

PROPERTY <sup>(1)</sup>	TEST METHOD	FREQUENCY	UNIT Metric	1040451
<b>SPECIFICATIONS</b>				
Thickness (min. avg.)	ASTM D5199	Every roll	mm	2.00
Thickness (min.)	ASTM D5199	Every roll	mm	1.80
Resin Density	ASTM D1505	One per batch	g/cc	> 0.932
Melt Index - 190°C/2.16 kg (max.)	ASTM D1238	One per batch	g/10 min	1.0
Density	ASTM D792	Every 10 rolls	g/cm <sup>3</sup>	≥ 0.940
Carbon Black Content	ASTM D4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Every 10 rolls	Category	Cat. 1 / Cat. 2
OIT - Standard (min. avg.)	ASTM D3895	One per batch	min	100
Tensile Properties (min. avg.) (2)	ASTM D6693	Every 2 rolls		
Strength at Yield			kN/m	31
Elongation at Yield			%	13
Strength at Break			kN/m	57
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 5 rolls	N	250
Puncture Resistance (min. avg.)	ASTM D4833	Every 5 rolls	N	695
Dimensional Stability	ASTM D1204	Certified	%	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D5397	One per batch	hr	500
Oven Aging - % retained after 90 days	ASTM D5721	Per formulation		
OIT - Standard (min. avg.) (7)	ASTM D3895		%	55
HP-OIT (min. avg.) (7)	ASTM D5885		%	80
UV Resistance - % retained after 1,600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
Low Temperature Brittleness	ASTM D746	Certified	°C	- 77
<b>SUPPLY SPECIFICATIONS(Roll dimensions may vary ±1%)</b>				
Roll Dimension - Width	-		m	8.00
Roll Dimension - Length	-		m	105.0
Area (Surface/Roll)	-		m <sup>2</sup>	840.00

### NOTES

1. Testing frequency based on standard roll dimensions and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
7. The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.

\* All values are nominal test results, except when specified as minimum or maximum.

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