



# Delrin® 100ALE NC010 (PRELIMINARY)

## 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/m²    | ISO 179/1eU  |
| Charpy impact strength, -30°C         | 200 kJ/m²  | ISO 179/1eU  |
| Charpy notched impact strength, 23°C  | 10.5 kJ/m² | ISO 179/1eA  |
| Charpy notched impact strength, -30°C | 8 kJ/m²    | ISO 179/1eA  |
| Izod notched impact strength, 23°C    | 8 kJ/m²    | ISO 180/1A   |
| Poisson's ratio                       | 0.37       |              |

### Thermal properties

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



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### 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                |
| Burning Behav. at thickness h        | HB class                 | IEC 60695-11-10      |
| Thickness tested                     | 0.75 mm                  | IEC 60695-11-10      |
| UL recognition                       | yes                      | UL 94                |
| FMVSS Class                          | B                        | ISO 3795 (FMVSS 302) |
| Burning rate, Thickness 1 mm         | 23 <sup>[1]</sup> mm/min | ISO 3795 (FMVSS 302) |

[1]: 2 mm

### Other properties

|         |                        |          |
|---------|------------------------|----------|
| Density | 1400 kg/m <sup>3</sup> | 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 |



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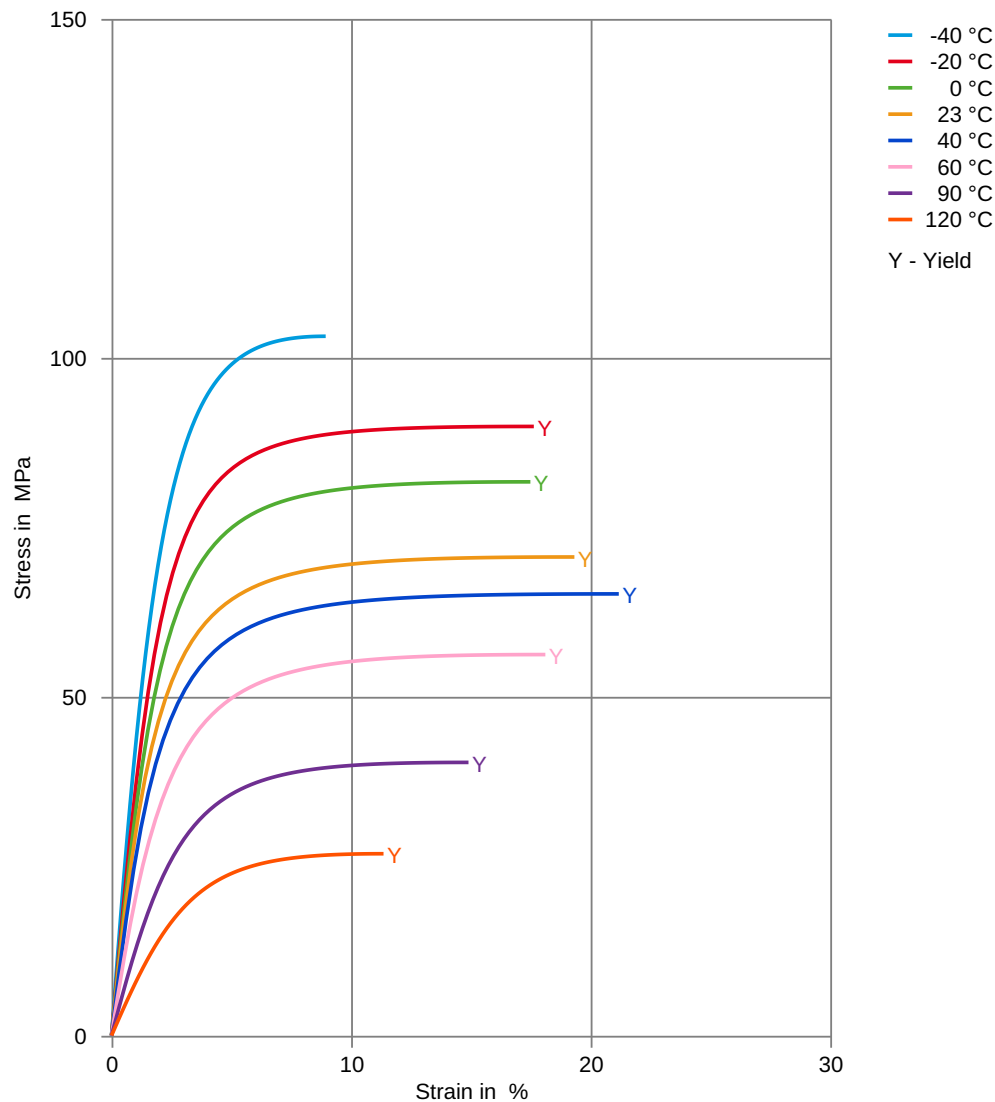
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## Characteristics

Additives

Release agent

## Stress-strain





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## Secant modulus-strain

