ExxonMobil

ExxonMobil™ LLDPE LL 1002 Series

Linear Low Density Polyethylene Resin

Product Description

ExxonMobil™ LL 1002 resins are ethylene 1-butene linear low density polyethylene designed for the blown film process. Films made from LL 1002 resins have very good tensile and toughness properties. LL 1002.09 resin is a granular material suitable for both compounding and film production.

General

Additive	▪ LL 1002.09 Granular: Antiblock: No; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes ▪ LL 1002.80: Antiblock: 3500 ppm; Slip: 1500 ppm; Processing Aid: No; Thermal Stabilizer: Yes		
Applications	▪ Agricultural Film ▪ Bag in Box ▪ Blown Film ▪ Cast Film ▪ Food Packaging ▪ Form Fill And Seal Packaging	▪ Freezer Film ▪ Garment Film ▪ General Packaging ▪ Industrial Packaging ▪ Institutional Can Liners ▪ Liners	▪ Mulch Film ▪ Packaging Films ▪ Produce Bags On A Roll ▪ Shoppers ▪ Trash Can Liners
Form(s)	▪ Granules	▪ Pellets	

Resin Properties	Typical Value	(English)	Typical Value	(SI)	Test Based On
Density	0.918	g/cm³	0.918	g/cm³	ASTM D1505
Melt Index (190°C/2.16 kg)	2.0	g/10 min	2.0	g/10 min	ASTM D1238
Peak Melting Temperature	250	°F	121	°C	ExxonMobil Method

Film Properties	Typical Value	(English)	Typical Value	(SI)	Test Based On
Tensile Strength at Yield MD	1200	psi	8.5	MPa	ASTM D882
Tensile Strength at Yield TD	1400	psi	9.3	MPa	ASTM D882
Tensile Strength at Break MD	4800	psi	33	MPa	ASTM D882
Tensile Strength at Break TD	3400	psi	24	MPa	ASTM D882
Elongation at Break MD	640	%	640	%	ASTM D882
Elongation at Break TD	760	%	760	%	ASTM D882
Secant Modulus MD - 1% Secant	26000	psi	180	MPa	ASTM D882
Secant Modulus TD - 1% Secant	33000	psi	230	MPa	ASTM D882
Dart Drop Impact	< 60	g	< 60	g	ASTM D1709A
Elmendorf Tear Strength MD	100	g	100	g	ASTM D1922
Elmendorf Tear Strength TD	400	g	400	g	ASTM D1922
Puncture Force	4	lbf	19	N	ExxonMobil Method
Puncture Energy	4.5	in·lb	0.51	J	ExxonMobil Method

Optical Properties	Typical Value	(English)	Typical Value	(SI)	Test Based On
Gloss (45°)	24		24		ASTM D2457
Haze	25	%	25	%	ASTM D1003