



## Technical Data Sheet

### ATTANE™ 4704G Ultra Low Density Polyethylene Resin

#### Main Characteristics

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

#### Complies with

- U.S. FDA FCN 424
- EU, No 10/2011

Consult the regulations for complete details.

#### Additive

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

#### Properties<sup>1</sup>

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method <sup>2</sup>
Density	0.900	g/cm <sup>3</sup>	0.900	g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	5.0	g/10 min	5.0	g/10 min	ASTM D1238
<b>Films</b>					
Film Puncture Resistance					Internal Method
0.65 mil (17 μm) <sup>3</sup>	32.1	ft-lb/in <sup>3</sup>	2.66	J/cm <sup>3</sup>	
0.65 mil (17 μm) <sup>4</sup>	73.8	ft-lb/in <sup>3</sup>	6.11	J/cm <sup>3</sup>	
Secant Modulus					ASTM D882
2% Secant MD: 0.65 mil (17 μm) <sup>3</sup>	15800	psi	109	MPa	
2% Secant MD: 0.65 mil (17 μm) <sup>4</sup>	14100	psi	97.2	MPa	
2% Secant TD: 0.65 mil (17 μm) <sup>3</sup>	14600	psi	101	MPa	
2% Secant TD: 0.65 mil (17 μm) <sup>4</sup>	15300	psi	105	MPa	

1. Typical properties: these are not to be construed as specifications. Users should confirm the results by their own tests.
2. ASTM: American Society for Testing and Materials
3. 50% in cling layer.
4. 100% in cling layer.



## Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
<b>Tensile Strength</b>					ASTM D882
MD: Yield, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	1100	psi	7.58	MPa	
MD: Yield, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	997	psi	6.87	MPa	
TD: Yield, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	1030	psi	7.10	MPa	
TD: Yield, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	1010	psi	6.96	MPa	
MD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	4690	psi	32.3	MPa	
MD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	5110	psi	35.2	MPa	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	3990	psi	27.5	MPa	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	4000	psi	27.6	MPa	
<b>Tensile Elongation</b>					ASTM D882
MD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	490	%	490	%	
MD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	480	%	480	%	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	560	%	560	%	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	570	%	570	%	
<b>Elmendorf Tear Strength</b>					ASTM D1922
MD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	280	g	280	g	
MD: Break, 17 mil (420 $\mu\text{m}$ ) <sup>5</sup>	280	g	280	g	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>4</sup>	400	g	400	g	
TD: Break, 0.65 mil (17 $\mu\text{m}$ ) <sup>5</sup>	390	g	390	g	
<b>Thermal</b>					
Vicat Softening Temperature	158	°F	69.9	°C	ASTM D1525
Melting Temperature (DSC)	255	°F	124	°C	Internal Method
<b>Optical</b>					
<b>Gloss</b>					ASTM D2457
45°, 0.650 mil (16.5 $\mu\text{m}$ ) <sup>4</sup>	95		95		
45°, 0.650 mil (16.5 $\mu\text{m}$ ) <sup>5</sup>	96		96		
<b>Clarity</b>					ASTM D1746
0.650 mil (16.5 $\mu\text{m}$ ) <sup>4</sup>	99.2		99.2		
0.650 mil (16.5 $\mu\text{m}$ ) <sup>5</sup>	99.3		99.3		
<b>Haze</b>					ASTM D1003
0.650 mil (16.5 $\mu\text{m}$ ) <sup>4</sup>	0.880	%	0.880	%	
0.650 mil (16.5 $\mu\text{m}$ ) <sup>5</sup>	0.650	%	0.650	%	
<b>Additional Information</b>					
<b>On Pallet Cling</b>					Internal Method
Unwiped, 100% in cling layer: 0.6 mil (16.5 $\mu\text{m}$ )	96	g	96	g	
Unwiped, 50% in cling layer: 0.6 mil (16.5 $\mu\text{m}$ )	45	g	45	g	
Wiped, 100% in cling layer: 0.6 mil (16.5 $\mu\text{m}$ )	100	g	100	g	
Wiped, 50% in cling layer: 0.6 mil (16.5 $\mu\text{m}$ )	48	g	48	g	

### Extrusion Notes

Fabrication Conditions for Cast Film:

- Chill Roll Temperature 70°F (21°C)
- Die Gap: 25 mil (2 mm)
- Line Speed: 550 ft/min (167 m/min)
- 50% and 100% ATTANE™ 4704 cling layers comprise of 5% and 10%, respectively, of the 5-layer cast film. Remaining material is ELITE™ 5230G.

