Shell Polymers

63F072
High-Density Polyethylene Resin

Technical Data Sheet

Product Description

Shell Polymers 63F072 is a high molecular weight, ethylene homopolymer exhibiting good barrier properties, good grease resistance, high stiffness, good heat resistance, and is compatible in linear low density and low-density polyethylene blends.

Highlights

- Designed for blown film applications.
- Suitable for use in stand-up pouches, heavy duty shipping sacks, oriented films, and form-fill and seal structures.
- Produced via slurry loop technology.

Resin Properties	Method	Nominal Value
Density	ASTM D792	0.963 g/cm^3
Melt Index (190°C / 2.16 kg)	ASTM D1238	0.72 g/10 min

Mechanical Properties	Method	Nominal Value (English)	Nominal Value (SI)
Thickness (mil)	–	1.00 mil	1.00 mil
Dart Drop Impact	ASTM D1709	<55 g	<55 g
Tear Strength MD	ASTM D1922	<20 g	<20g
Tear Strength TD	ASTM D1922	275 g	275 g
Tensile Strength at Break, MD	ASTM D882	7800 psi	53.8 MPa
Tensile Strength at Break, TD	ASTM D882	4225 psi	29.1 MPa
Tensile Stress at Yield, MD	ASTM D882	5100 psi	34.5 MPa
Tensile Stress at Yield, TD	ASTM D882	<435 psi	<3 MPa
Tensile Elongation at Break, MD	ASTM D882	520%	520%
Tensile Elongation at Break, TD	ASTM D882	2%	2%
1% Secant Modulus, MD	ASTM D882	128000 psi	885 MPa
1% Secant Modulus, TD	ASTM D882	166000 psi	1145 MPa
Puncture	ASTM D5748	23 ft-lb	31 N
Coefficient of Friction- Static	ASTM D1894	0.256	0.256
Coefficient of Friction- Kinetic	ASTM D1894	0.264	0.264

Optical Properties	Method	Nominal Value (English)	Nominal Value (SI)
Haze	ASTM D1003	60%	60%
Gloss at 45°	ASTM D2457	15	15

Thermal Properties	Method	Nominal Value (English)	Nominal Value (SI)
Peak Crystallization Temperature	DSC	280.8 °F	138.2 °C

Barrier Properties	Method	Nominal Value (English)	Nominal Value (SI)
Oxygen Transmission Rate (100% O2, 73.4°F, 0% RH)	ASTM D3985	4600 cc/m^2-day	4600 cc/m^2-day
Water Vapor Transmission Rate (100% RH, 100°F)	ASTM F1249	11.0 g/m^2-day	11.0 g/m^2-day

Notes

Typical properties only. Not to be construed as specifications. Users should confirm results by performing their own tests.

Regulatory Statement:

- Complies with U.S. FDA 21 CFR 177.1520 (c) 2.1 or 2.2
- Consult the Regulatory Data Sheet for more details. It is available upon request. Please contact your Account Manager.

Processing Statement:

- Film properties are typical for blown film produced on a line with 75mm screw, 250mm die diameter, and 2mm die gap. Properties will vary with process conditions.

www.shell.us/polymers