Polyethylene (HDPE / LDPE)

Polyethylene Film & Sheet

Polyethylene delivers chemical resistance, low moisture absorption, and excellent fabrication economics. K&R stocks both HDPE and LDPE for industrial fabrication, signage, and packaging — with corona treatment available where printability is required.

Applications

- Chemical tank liners and secondary containment
- Cutting boards and food-contact surfaces (FDA-compliant grades)
- Marine fabrication and dock components
- Outdoor signage requiring weatherability
- Industrial dunnage and material-handling parts
- Packaging films and shrink wrap (LDPE)
- Machined parts: gears, wear strips, rollers (HDPE)

Features & Benefits

Excellent chemical resistance across acids, bases, and most solvents.

Low moisture absorption — dimensionally stable in wet environments.

Easy to fabricate: machines, welds, drills, and routes cleanly.

FDA-compliant grades available for direct food contact.

Corona-treated grades available for printing and lamination.

Wide service-temperature range; HDPE rated to ~180°F continuous.

100 % recyclable; widely accepted in commercial recycling streams.

Print & Process Compatibility

Toner — · HP Indigo — · UV Inkjet ✓ (treated) · Solvent Inkjet ✓ (treated) · Screen ✓ (treated) · Offset —

AVAILABLE SURFACES, FINISHES & GAUGES

Surface / Finish	Description	Stock Gauges
HDPE Natural / Black	High-density polyethylene for industrial fabrication, marine, and food-contact applications.	1/16" – 1"
LDPE Film	Low-density polyethylene film for packaging and protective applications.	Roll stock
Corona-Treated HDPE	Surface-treated for ink and adhesive adhesion.	Specify on order
Color HDPE	Solid color stock and PMS-matched custom colors available.	Custom

TYPICAL PROPERTIES

Property	Typical Value	Test Method
Physical (HDPE)		
Specific Gravity	0.94 – 0.96	ASTM D 792
Water Absorption (24 hr)	<0.01 %	ASTM D 570
Hardness, Shore D	65 – 70	ASTM D 2240
Mechanical (HDPE)		

Property	Typical Value	Test Method
Tensile Strength at Yield	3,500 – 4,500 psi	ASTM D 638
Tensile Elongation at Break	>600 %	ASTM D 638
Flexural Modulus	180,000 – 220,000 psi	ASTM D 790
Izod Impact (notched)	1.0 – 4.0 ft-lb/in	ASTM D 256
Thermal (HDPE)		
Continuous Service Temperature	Up to 180°F (82°C)	—
Vicat Softening Temperature	255°F (124°C)	ASTM D 1525
Heat Deflection Temp. (66 psi)	165°F (74°C)	ASTM D 648
Coefficient of Thermal Expansion	1.0×10^{-4} in/in·°F	ASTM D 696
Print Compatibility		
Surface Treatment Required	Corona or flame treatment for ink adhesion	—
Recommended Ink Systems	UV inkjet (treated), screen (treated)	—

Properties reported here are typical of average lots. K&R Plastics, Inc. and its manufacturers make no representation or warranty that the material in any particular shipment will conform exactly to the values given. Unless otherwise noted, all tests run at 23°C (73°F) and 50% relative humidity. Job-specific qualification recommended for production runs — request a sample.