

# Datenblatt | Data sheet

## Plastic ball PTFE

Low weight fluorinated semicrystalline polymer provide exceptional corrosion resistance and are used into high temperature applications. Mechanical and wear resistance properties are lower than other plastic materials. Good electric insulators, they are auto lubricant. Teflon® properties change if they are exposed to electromagnetic radiations.

### Field of application

Ball bearings, special valves (very aggressive environments), measurement and medical instruments, appliances. They are used into foodstuff, paper, chemical, electronic, pharmaceutical industry.

### Corrosion resistance

Teflon® balls provide exceptional corrosion resistance properties, they are resisting even in contact with industrial acids or caustic substances. They suffer corrosive phenomena only against molten alkaline metals and fluorides at elevated temperatures.

### Material

Technical name	Alternative Name	Abbreviation
Polytetrafluoroethylene	Teflon®	PTFE

### Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	$\delta$	g/cm <sup>3</sup>	Physical	Ambient temperature	2,16
Modulus of Elasticity	E	MPa	Mechanical		670
Friction coefficient	$\mu$	-	Mechanical	Ambient temperature	0,12
Specific heat	C	J/kg*K	Thermal	Ambient temperature	0,02
Coefficient of linear thermal expansion	$\alpha$	10 <sup>-6</sup> /°C	Thermal	( $\Delta T = 0 - 100$ °C)	145
Thermal conductivity	$\lambda$	W/(m*K)	Thermal	Ambient temperature	0,23
Volume resistivity	$\rho$	$\Omega$ *m	Electrical	-	> 10 <sup>16</sup>
Relative magnetic permeability	$\mu$	-	Magnetical	Diamagnetic	<~1

### Technical characteristics

Characteristic	Type	Unit	Value	Unit	Value
Hardness	Mechanical	Shore D	50 - 65	-	-
Yield point load in compression	Mechanical	MPa	7 - 30	psi*10 <sup>3</sup>	1 - 4
Operating temperature	Thermal	°C	-269 - 250	° F	-452 - 482

### Available with

Diameter min/max (mm)	Diameter min/max (in)	Precision grade
1,500 - 160,000	1/16 - 6 5/16	0 / I / II / III / IV