



# ATTANE™ 4203

The Dow Chemical Company - Ultra Low Density Polyethylene Resin

Tuesday, November 5, 2019

## General Information

### Product Description

- 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.

### General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• DMF Unspecified Rating • EU No 10/2011	• FDA FCN 424 • FDA FCN 424	• HPFB (Canada) No Objection <sup>1</sup>
Forms	• Pellets		
Processing Method	• Blown Film		

## ASTM & ISO Properties <sup>2</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.907		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	0.80	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	1	mil	
Film Puncture Energy	40.0	in·lb	Internal Method
Film Puncture Force	11.0	lbf	Internal Method
Film Puncture Resistance	300	ft·lb/in <sup>3</sup>	Internal Method
Film Toughness - MD	550	ft·lb/in <sup>3</sup>	ASTM D882
Film Toughness - TD	780	ft·lb/in <sup>3</sup>	ASTM D882
Secant Modulus			ASTM D882
1% Secant, MD	14300	psi	
2% Secant, MD	13000	psi	
Secant Modulus			ASTM D882
1% Secant, TD	16400	psi	
2% Secant, TD	13600	psi	
Tensile Strength - MD (Yield)	900	psi	ASTM D882
Tensile Strength - TD (Yield)	850	psi	ASTM D882
Tensile Strength - MD (Break)	4700	psi	ASTM D882
Tensile Strength - TD (Break)	4350	psi	ASTM D882

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Films	Nominal Value	Unit	Test Method
Tensile Elongation - MD (Break)	340	%	ASTM D882
Tensile Elongation - TD (Break)	570	%	ASTM D882
Dart Drop Impact	> 1100	g	ASTM D1709B
Elmendorf Tear Strength - MD	370	g	ASTM D1922
Elmendorf Tear Strength - TD	520	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	183	°F	ASTM D1525
Melting Temperature (DSC)	253	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss (45°)	39		ASTM D2457
Haze	14.0	%	ASTM D1003

### Processing Information

#### 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

<sup>1</sup> With limitations

<sup>2</sup> Typical properties: these are not to be construed as specifications.