Product Data Sheet

DuPont™ Delrin® 500CPE

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

General Information

DuPont™ Delrin® 500CPE is a new medium-viscosity low-emission grade from the DuPont™ Delrin® acetal resin family, part of the low-emission CPE group.

Excellent Balance of Properties

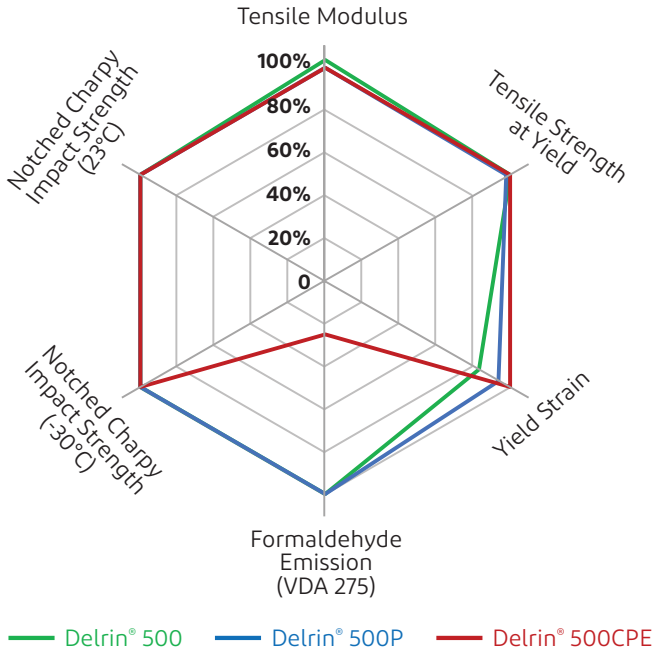
- Tensile modulus (stiff without the use of fibers)
- Yield Strength
- Impact Strength (including low temperatures)
- Creep resistance
- Fatigue resistance

Without compromising performance, the new DuPont™ Delrin® 500CPE adds:

- **Low emission (below 2 ppm in VDA 275)**

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	500 NC010 (reference)	500P NC010 (reference)	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/cm³	ISO 1183	1.42	1.42	1.42
Melting temperature, 10°C/min	°C	ISO 11357-1/-3	178	178	178
Notched Charpy at 23°C	kJ/m²	ISO 179/1eA	9	9	9
Notched Charpy at -30°C	kJ/m²	ISO 179/1eA	8	8	8
Tensile strength at yield	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

DuPont™ Delrin® 500CPE

Outperforms Medium and High Molecular Weight Acetal Copolymers

DuPont™ 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 and more

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

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 taken into account, designing with Delrin® 500CPE will lead to lower cost per part.

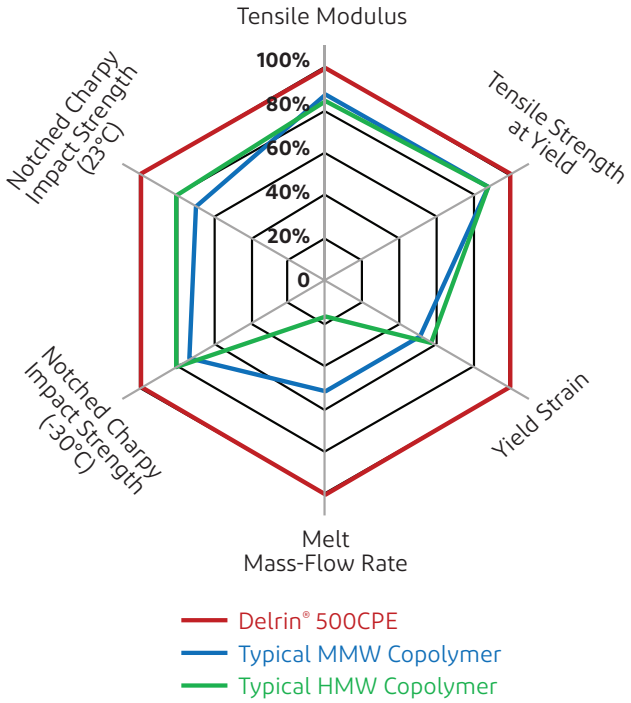
DuPont™ Delrin® design, technical, and processing support to ensure production of a high quality part that delivers on its promise.

Potential applications

A wide range of potential applications including:

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

Properties



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