Technical Information

ATTANE™ 4203
Ultra Low Density Polyethylene Resin

Overview

- For packaging and food packaging applications
- Offers high pinhole resistance, excellent flexibility and abuse resistance
- Excellent sealing characteristics
- Offers toughness, seal properties, optical properties and processability

Complies with:

- U.S. FDA FCN 424
- U.S. FDA-DMF
- U.S. USP
- EU, No 10/2011
- CANADIAN HPFB NO OBJECTION (WITH LIMITATIONS)
- Japan Hygienic Olefin and Styrene Plastics Association

Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.905	g/cm³	0.905	g/cm³	ASTM D792
Base Density [1]	0.905	g/cm³	0.905	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	0.80	g/10 min	0.80	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	1	mil	25	µm	
Film Puncture Energy	40.0	in·lb	4.52	J	Dow Method
Film Puncture Force	11.0	lbf	48.9	N	Dow Method
Film Puncture Resistance	300	ft·lb/in³	24.8	J/cm³	Dow Method
Film Toughness					ASTM D882
MD	550	ft·lb/in³	45.5	J/cm³	
TD	780	ft·lb/in³	64.5	J/cm³	
Secant Modulus					ASTM D882
1% Secant, MD	14300	psi	98.6	MPa	
2% Secant, MD	13000	psi	89.6	MPa	
1% Secant, TD	16400	psi	113	MPa	
2% Secant, TD	13600	psi	93.8	MPa	
Tensile Strength					ASTM D882
MD : Yield	900	psi	6.21	MPa	
TD : Yield	850	psi	5.86	MPa	
MD : Break	4700	psi	32.4	MPa	
TD : Break	4350	psi	30.0	MPa	
Tensile Elongation					ASTM D882
MD : Break	340	%	340	%	
TD : Break	570	%	570	%	
Dart Drop Impact	> 1100	g	> 1100	g	ASTM D1709B
Elmendorf Tear Strength					ASTM D1922
MD	370	g	370	g	
TD	520	g	520	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	183	°F	83.9	°C	ASTM D1525
Melting Temperature (DSC)	253	°F	123	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°)	39		39		ASTM D2457

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Haze	14.0 %	14.0 %	ASTM D1003

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5 in.
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 419°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1

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.