Çorum Bronz

TECHNICAL DATA SHEET

# Technical Data Sheet

# PEEK

Polyetheretherketone | High Performance Thermoplastic

✓ FDA Approved | V0 Fireproof | -40/+250°C

Material Type

**PEEK Semi-Crystalline**

Form: Flat / Plate / Rod

Combustion: **V0 (UL 94)**

## MATERIAL DESCRIPTION

PEEK (Polyetheretherketone) is a high-performance thermoplastic that can operate continuously up to +250°C and is at the top of engineering plastics with its E modulus of 4000-4400 MPa and yield stress of 100-110 MPa. Combining chemical resistance, dimensional stability, biocompatibility and mechanical strength in a single material, PEEK is the preferred premium solution for the harshest conditions of the aerospace, medical implant, semiconductor and oil & gas industries.

## MECHANICAL AND PHYSICAL PROPERTIES (ISO/ASTM)

| Feature | Unit | Value | Feature | Unit | Value |
|---|---|---|---|---|---|
| **Intensity** | g/cm³ | 1.32 | Shore D Hardness | — | **85** |
| **Yield Stress** | MPa | 100 – 110 | Friction Coefficient | — | **0.30 – 0.40** |
| **Yield Elongation** | % | 5 | Melting Temperature | °C | **~ 340** |
| **Elongation at Break** | % | 20 – 40 | Continuous Use Temp. | °C | **~ 240** |
| **Elasticity Modulus** | MPa | 4000 – 4400 | Work. Gene. Coefficient | $10^{-4}$ $K^{-1}$ | **0.5** |
| **Impact Resistance** | kJ/m² | Unbreakable (4-8) | Dielek. Strength | kV/mm | **~ 20** |
| **Water Absorption (24h)** | % | 0.1 | Surface Resistance | Ohm | **$10^{16}$** |
| **Service Temperature** | °C | -40 / +250 | Combustion Class | UL 94 | **V0** |

## AREAS OF APPLICATION

- High Temperature Gaskets and Bearings
- Aircraft Structural Parts
- Surgical Instruments and Implants
- Semiconductor Equipment
- Oil & Gas Components
- Automotive Engine Parts

## CHEMICAL RESISTANCE AND GENERAL PROPERTIES

It exhibits outstanding chemical resistance to acids, bases, solvents and hydrocarbon derivatives; It maintains its chemical stability even at high temperatures. Water absorption is extremely low (0.1%); Provides excellent dimensional stability under high humidity and pressure. Being in the V0 fireproof class, it offers a critical safety advantage in applications that pose a fire risk. Biocompatible grades can be used safely in medical implant and sterilization applications. It is an indispensable premium engineering material preferred in the most demanding applications of the aerospace, medical, oil & gas and semiconductor industries.

The technical information specified in this document reflects the reference values of international ISO/ASTM standards. Chemical resistance may vary depending on concentration, temperature and exposure time.

**CORUM BRONZE**

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