Delrin® 300ATB BK000

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® 300ATB is a filled, medium viscosity, toughened acetal homopolymer, designed to aid static dissipation of electric charge. Processing methods include injection moulding.

Product information

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

Rheological properties

Melt volume-flow rate	2.3	cm³/10min	ISO 1133
Melt mass-flow rate	3	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	1.7	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	2300	MPa	ISO 527-1/-2
Stress at break	50	MPa	ISO 527-1/-2
Strain at break	16	%	ISO 527-1/-2
Flexural Modulus	2100	MPa	ISO 178
Flexural Strength	57	MPa	ISO 178
Charpy notched impact strength, 23°C	8	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	7[A]	kJ/m²	ISO 180/1A
Hardness, Rockwell, M-scale	75	-	ISO 2039-2
Poisson's ratio	0.39	-	

[A]: Assessed

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Thermal properties

Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-68[1]	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.8 MPa	70	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	135	°C	ISO 75-1/-2
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

[1]: Values by DMA at 2°C/min 1Hz

Flammability

FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Surface resistivity, conductive plastics	20000	Ohm	ASTM D 4496
Volume resistivity, conductive plastics	1000	Ohm.m	ASTM D 4496

Other properties

Density	1410	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	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

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

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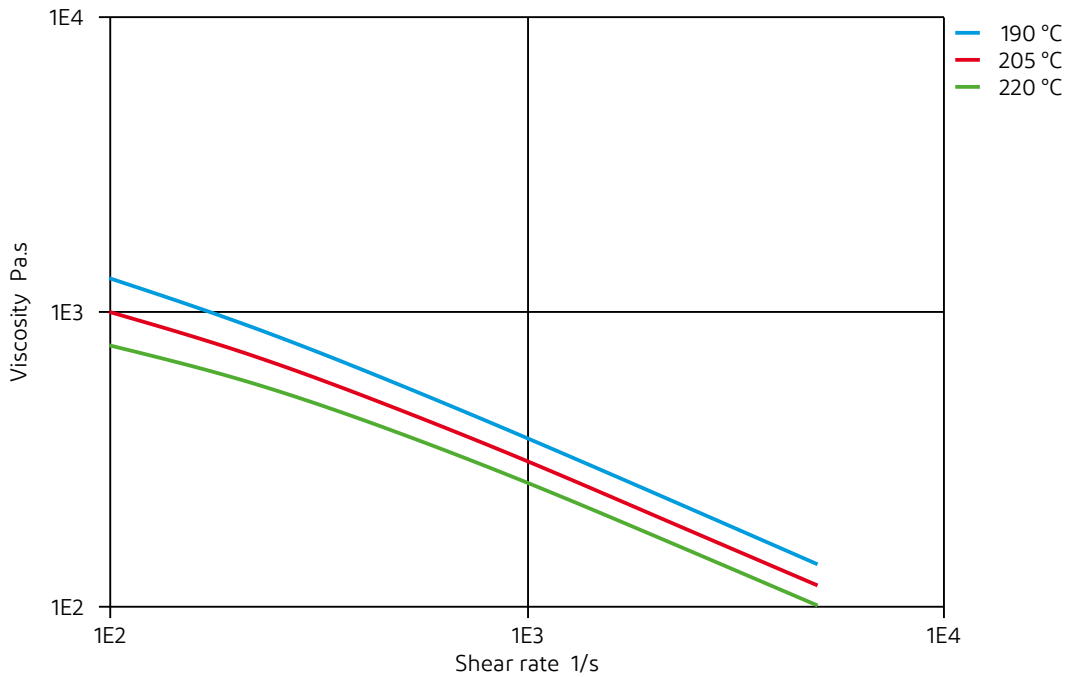
Viscosity-shear rate



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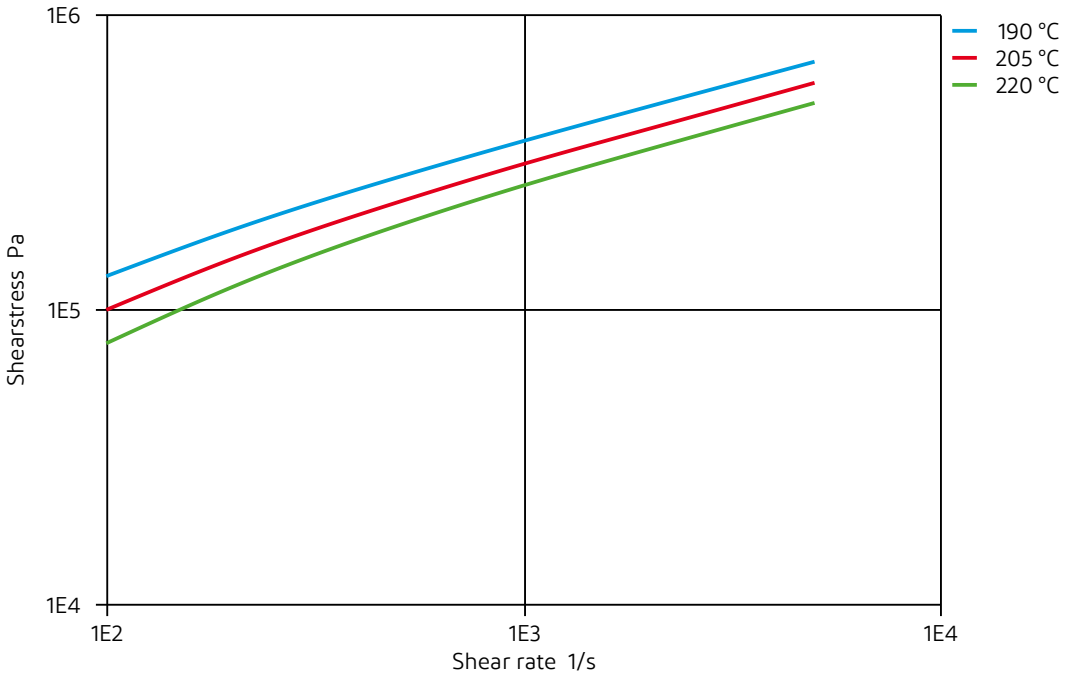
ACETAL RESIN

Shearstress-shear rate



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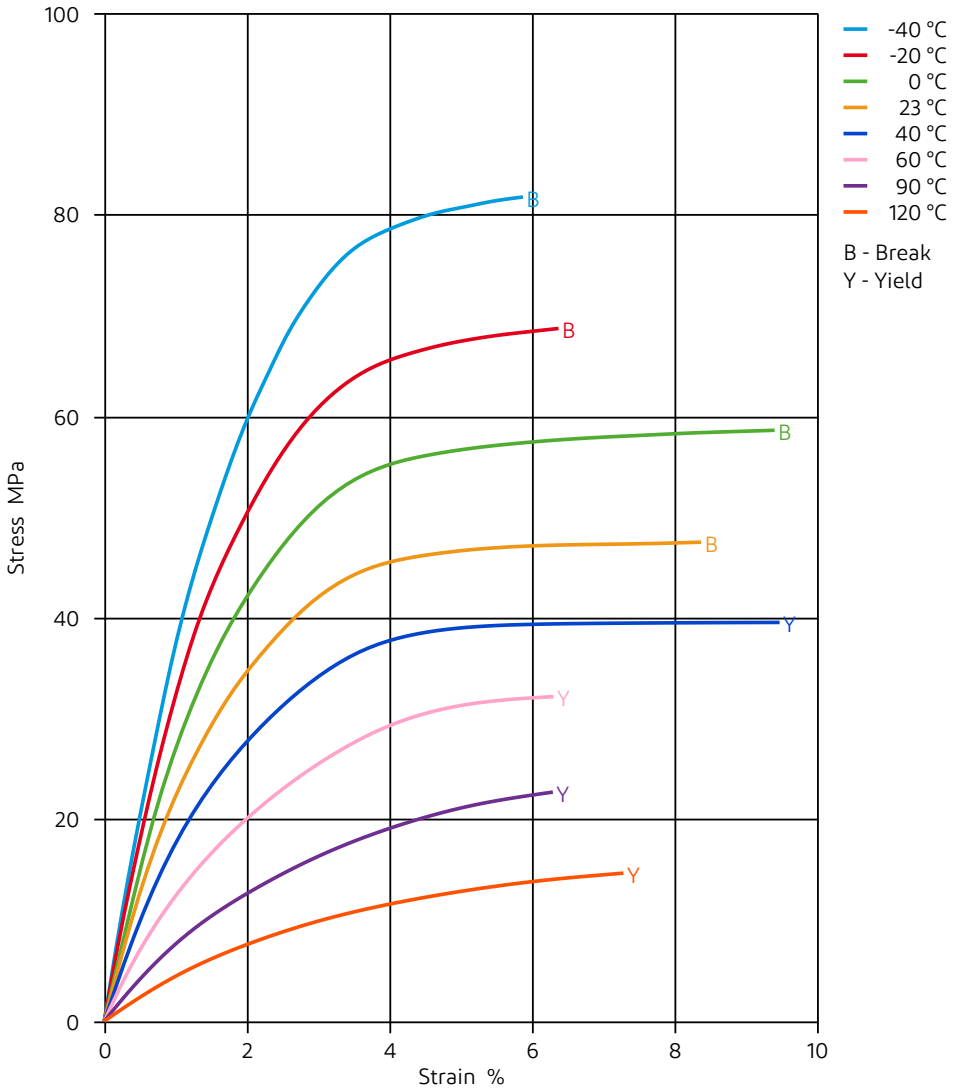
Stress-strain



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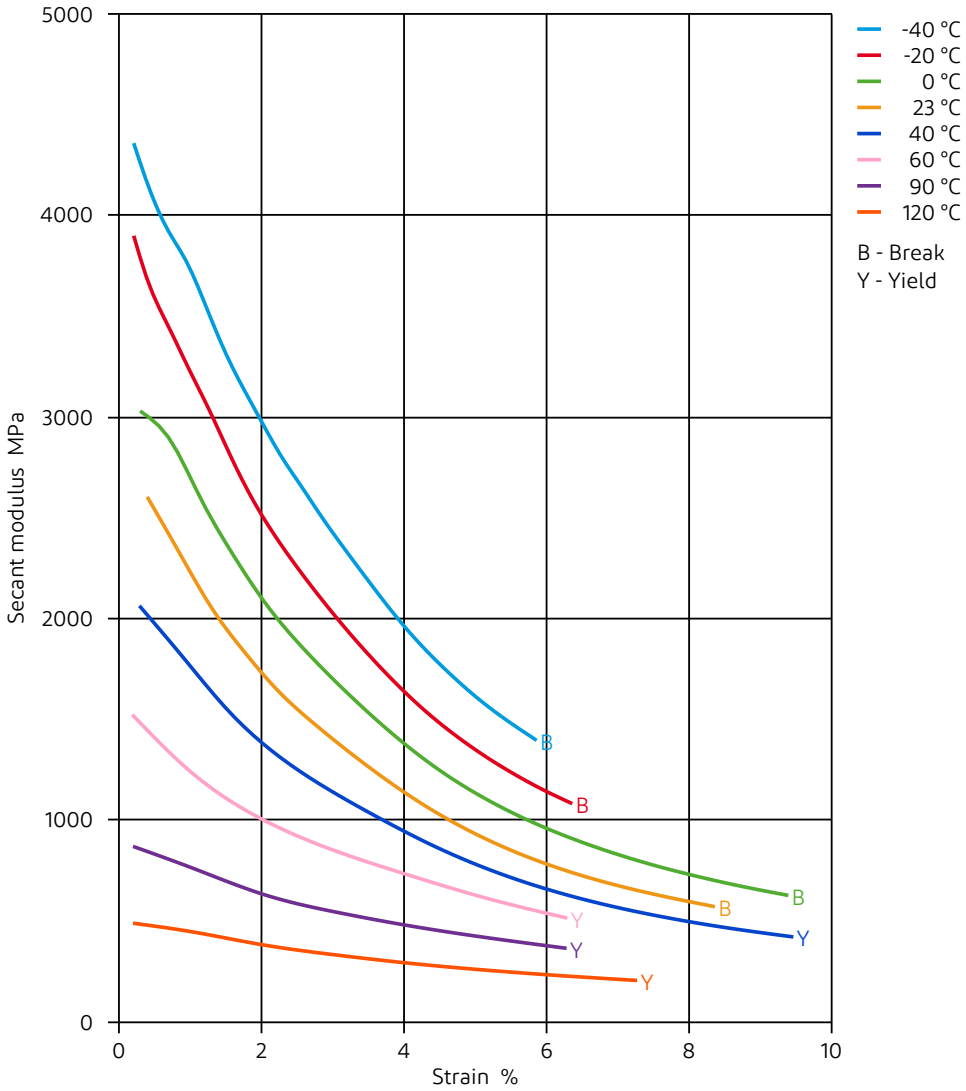
Secant modulus-strain



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Specific volume-temperature (pvT)