

# Delrin® 500CPE

Combining the industry standard properties of Delrin® 500P with state-of-the-art low-emission technology

## General information

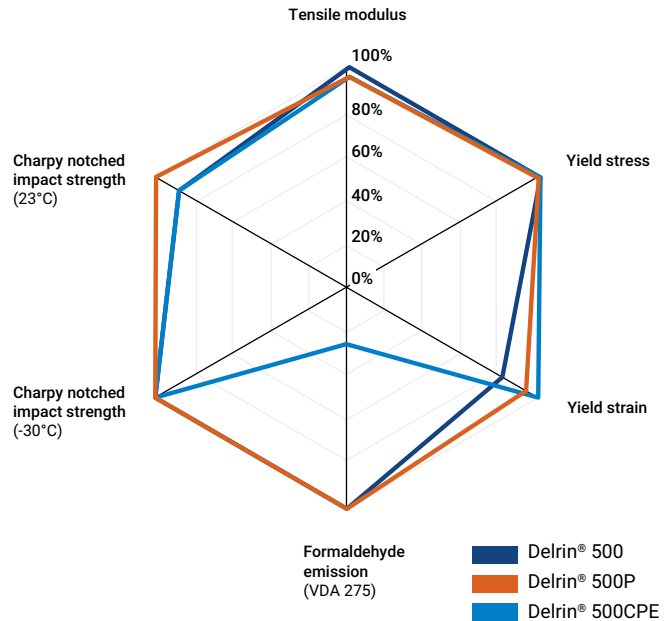
Delrin® 500CPE is a medium-viscosity low-emission grade from the Delrin acetal resin family. Without compromising performance, its emissions are below 2 ppm in VDA 275.

## Excellent balance of properties

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

## Customer benefits

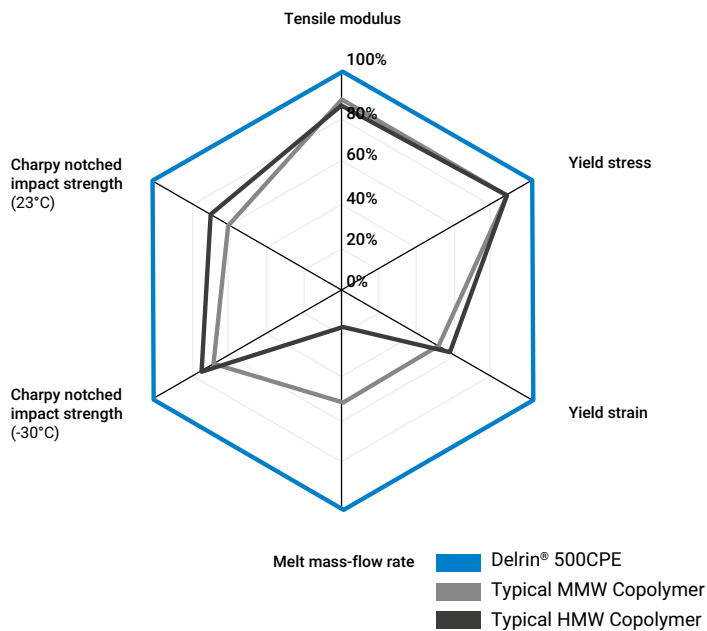
- More design flexibility and freedom
- Consistent performance over wide temperature range
- Lower part cost
- No need for additional processing equipment (dryer)



## Properties overview

Properties	Unit	Test method	Delrin® 500 NC010 (reference)	Delrin® 500P NC010 (reference)	Delrin® 500CPE NC010 (low-VOC)
Melt mass-flow rate (MFR 190°C, 2.16kg)	g/10min	ISO 1133	14	15	15
Mold shrinkage (parallel/normal)	%	ISO 294-4	2.1/2.0	2.0/1.9	2.0/1.9
Density	g/cm <sup>3</sup>	ISO 1183	1.42	1.42	1.42
Melting temperature, 10°C/min	°C	ISO 11357-1/-3	178	178	178
Charpy notched at 23°C	kJ/m <sup>2</sup>	ISO 179/1eA	9	9	10
Charpy notched at -30°C	kJ/m <sup>2</sup>	ISO 179/1eA	8	8	8
Yield stress	MPa	ISO 527-1/-2	72	71	72
Yield strain	%	ISO 527-1/-2	15	17	18
Nominal strain at break	%	ISO 527-1/-2	30	30	27
Tensile modulus	MPa	ISO 527-1/-2	3200	3100	3100

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



## Delrin® 500CPE outperforms medium and high molecular weight acetal copolymers

Delrin® 500CPE delivers superior performance compared to competitive medium molecular weight (MMW) copolymers, as well as competitive high molecular weight (HMW) copolymers.

### Performance advantages

- >10% higher tensile properties
- Impact resistance (>25% higher vs. MMW) over a large temperature range
- Significantly better flow, which permits:
  - better fill of thinner-wall cavities
  - more effective design of thin-wall parts
- Superior fatigue resistance
- Higher HDT (heat deflection temperature)
- Retention of all the other typical properties of Delrin:
  - low wear and friction
  - resiliency
  - chemical and solvent resistance
  - low-temperature toughness

Plus, Delrin® 500CPE offers low VOC emissions (below 2 ppm in VDA 275).

To learn more, contact your Delrin representative or visit [Delrin.com](http://Delrin.com).



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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.

## Customer benefits

- Greater design flexibility to use lower wall thicknesses through easier tool filling compared to high viscosity and medium viscosity grades
- Ability to make durable parts at possibly higher production rates (faster molding cycle time)
- Greater safety factor in impact resistance especially at low temperature
- Higher part performance and reliability
- Consistent part performance over wide operating temperature range

When all these benefits are considered, designing with Delrin® 500CPE will lead to lower cost per part.

Additionally, the Delrin technical team provides design, technical and processing support to ensure production of high-quality, high-performance parts.

## Potential applications

Delrin® 500CPE 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 surface parts
- **Window hardware:** clips and housings
- **Irrigation components:** automatic sprinklers and commercial irrigation systems