



TECHNICAL DATA SHEET (TDS)

High Density Polyethylene (HDPE)

Product Description

High Density Polyethylene (HDPE) is a versatile thermoplastic polymer known for its high strength-to-density ratio, excellent chemical resistance, durability, and ease of processing. It is suitable for a wide range of industrial and commercial applications.

Typical Properties

Property	Typical Value	Test Method
Polymer Type	High Density Polyethylene (HDPE)	—
Appearance	Natural or colored pellets	Visual
Density	0.940–0.970 g/cm ³	ASTM D1505
Melt Flow Index (MFI)*	Grade dependent	ASTM D1238
Tensile Strength at Yield	20–35 MPa	ASTM D638
Elongation at Break	>500% (grade dependent)	ASTM D638
Flexural Modulus	700–1,500 MPa	ASTM D790
Hardness	Shore D 60–70	ASTM D2240
Melting Point	125–135°C	ASTM D3418
Vicat Softening Temperature	120–130°C	ASTM D1525
Water Absorption	<0.01%	ASTM D570

*Actual Melt Flow Index depends on the selected grade.

Key Features

- High impact strength
- Excellent chemical resistance
- Excellent moisture resistance
- Good electrical insulation properties
- High stiffness and toughness
- Easy processing by extrusion, injection, and blow moulding
- Good weather resistance (UV-stabilized grades available)
- Recyclable



Applications

- Pressure and irrigation pipes
- Blow-moulded bottles and containers
- Injection moulded industrial parts
- Plastic caps and closures
- Packaging films
- Household products
- Cable insulation
- Sheets and geomembranes
- Industrial containers and tanks

Processing Methods

- Injection Moulding
- Blow Moulding
- Film Extrusion
- Pipe Extrusion
- Sheet Extrusion
- Rotational Moulding (selected grades)

Storage

- Store in a cool, dry, well-ventilated area.
- Protect from direct sunlight and moisture.
- Keep bags tightly closed until use.
- Recommended storage temperature: below 40°C.

Packaging

Available in **25 kg bags**, jumbo bags (FIBC), or bulk packaging, depending on customer requirements.



Shelf Life

Under recommended storage conditions, HDPE has an **unlimited shelf life**. However, clean, dry storage is recommended to maintain optimum processing performance.

Safety Information

Refer to the latest Material Safety Data Sheet (MSDS/SDS) before handling the product.

Disclaimer

The information provided in this Technical Data Sheet represents typical values and is intended for general guidance only. Actual product properties may vary depending on the specific HDPE grade and manufacturing process. Users should evaluate the material for suitability in their intended application before commercial use.