Technical Information

AGILITY™ 1002 Performance LDPE
Low Density Polyethylene Resin

Overview

AGILITY™ 1002 Performance LDPE is a high pressure LDPE resin designed specifically to run at faster output rates on blown film lines in blends with LLDPE resins while maintaining bubble stability. This resin includes 2,000 ppm of anti-block to minimize blocking issues.

Main Characteristics:

- Faster processing LDPE resin
- Designed for higher output rates in blends with LLDPE resins at 10-20% loading - - Optimized molecular structure gives improved optics in blends with LLDPE resins

Complies with:

- EU No 10/2011
- U.S.FDA 21 CFR 177.1520 (c) 2.2
- Canadian HPFB No Objection

Consult the regulations for complete details

Additive

- Antiblock: 2000 ppm
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.921	g/cm³	0.921	g/cm³	ASTM D792
Base Density [1]	0.920	g/cm³	0.920	g/cm³	Dow Method
Melt Mass-Flow Rate (190°C/2.16 kg)	0.65	g/10 min	0.65	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	1.0	mil	25	µm	
Film Puncture Energy	5.00	in·lb	0.565	J	
Film Puncture Force	5.00	lbf	22.2	N	
Film Puncture Resistance	30.0	ft·lb/in³	2.48	J/cm³	Dow Method
Film Toughness					ASTM D882
MD	320	ft·lb/in³	26.5	J/cm³	
TD	620	ft·lb/in³	51.3	J/cm³	
Secant Modulus					ASTM D882
1% Secant, MD	35300	psi	243	MPa	
2% Secant, MD	32100	psi	221	MPa	
1% Secant, TD	43600	psi	301	MPa	
2% Secant, TD	37000	psi	255	MPa	
Tensile Strength					ASTM D882
MD : Yield	4100	psi	28.3	MPa	
TD : Yield	1880	psi	13.0	MPa	
MD : Break	4300	psi	29.6	MPa	
TD : Break	2350	psi	16.2	MPa	
Tensile Elongation					ASTM D882
MD : Break	110	%	110	%	
TD : Break	430	%	430	%	
Dart Drop Impact	75	g	75	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD	290	g	290	g	
TD	95	g	95	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	201	°F	94.0	°C	ASTM D1525
Melting Temperature (DSC)	228	°F	109	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°)	51		51		ASTM D2457

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Haze	10 %	10 %	ASTM D1003

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Type: DSB II
- Die Gap: 70 mil
- Melt Temperature: 398°F
- Output: 12 lb/hr/in. of die circumference
- Screw size: 3.5 in.
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 55 rpm
- Frost Line Height: 37 in.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.