

Data Sheet: UHMW PE

(Ultra high molecular weight polyethylene)

Details

This plastic is extremely tough and has high resistance to abrasion and wear. It is corrosion resistant and self-lubricating. It has excellent mechanical properties even in sub-zero conditions. It is used in conveyor guides, wear pads, chemical tanks etc. it is available in either sheet or rod form and has easy machinability.

Key Features

Self-lubricating • Resistant to abrasion • Corrosion resistant

Thermal Properties

Property	Value
Heat deflection [°C]	69
Glass transition temperature [°C]	-150
Vicat softening temperature [°C]	128
Coefficient of thermal expansion [K ⁻¹ · 10 ⁻⁶]	130
Thermal conductivity [W/m · K]	0.41
Specific heat capacity [J/kg · K]	1840
Melting point [°C]	135

Mechanical Properties

Property	Value
Tensile strength [MPa]	17
Modulus of elasticity [GPa]	0.7
Flexural strength [MPa]	26

Flexural modulus [GPa]	0.8
Hardness	64
Elongation at break [%]	11

Physical Properties

Property	Value
Density [g/cm ³]	0.93
Water Absorption [%]	0.005
Electrical Resistivity [ohm-cm]	16×10^{15}

Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://www.materialdatacenter.com) for further information on this material.