

# Productivity

## HDPE/LDPE: Mechanical Plastic Materials with Excellent Corrosion Resistance

**Issue:** When stamping parts, die blades dull quickly as a result of continually hitting a hard surface. Wood and metal surfaces rot or corrode over time, especially with multiple cleanings.

**Application:** HDPE and LDPE are commonly used to make die-pads (to cover surfaces) that prevent blades from dulling and withstand multiple cleanings.

**Recommendation:** HDPE and LDPE are durable and do not crack, rot, delaminate, swell or absorb water.

### Product Features & Benefits:

High density polyethylene (HDPE) is used in a variety of applications and industries where excellent impact resistance, high tensile strength, low moisture absorption and chemical- and corrosion-resistance are required.

Low Density Polyethylene (LDPE) is more flexible than HDPE, making it a good choice for applications involving either drape forming or vacuum forming. Its impact resistance makes it a natural for impact pads, while its ease of machinability makes it a good choice for fabricated parts where chemical and corrosion resistance are demanded. LDPE is stress relieved and a “natural” color.

#### HDPE/LDPE Benefits:

- Excellent corrosion and chemical resistance
- High strength
- No moisture absorption
- Good impact strength
- Vacuum formable
- FDA/USDA compliant (natural color)
- LDPE is light weight and extremely flexible

#### HDPE Applications:

- Die pads
- Light duty chain guides
- Tanks
- Material handling devices
- Water storage
- Cutting boards

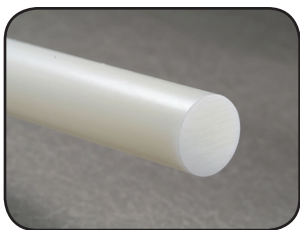
#### LDPE Applications:

- Die pads
- Hinges
- Impact pads
- Thermoformed parts

#### HDPE



SKU# 1ZAG5

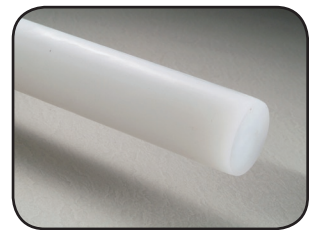


SKU# 1ZBC5

#### LDPE



SKU# 1YZU4



SKU# 1ZAC9

# Productivity

## HDPE/LDPE: Mechanical Plastic Materials with Excellent Corrosion Resistance

### Chemical Resistance

		PVC	CPVC	PP	PE	ABS
	Conc. (%)	Room Temperature				
Acetic Acid	100	+	-	+	+	-
Acetone	100	-	-	+	+	-
Ammonia	conc.	+	x	+	+	+
Ammonium Chloride		+	+	+	+	+
Bleaching Solution	12.5 Cl	+	+	0	0	x
Boric Acid	100	+	+	+	+	x
Brake Fluid		+	x	+	+	-
Calcium Chloride		+	+	+	+	+
Chlorine, gas	100	0	x	-	0	-
Chloroform		-	-	0	0/-	-
Citric Acid	10	+	-	+	+	+
Diesel Fuel		+	x	+	+	+
Ethyl Alcohol	96	-	x	+	+	-
Food Oil		+	x	+	+	+
Formaldehyde, AQU	40	+	x	+	+	+
Frost Protection Agent		+	x	+	+	+
Fuel, Aromatic Free		+	x	+	+	+/0
Glycerin	100	+	+	+	+	+
Glycol	100	0	x	+	+	+
Hydrochloric Acid	10	+	+	+	+	+
Hydrochloric Acid	conc.	+	x	+	+	+
Hydrogen Peroxide	10	+	+	+	+	+
Isopropyl Alcohol	100	0	0	+	+	0
Methyl Alcohol	100	+	x	+	+	-
Mineral Oils, Aromatic Free		+	+	+	+	+
Nitric Acid	10	+	+	+	+	+
Nitric Acid	50	+	+	-	0	+/0
Ozone, Gas	<0.5 ppm	+	x	-	+/0	+
Petroleum, Aromatic Free	100	+	x	x	x	0
Phosphoric Acid	50	+	+	+	+	+
Premium Fuel		-	x	+	+	-
Propyl Alcohol		+	x	+	+	+
Silicone Oil		+	+	+	+	+
Sodium Chloride, AQU		+	+	+	+	+
Sodium Nitrate, AQU		+	+	+	+	+
Sulphuric Acid	96	+	+	0/-	0	-
Water		+	+	+	+	+

### AVAILABLE SIZES:

Rod: 1/4" to 6" diameter,  
1' to 6' lengths

Sheet: 1/16" to 2" thick,  
12" to 48" widths,  
12" to 96" lengths

### COLORS:

Black (HDPE sheet only)  
and Natural (Off White)

+ = resistant    0 = restricted resistant    - = non-resistant  
x = no data

Since almost any material is subject to aging, there is a limited life expectancy. The following factors have influence on chemical stability: temperature, duration, concentration, tension level of the part and mechanical strength. From the data of the list, the chemical stability and suitability of a material cannot be judged without the above mentioned restrictions. In special applications, it is up to the user to determine the suitability of the plastic by running trials in real time.

PVC=Polyvinyl Chloride (Type I)  
CPVC=Chlorinated Polyvinyl Chloride  
PP=Polypropylene  
PE=High Density Polyethylene and Low Density Polyethylene  
ABS=Acrylonitrile Butadiene Styrene