

Cyclo-Olefin-Copolymer flexibel (**COC flex**)

General

COC flex is an innovative, transparent thermoplastic elastomer based on cyclic olefin copolymers (COC). It combines the benefits of classic elastomers with the purity and barrier performance of COC polymers and is ideal for applications that require high flexibility, optical clarity and reliable functionality.

Due to the exceptionally low glass transition temperature below -90°C , COC flex offers remarkable flexibility even at low temperatures. This property makes the material particularly suitable for applications where elasticity and formal stability are required under changing climatic conditions. At the same time, the transparency of the material is maintained – a crucial advantage for medical, diagnostic or optical products. With a shore hardness of 89A, it is universally useable.

Advantageous

- outstanding transparency
- high barrier against moisture
- good chemical resistance

Disadvantageous

- more difficult to print than TPU

Processing data

Printing temperature

240-280°C

Heated bed temperature

50-70°C

Chamber temperature

60-80 °C

Drying temperature

Nicht notwendig

Drying time

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Technical data

Shrinkage	0.5-0.7 %
MFR (ISO 1183)	12 g/10min
Yield stress (ISO 527-2/1A)	40 MPa
Yield strain (ISO 527-2/1A)	150 %
Elongation at break (ISO 527-2/1A)	500 %
Tensile modulus (ISO 527-2/1A)	50 MPa
Heat deflection temperature 0.45 MPa (ISO 75-1, -2)	60 °C
Vicat Softening temperature B50 (ISO 306)	64 °C
Thermal conductivity 23°C	0.15 W/(K*m)
Flammability (UL 94)	HB
Density (ISO 1183)	0.94 g/cm ³