Delrin® 300CPE vs. Toughened Copolymers

Combining the industry standard properties of a Delrin® 300CP with state-of-the-art low emission technology

General information

Delrin® 300CPE is a medium-high viscosity low emission grade acetal resin family and part of the low-emission CPE group.

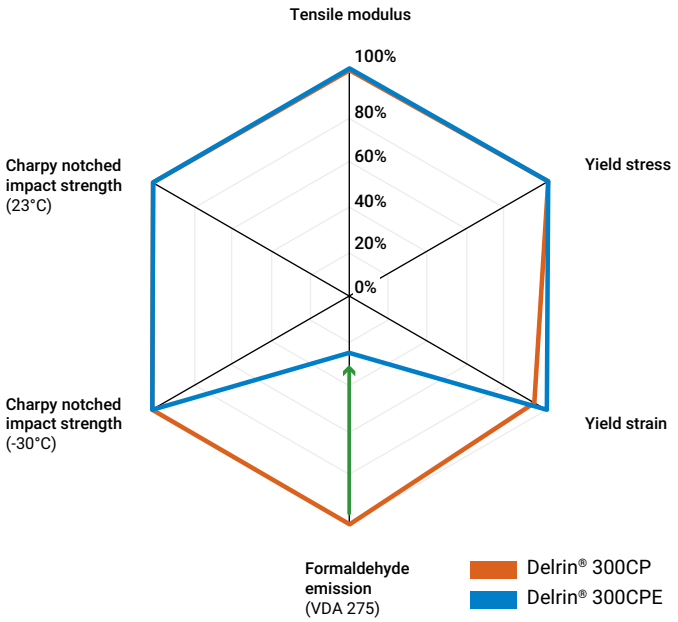
Excellent balance of properties

- Tensile modulus (stiff without the use of fibers)
- Yield Strength
- Impact Strength (including low temperatures)
- Creep resistance
- Fatigue resistance

Without compromising performance, the emissions of Delrin® 300CPE are below 2 ppm in VDA 275.

Customer benefits

- More design flexibility and freedom
- More freedom for number and location of gates in tooling
- Better under continuous load
- Consistent performance over wide temperature range
- Lower part cost
- No need for additional processing equipment (dryer)
- Design, technical, and processing support to ensure production of a high quality part that delivers on its promise



Properties overview

Properties	Unit	Test method	Delrin® 300CP NC010 (reference)	Delrin® 300CPE NC010 (low-VOC)
Melt mass-flow rate (MFR 190°C, 2.16kg)	g/10min	ISO 1133	7	7
Mold shrinkage (parallel/normal)	%	ISO 294-4	2.1 / 1.8	2.1 / 1.8
Density	g/cm³	ISO 1183	1.42	1.42
Melting temperature, 10°C/min	°C	ISO 11357-1/-3	178	178
Charpy notched at 23°C	kJ/m²	ISO 179/1eA	10.5	10.5
Charpy notched at -30°C	kJ/m²	ISO 179/1eA	10	10
Yield stress	MPa	ISO 527-1/-2	71	71
Yield strain	%	ISO 527-1/-2	23	25
Nominal strain at break	%	ISO 527-1/-2	40	40
Tensile modulus	MPa	ISO 527-1/-2	3100	3100

Delrin® 300CPE outperforms toughened copolymers

Delrin® 300CPE delivers superior performance compared to competitive toughened copolymers.

Performance advantages

- >25% higher tensile properties
- Significantly better flow, which permits:
  - better fill of thinner-wall cavities
  - more effective design of thin-wall parts
- Better impact performance at low temperature
- Much better creep resistance
- Better weld line strength
- Better permeation resistance
- Retention of all other typical characteristics of Delrin®:
  - low wear and friction
  - chemical and solvent resistance
  - surface hardness

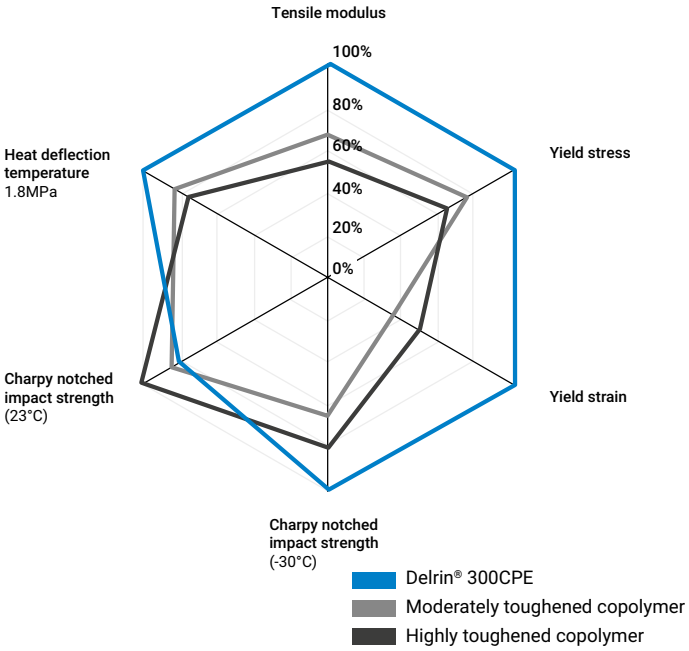
Plus, Delrin® 300CPE offers low VOC emissions (below 2 ppm in VDA 275).

Potential applications

Delrin® 300CPE is suitable for a wide range of applications including but not limited to:

- **Automotive components:** fasteners, seatbelt components, levers, brackets, switches and gears
- **Sporting goods:** buckles, latches and e-bike parts
- **Window hardware**: clips and housings
- **Irrigation components:** automatic sprinklers and commercial irrigation systems

Properties



For complete data visit Delrin® Material Data Center at https://delrin.materialdatacenter.com

To learn more, contact your Delrin representative or visit Delrin.com.

The information and recommendations contained herein are offered as a service to our customers but are not intended to relieve the user from its responsibility to investigate and understand other pertinent sources of information and to comply with all laws and procedures applicable to the safe handling and use of these materials. The information and recommendations provided herein were believed by Delrin to be accurate at the time of preparation or obtained from sources believed to be generally reliable. However, Delrin makes no warranty concerning their accuracy and Delrin will not be liable for claims resulting from any party's use of or reliance on information or recommendations contained herein regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or otherwise misleading. **Caution:** For medical applications, discuss with a Delrin customer representative and consult the Delrin® Medical Caution Statement.

Delrin is an industry-leading premium industrial polymer business. Grounded in strong innovation, Delrin is a category creator with a longstanding reputation for quality, reliability, supply and product performance. The iconic Delrin brand, coupled with proprietary technology and deep application expertise make us a leader in the high-end engineering polymer market. Delrin has exciting growth prospects from exposure to automation, actuation, healthcare, mobility and consumer applications.

Copyright 2024 Delrin

Form no. HMC0624