



# ATTANE™ 4404G

## Ultra Low Density Polyethylene Resin

- Overview**
- Provides improved cling in one-sided cling applications
  - It has improved toughness and optical properties

Complies with:

- Canadian HPFB No Objection (with limitations)
- EU, No 10/2011
- U.S. FDA CFR 176.170(c)
- U.S. FDA FCN 424

Consult the regulations for complete details.

- Additive**
- Antiblock: No
  - Slip: No
  - Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.904 g/cm <sup>3</sup>	0.904 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.904 g/cm <sup>3</sup>	0.904 g/cm <sup>3</sup>	Dow Method
Melt Index (190°C/2.16 kg)	4.0 g/10 min	4.0 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Puncture Resistance			Dow Method
0.80 mil (20 µm)	228 ft·lb/in <sup>3</sup>	18.9 J/cm <sup>3</sup>	
2.0 mil (51 µm)	211 ft·lb/in <sup>3</sup>	17.5 J/cm <sup>3</sup>	
Secant Modulus			ASTM D882
2% Secant, MD : 0.80 mil (20 µm)	8530 psi	58.8 MPa	
2% Secant, MD : 2.0 mil (51 µm)	9070 psi	62.6 MPa	
2% Secant, TD : 0.80 mil (20 µm)	9380 psi	64.7 MPa	
2% Secant, TD : 2.0 mil (51 µm)	9140 psi	63.0 MPa	
Tensile Strength			ASTM D882
MD : Yield, 0.80 mil (20 µm)	1020 psi	7.00 MPa	
MD : Yield, 2.0 mil (51 µm)	980 psi	6.76 MPa	
TD : Yield, 0.80 mil (20 µm)	713 psi	4.92 MPa	
TD : Yield, 2.0 mil (51 µm)	919 psi	6.34 MPa	
MD : Break, 0.80 mil (20 µm)	5350 psi	36.9 MPa	
MD : Break, 2.0 mil (51 µm)	4730 psi	32.6 MPa	
TD : Break, 0.80 mil (20 µm)	4220 psi	29.1 MPa	
TD : Break, 2.0 mil (51 µm)	4700 psi	32.4 MPa	
Tensile Elongation			ASTM D882
MD : Break, 0.80 mil (20 µm)	500 %	500 %	
MD : Break, 2.0 mil (51 µm)	660 %	660 %	
TD : Break, 0.80 mil (20 µm)	710 %	710 %	
TD : Break, 2.0 mil (51 µm)	710 %	710 %	
Dart Drop Impact			ASTM D1709B
0.80 mil (20 µm)	> 850 g	> 850 g	
2.0 mil (51 µm)	> 850 g	> 850 g	
Elmendorf Tear Strength			ASTM D1922
MD : 0.80 mil (20 µm)	330 g	330 g	
MD : 2.0 mil (51 µm)	960 g	960 g	
TD : 0.80 mil (20 µm)	500 g	500 g	
TD : 2.0 mil (51 µm)	1100 g	1100 g	
Oxygen Permeability			ASTM D3985
73°F (23°C), 2.0 mil (51 µm)	1100 cm <sup>3</sup> ·mil/100in <sup>2</sup> /atm/24 hr	450 cm <sup>3</sup> ·mm/m <sup>2</sup> /a tm/24 hr	

<b>Films</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Water Vapor Transmission Rate			ASTM F1249
2.0 mil (51 µm)	2.2 g·mil/100in <sup>2</sup> /atm/24 hr	0.85 g·mm/m <sup>2</sup> /atm/24 hr	
Carbon Dioxide Transmission Rate			Dow Method
73°F (23°C), 2.0 mil (50.8 µm)	5100 cm <sup>3</sup> ·mil/100in <sup>2</sup> /atm/24 hr	2000 cm <sup>3</sup> ·mm/m <sup>2</sup> /atm/24 hr	
<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Vicat Softening Temperature	160 °F	71.1 °C	ASTM D1525
Melting Temperature (DSC)	255 °F	124 °C	Dow Method
<b>Optical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Gloss			ASTM D2457
45°, 0.800 mil (20.3 µm)	92	92	
45°, 2.00 mil (50.8 µm)	90	90	
Clarity			ASTM D1746
0.800 mil (20.3 µm)	99.0	99.0	
2.00 mil (50.8 µm)	99.0	99.0	
Haze			ASTM D1003
0.800 mil (20.3 µm)	0.600 %	0.600 %	
2.00 mil (50.8 µm)	1.80 %	1.80 %	

#### Extrusion Notes

Fabrication Conditions For Cast Film:

- Die Gap: 25 mil (2 mm)
- Chill Roll Temperature: 70°F (21°C)
- Line Speed: 200 fpm (61 m/min)

#### Notes

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

<sup>1</sup> 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/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

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Published: 2000-12-10

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