

HMWPE PE500 (High Molecular Weight Polyethylene)

Polyethylene Sheets & Rods — Technical Datasheet

DIODE TRADING EST
Dammam, Saudi Arabia

PE500 has a higher molecular weight than standard HDPE, giving better wear resistance, toughness and impact strength while remaining easy to machine. It is a popular choice for food-industry parts, chopping boards and moderate-wear components.

Specification

Material	HMWPE, molecular weight approx. 0.5 million g/mol (PE500)
Standard Colours	Natural (white), black; green, blue, red, yellow on request
Forms	Sheets, round rods; cut-to-size blanks and machined parts
Sheet Thickness	Approx. 5 mm to 100 mm
Rod Diameter	Approx. 20 mm to 300 mm
Standard Sheet Size	1000 x 2000 mm, 1220 x 2440 mm, 1500 x 3000 mm, or cut to size

Material Properties (typical values)

Property	Typical Value
Density	0.95 - 0.96 g/cm ³
Tensile strength at yield	25 - 28 MPa
Elongation at break	> 300%
Tensile modulus	1,000 - 1,300 MPa
Hardness	Shore D 63 - 65
Melting point	approx. 135°C
Service temperature	-80°C to +80°C
Water absorption	< 0.01%
Coefficient of friction	0.20 - 0.30 (dry on steel)
Dielectric strength	approx. 45 kV/mm
Food contact	FDA / EU-compliant grades available

Typical Applications

Chopping and cutting boards, food-processing parts, star wheels and guides, wear strips for light duty, scraper blades, dock and marine parts.

Selection Note

PE500 sits between HDPE PE300 and UHMWPE PE1000 in wear resistance and cost.

How to Order

Send the material, grade, colour, form, dimensions (thickness / diameter, width, length) and quantity, or a drawing for machined parts, to Diode Trading EST at www.diode.sa or +966 51 083 8213. Material test certificates are available on request.

Notice: Values are typical and indicative, based on common industry grades. Exact grade, size, tolerance and performance are confirmed on quotation and against the supplier or manufacturer data and material test certificate for each batch. This sheet is not a warranty. Contact Diode Trading EST to confirm availability and specification for your application.