



Glass and Polymer
Technologies

Materials

Polyolefins

PP/PE:

- excellent chemical properties
- very good sliding properties (UHMW-PE)
- limited temperature range
- moderate mechanical properties
- UHMW-PE is not extrudable
- cost-efficient
- long-chipped (brows)
- density smaller than 1 g/cm^3

UHMW-PE:

- chemical resistance and sliding behaviour



PPH-HS:

- excellent chemical stability, low weight, suited for steam sterilisation
- available in white and black, filled version in black
- can be laser marked



PVC

- good chemical properties
- good electrical properties
- limited temperature range
- moderate mechanical properties
- good dimensional stability (amorphous KS)
- cost-efficient

PA 6 / 6.6 / 4.6 / 12

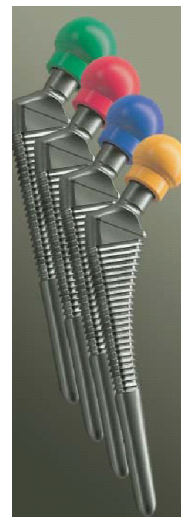
- versatile construction material
- very sturdy and tough
- absorbs moisture
- good price-performance ratio
- PA 6 and 12 casting (high crystallinity)

POM

- low friction coefficient
- high dimensional stability
- very tough
- good price-performance ratio
- biocompatible
- POM-C (better chemical properties)
- POM-H (better mechanical properties)

⇒ *Although POM (Celcon) is often used in medical technology as handle material and for various technical parts, it is unsuitable for frequent steam sterilisation due to insufficient hydrolytic stability.*

⇒ *Various colours available (yellow, red, blue, green, grey).*



GLASS
POLYMER



Glass and Polymer
Technologies

PETP

- transparent
- versatile construction material
- high dimensional stability
- good sliding properties
- good price-performance ratio
- rather brittle

PC

- high dimensional stability
- high impact resistance
- large temperature range
- susceptible to environmental stress cracking
- transparent
- susceptible to hydrolysis

PMMA GS

- high dimensional stability
- inexpensive
- low tension because cast
- high scratch resistance
- susceptible to environmental stress cracking
- excellent transparency

GLASS
POLYMER

PSU / (PES) / PEI / PPSU

- sulphur polymers
- high dimensional stability
- high heat deflection temperature
- good electrical properties
- relative expensive
- susceptible to environmental stress cracking
- transparent (amber)
- biocompatible

For parts that are steam sterilised only a few times, PSU or PEI can be used. We do not recommend PES because of its poorer resistance to hydrolysis.

For parts that are repeatedly steam sterilised, we recommend using PPSU, whereby continuous stress is to be avoided.

⇒ *All amorphous polymers are subject to environmental stress cracking!*

PTFE / PVDF

- fluor polymers
- excellent chemical properties
- excellent dielectrical properties (high-frequency technologies)
- very good sliding properties
- very high temperature range
- moderate mechanical properties
- PTFE is not extrudable
- available as ram-extruded or sintered version
- biocompatible

PEEK

- excellent properties
- very expensive
- special PEEK-Optima version for implantations



The egg-laying woolly milking pig