



Delrin® 100ST BK602

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® 100ST is a super-toughened, high viscosity acetal homopolymer grade with superior impact resistance. It is designed for highly stressed parts where outstanding toughness is essential.

Product information

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

Rheological properties

Melt volume-flow rate	1.8 cm ³ /10min	ISO 1133
Melt mass-flow rate	2.1 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	0.8 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.1 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	1400 MPa	ISO 527-1/-2
Yield stress	40 MPa	ISO 527-1/-2
Yield strain	30 %	ISO 527-1/-2
Nominal strain at break	>50 %	ISO 527-1/-2
Flexural Modulus	1100 MPa	ISO 178
Charpy impact strength, 23°C	N kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	80 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	14 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.43 -	



Delrin® 100ST BK602

ACETAL RESIN

Thermal properties

Melting temperature, 10°C/min	178 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	60 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	102 °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
RTI, electrical, 1.5mm	105 °C	UL 746B
RTI, electrical, 3mm	105 °C	UL 746B
RTI, impact, 1.5mm	85 °C	UL 746B
RTI, impact, 3mm	85 °C	UL 746B
RTI, strength, 1.5mm	85 °C	UL 746B
RTI, strength, 3mm	85 °C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes -	UL 94
FMVSS Class	B -	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80 mm/min	ISO 3795 (FMVSS 302)

Other properties

Density	1340 kg/m ³	ISO 1183
---------	------------------------	----------

VDA Properties

Emissions [1]: <5	<8 ^[1] 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
Annealing time, optional	30 min/mm
Annealing temperature	160 °C



Delrin[®] 100ST BK602

ACETAL RESIN

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

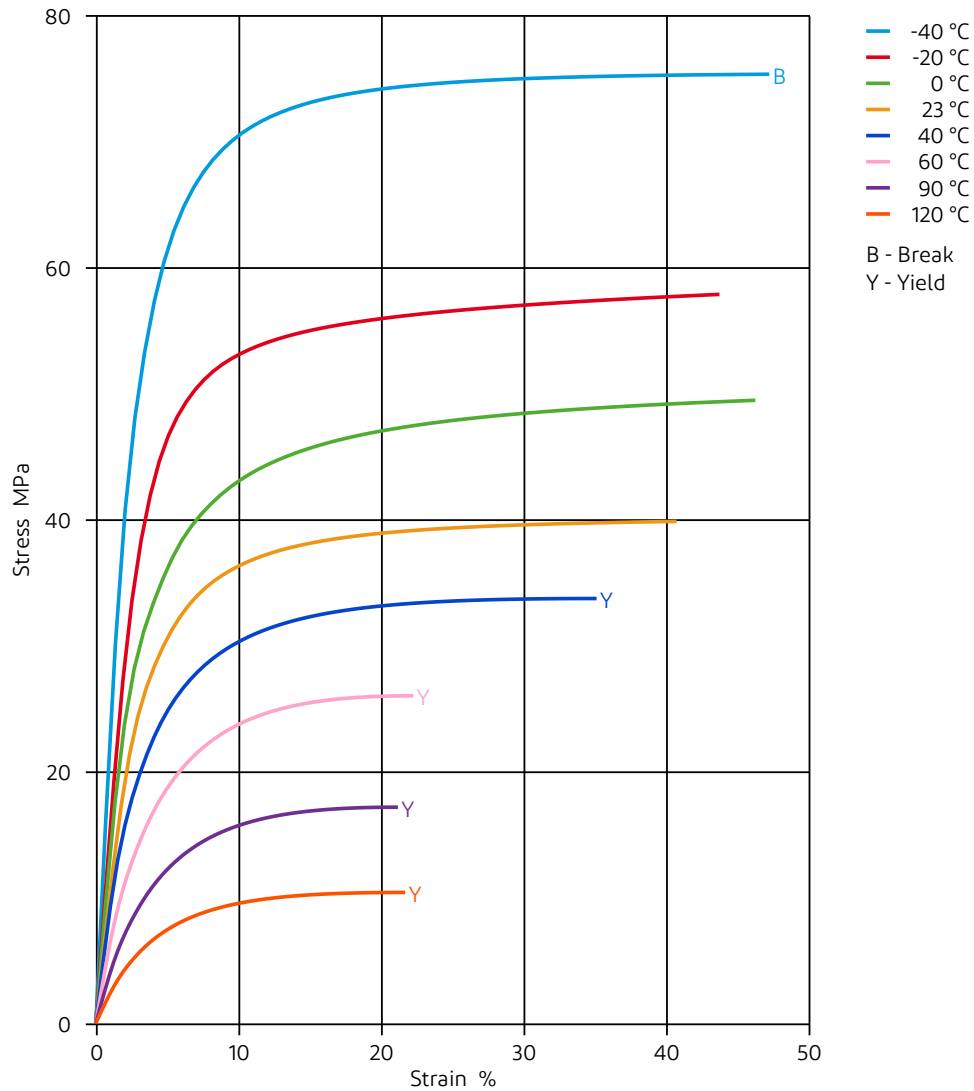
Release agent



Delrin[®] 100ST BK602

ACETAL RESIN

Stress-strain

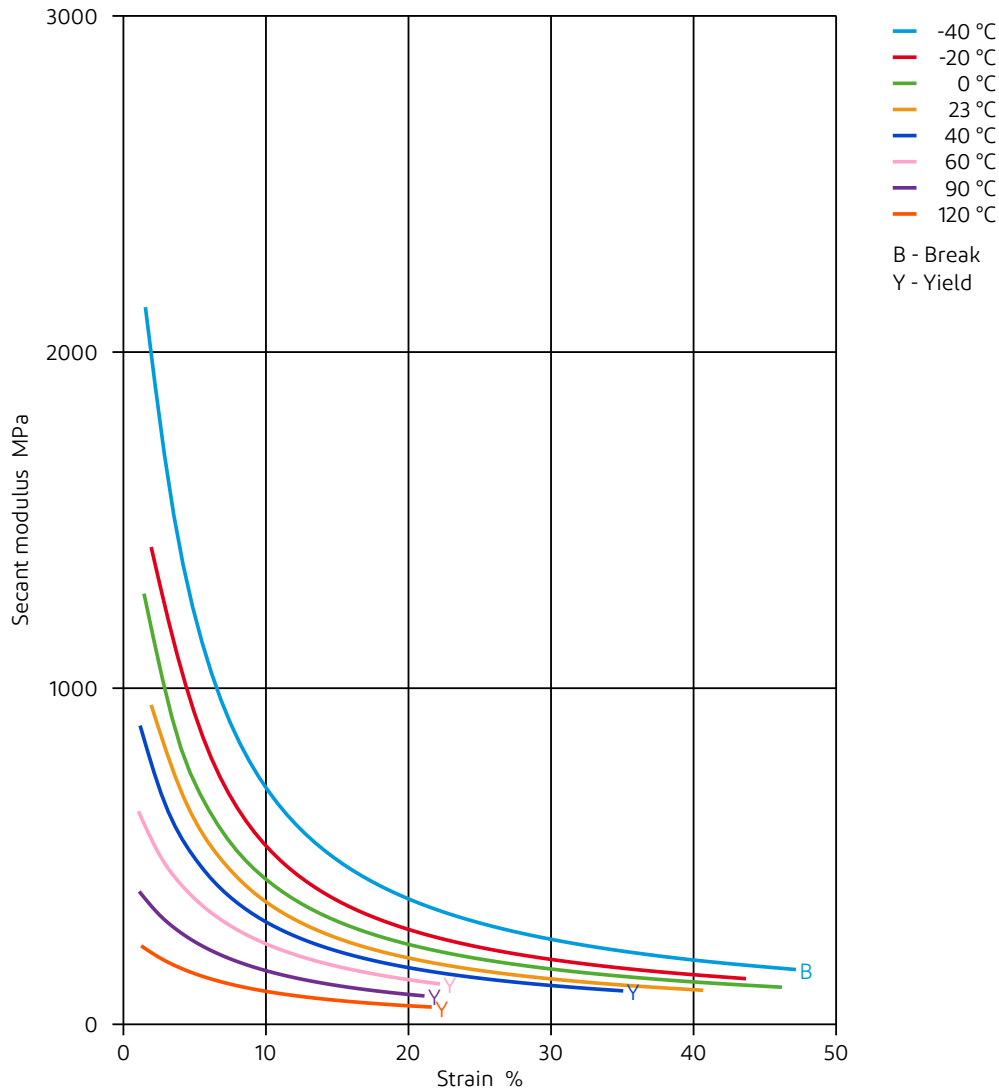




Delrin® 100ST BK602

ACETAL RESIN

Secant modulus-strain



Revised: 2021-03-02

Page: 5 of 5

dupont.com

The information set forth herein is furnished free of charge, is based on technical data that DuPont believes to be reliable, and represents typical values that fall within the normal range of properties. This information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in other processes. It is intended for use by persons having technical skill, at their own discretion and risk. This information should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards and comply with applicable law. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

CAUTION: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract or other acknowledgement that is consistent with the DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative.

DuPont's sole warranty is that our products will meet our standard sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DUPONT SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR NON-INFRINGEMENT. DUPONT DISCLAIMS LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted.

© 2021 DuPont. All rights reserved.