

Polyoxymethylen (POM)

General

POM is a semi-crystalline thermoplastic. It is one of the typical technical thermoplastics with good mechanical properties and high dimensional stability as well as excellent sliding and wear behavior. POM filament is therefore one of the preferred construction materials, e.g. B. for snap connections and gears.

The application limits are from around -40 to 100 °C continuous temperature, short-term up to 120 °C. The thermal expansion of POM is in the medium range. POM has good electrical insulation properties.

Due to its high crystallinity, POM filament has good resistance to numerous chemicals. They are resistant to diluted acids (pH > 4) as well as diluted alkalis, aliphatic, aromatic and halogenated hydrocarbons, oils and alcohols. They are not resistant to concentrated acids and hydrofluoric acid as well as oxidizing agents. POM has low moisture absorption and high gas density. The weather resistance is not good.

advantage

- Excellent sliding and abrasion behavior
- High toughness down to -40°C
- High resilience
- optimal for snap connections
- relatively high temperature resistance

disadvantage

- poor weather resistance
- relatively high shrinkage
- narrow temperature range for processing
- If the processing temperature is too high, formaldehyde is released

Processing data

Printing temperature

190-210 °C

Heated bed temperature

120-150°C

Drying temperature

80°C

Drying time

2-4h

Technical specifications

Shrinkage (ISO 294-4)	0.95	%
MFR (ISO 1133)	2	g/10min
Yield stress (ISO 527-1/-2)	43	MPa
Elongation at yield (ISO 527-1/-2)	30	%
Elongation at break (ISO 527-1/-2)	50	%
Tensile modulus (ISO 178)	1050	MPa
Heat deflection temperature 0.45 MPa (ISO 75-1/-2)	100	°C
Vicat softening temperature A (ISO 306)	116	°C
Thermal conductivity 23°C	-	W/(K*m)
Flammability (UL 94)	HB	
Density (ISO 1183)	1.34	g/cm ³