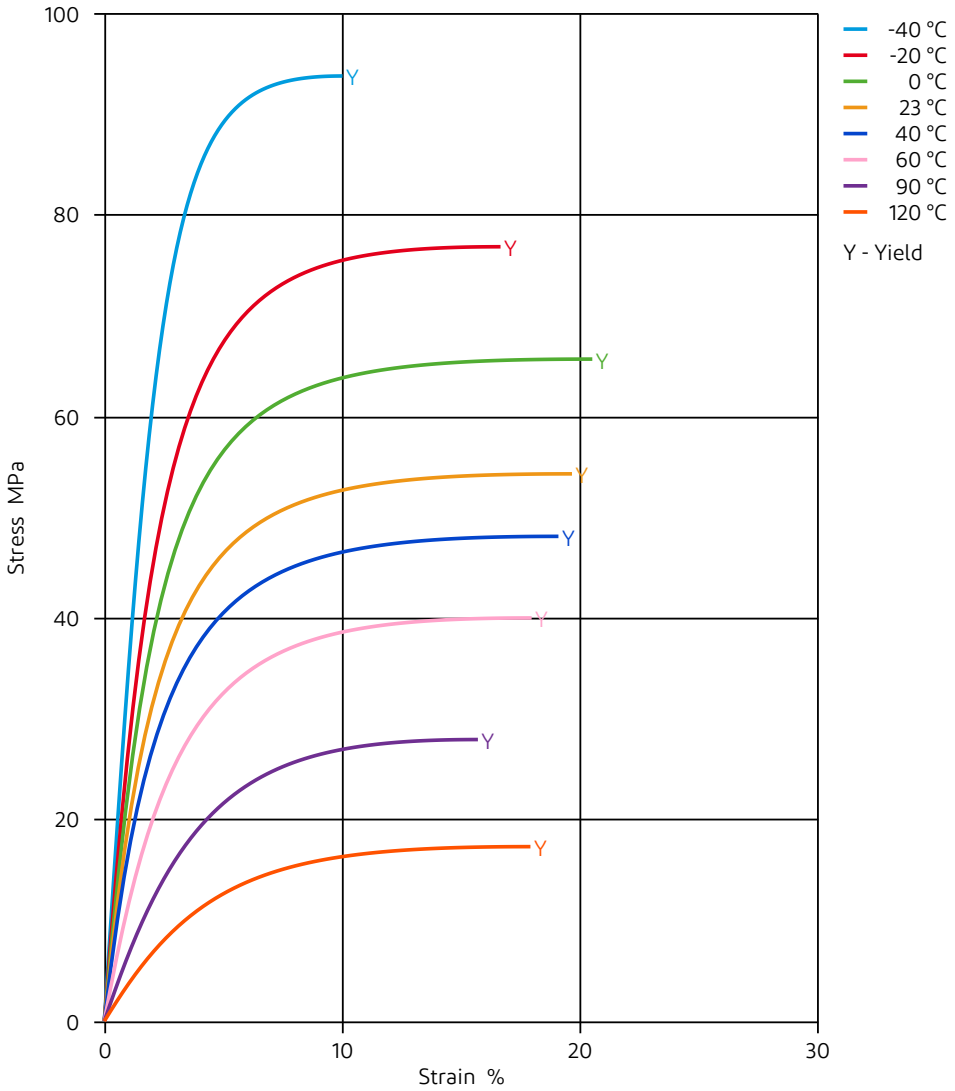
Stress-strain



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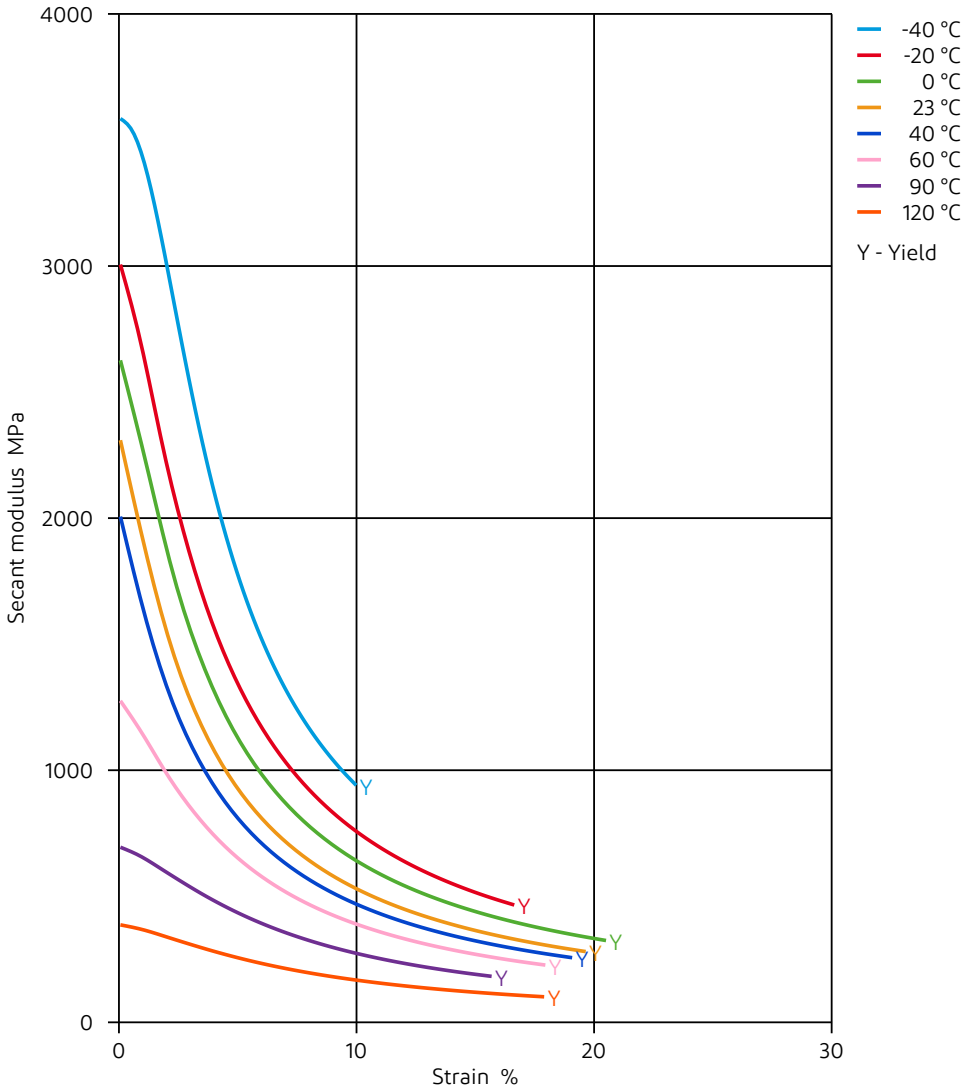
Secant modulus-strain



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Tensile modulus-temperature