



# PEEK

## Works with

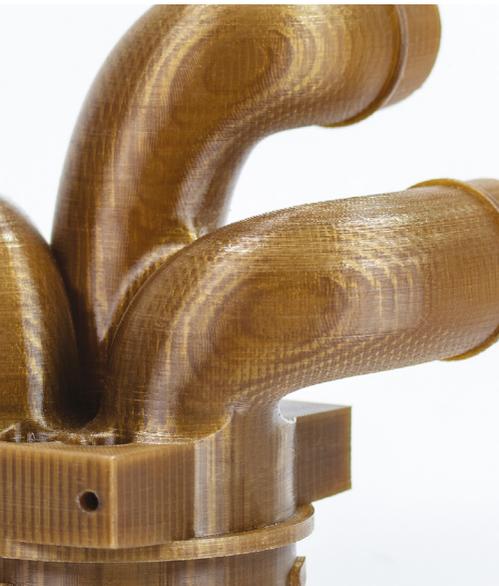
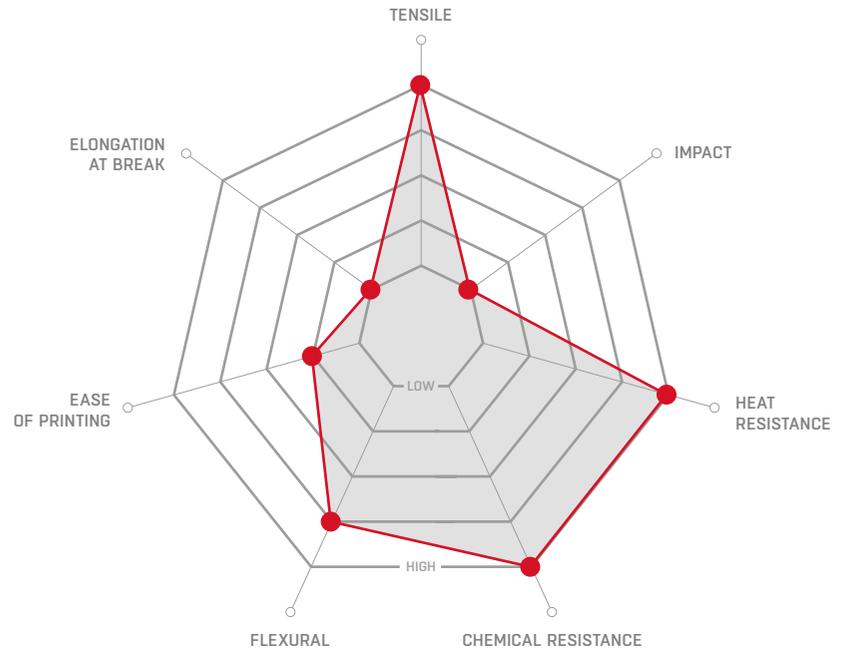
- ✓ INDUSTRY F340
- ✓ INDUSTRY F420
- ✓ INDUSTRY F350
- ✓ INDUSTRY F421

## Support materials:

soluble, breakaway

## Perfect for:

- ✓ Medical applications
- ✓ Machine and device parts
- ✓ High temperatures applications up to 230°C
- ✓ Slipping and sliding applications



MECHANICAL	CONDITIONS	TEST METHOD	TYPICAL VALUE
Tensile Strength	Yield, 23 °C	ISO 527	105 MPa
Tensile Elongation	Break, 23 °C	ISO 527	30%
Tensile Modulus	23 °C	ISO 527	4.1 GPa
Flexural Strength	At 3,5% strain, 23 °	ISO 178	130 MPa
Flexural Modulus	23 °C	ISO 178	3.9 GPa
Charpy Impact Strength	Notched, 23 °C	ISO 179/1eA	4.2 kJ m-2
Izod Impact Strength	Notched, 23 °C	ISO 180/A	5.0 kJ m-2
THERMAL DATA			TYPICAL VALUE
Melting Point		ISO 11357	343 °C
Glass Transition	Onset	ISO 11357	143 °C
Thermal Conductivity	Along flow, 23°	ISO 22007-4	0.32 W m-1 K-1

PEEK is a high-performance polymer of a PAEK family that offers a unique combination of properties. 3D printed PEEK models combine resistance to various chemicals, wear, and fatigue resistance, exceptionally high-temperature resistance as well as very good mechanical properties. PEEK mechanical properties are one of the highest of all known thermoplastic materials. PEKK and PEEK are extremely resistant to external conditions.

PEEK is flame resistant (Class V-0 according to UL 94) with low smoke and toxicity. It provides high resistance for a wide range of chemicals, also in increased service temperatures.

PEEK can also be used as an effective electric insulator in a wide range of frequencies with outstanding thermal and environmental resistance.

Usually, the desirable state of PEEK is the semi-crystalline, which can be achieved after the annealing process of the printed model. In order to reach high dimensional accuracy of the models and the quality of the expected prints, PEEK needs high extrusion temperature, heated bed, and the actively heated print chamber.

3DGence is the first company to implement the ESM-10, soluble support material to be printed with PEEK. Using the soluble material makes the postprocessing very easy and makes the PEEK printing process highly cost-effective. The printing profile is available in 3DGence SLICER 4.0.