



Delrin® 100ALE NC010 (DEVELOPMENTAL)

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® 100ALE is a high viscosity acetal homopolymer with very low VOC emissions for applications in automotive interiors. It contains an advanced system of lubrication designed for low wear, low friction, and low noise against metals and plastics.

Product information

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

Rheological properties

Melt mass-flow rate	2.5 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	2.0 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.7 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	3000 MPa	ISO 527-1/-2
Yield stress	70 MPa	ISO 527-1/-2
Yield strain	18 %	ISO 527-1/-2
Nominal strain at break	40 %	ISO 527-1/-2
Charpy impact strength, 23°C	N kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	200 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	10.5 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	8 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	8 kJ/m ²	ISO 180/1A
Poisson's ratio	0.37 -	



Delrin[®] 100ALE NC010 (DEVELOPMENTAL)

ACETAL RESIN

Thermal properties

Melting temperature, 10°C/min 178 °C ISO 11357-1/-3

Flammability

FMVSS Class B - ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm 23^[1] mm/min ISO 3795 (FMVSS 302)
[1]: 2mm

Other properties

Density 1400 kg/m³ ISO 1183

VDA Properties

Emissions <2 mg/kg VDA 275

Injection

Drying Recommended yes
Drying Temperature 80 °C
Drying Time, Dehumidified Dryer 2 - 4 h
Processing Moisture Content ≤0.2 %
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 90 °C
Min. mould temperature 80 °C
Max. mould temperature 100 °C
Hold pressure range 90 - 110 MPa
Hold pressure time 8 s/mm
Annealing time, optional 30 min/mm
Annealing temperature 160 °C

Extrusion

Drying Temperature 75 - 85 °C
Drying Time, Dehumidified Dryer 2 - 4 h
Processing Moisture Content ≤0.2 %
Melt Temperature Optimum 200 °C
Melt Temperature Range 195 - 205 °C

Characteristics

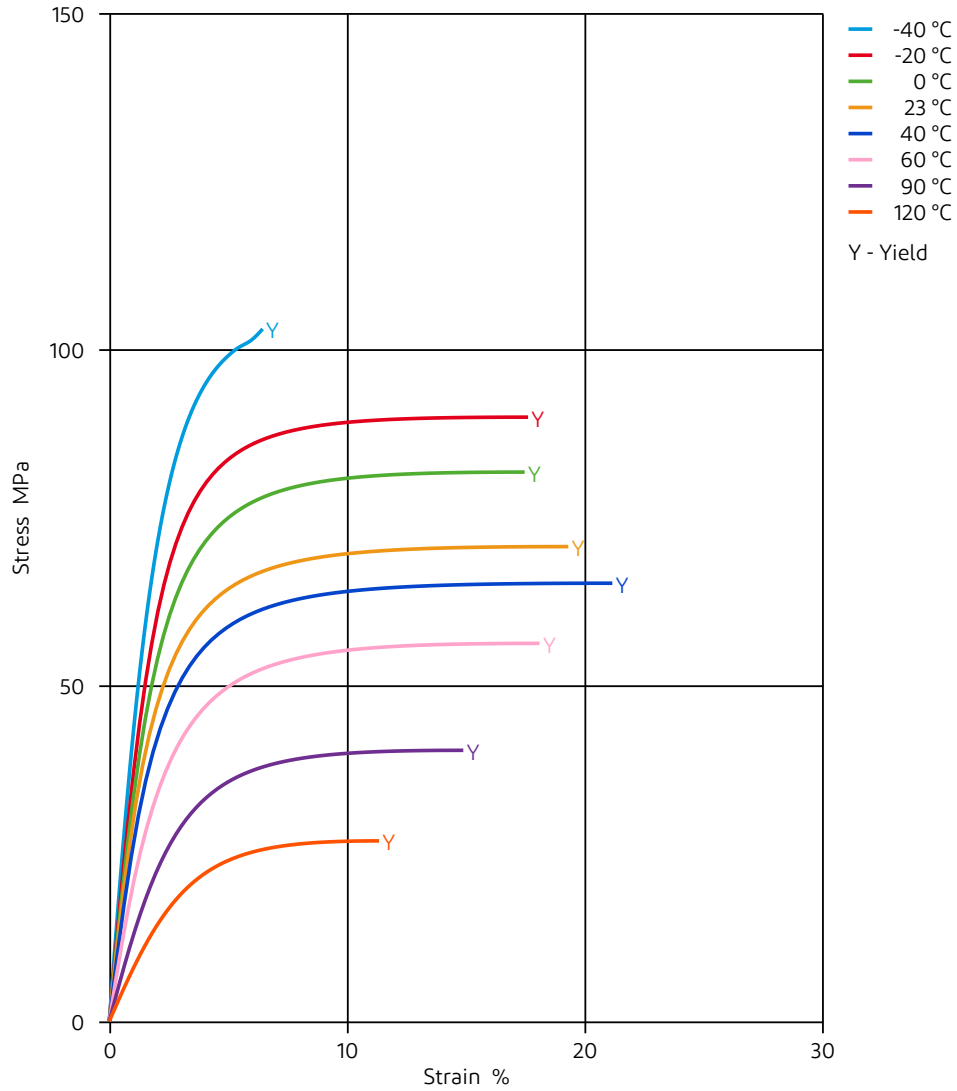
Additives Release agent



Delrin[®] 100ALE NC010 (DEVELOPMENTAL)

ACETAL RESIN

Stress-strain

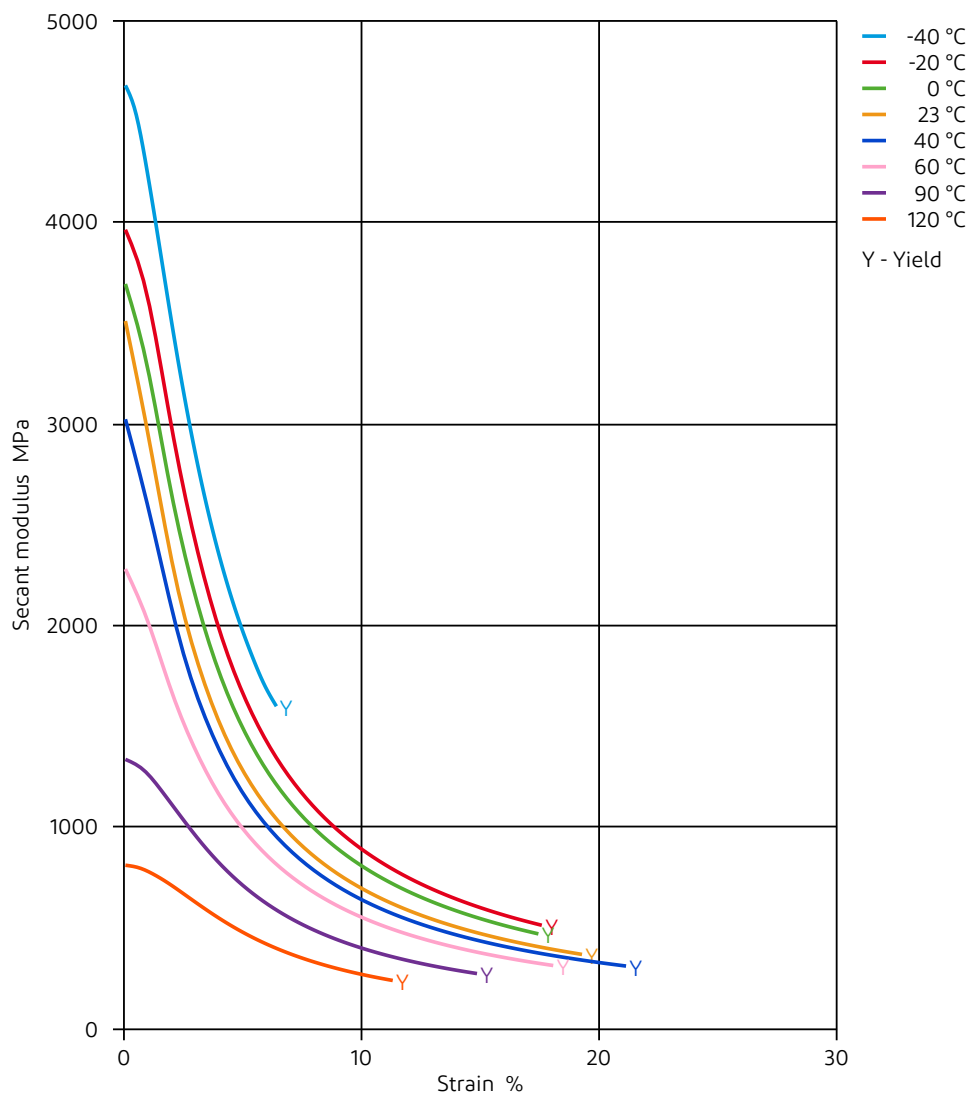




Delrin[®] 100ALE NC010 (DEVELOPMENTAL)

ACETAL RESIN

Secant modulus-strain



Revised: 2020-10-12

Page: 4 of 4

dupont.com

The above data are for the developmental sample and are subject to change as the product is scaled up.

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.