

Datenblatt | Data sheet

Plastic ball PEEK

High performance semi-crystalline thermoplastic balls, they provide high mechanical properties, dimensional stability and excellent wear and abrasion, corrosion, high temperature and gamma radiation resistance. The high temperature resistance decreases considerably in case the material is charged by heavy loads. Unstable to UV radiation.

Field of application

Special bearings, pumps and valves, components for chemical, electronic and mechanical industry when high mechanical characteristics and corrosion resistance properties are demanded.

Corrosion resistance

PEEK balls are resisting in contact with most solvents (organic compounds, salts, oils), hot waters and high temperature steams. They are not resisting against strong acids (concentrated nitric acids, sulphuric acids), halogens and some aromatic hydrocarbons.

Material

Technical name	Alternative Name	Abbreviation
Polyetheretherketone	PEEK	PEEK

Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	δ	g/cm ³	Physical	Ambient temperature	1,29
Modulus of Elasticity	E	MPa	Mechanical		3750
Friction coefficient	μ	-	Mechanical	Ambient temperature	0,29
Specific heat	C	J/kg*K	Thermal	Ambient temperature	0,48
Coefficient of linear thermal expansion	α	10 ⁻⁶ /°C	Thermal	($\Delta T = 0 - 100$ °C)	55
Thermal conductivity	λ	W/(m*K)	Thermal	Ambient temperature	0,28
Volume resistivity	ρ	Ω *m	Electrical	-	> 10 ¹³
Relative magnetic permeability	μ	-	Magnetical	Diamagnetic	<~1

Technical characteristics

Characteristic	Type	Unit	Value	Unit	Value
Hardness	Mechanical	Shore D	82 - 88	-	-
Yield point load in compression	Mechanical	MPa	120 - 250	psi*10 ³	17 - 36
Operating temperature	Thermal	°C	-50 - 250	°F	-58 - 482

Available with

Diameter min/max (mm)	Diameter min/max (in)	Precision grade
1,500 - 100,000	1/16 - 4	0 / I / II / III / IV