



HDPE-300

High Density Polyethylene

✓ FDA Approved — Suitable for Food Contact

Material Type

PE-HD (Polyethylene)

Form: Flat / Plate / Rod

Combustion Class: **HB (UL 94)**

MATERIAL DESCRIPTION

HDPE-300 is an engineering plastic produced from high density polyethylene, distinguished by its low coefficient of friction, superior impact resistance and excellent chemical resistance. This material, which has almost zero water absorption, shows unbreakable impact performance down to -50°C. Its high resistance to acid and alkaline solutions, food compatibility (FDA) and easy processability make it indispensable in the chemical, water treatment and shipbuilding sectors.

MECHANICAL AND PHYSICAL PROPERTIES (ISO/ASTM)

Feature	Unit	Value	Feature	Unit	Value
Intensity	g/cm ³	0.95 – 0.96	Shore D Hardness	—	60 – 66
Yield Stress	MPa	20 – 30	Friction Coefficient	—	0.20 – 0.25
Yield Elongation	%	9	Melting Temperature	°C	130 – 135
Breaking Stress	MPa	30 – 40	Softening Temperature	°C	70 – 80
Elongation at Break	%	300	Work. Gene. Coefficient	10 ⁻⁴ K ⁻¹	1.5 – 2.0
Elasticity Modulus	MPa	800 – 1200	Dielek. Strength	kV/mm	45 – 55
Impact Resistance	kJ/m ²	Unbreakable	Surface Resistance	Ohm	10¹⁴
Water Absorption (24h)	%	< 0.01	Service Temperature	°C	-50 / +80

AREAS OF APPLICATION

Tank and Water Plumbing

Boat / Marine

Chemistry Equipment

Conveyor Parts

Water Purification Systems

Plain Bearings

Food Line Components (FDA)

CHEMICAL RESISTANCE AND GENERAL PROPERTIES

It has high resistance to acids, bases, salt solutions and organic solvents. Water, moisture and vapor permeability is extremely low; Water absorption rate is below 0.01%. HDPE-300, which is a good electrical insulator, can be easily processed by all machining methods such as cutting, milling, turning and drilling. Its weldability is very good; Carbon black added types increase UV resistance. It is safely preferred in the chemistry, boatbuilding, water treatment, food, energy, maritime and defense industries.

The technical information specified in this document reflects the reference values of international ISO/ASTM standards. Chemical resistance may vary depending on concentration, temperature and exposure time.

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