

PROPERTY	TEST METHOD	FREQUENCY <sup>(1)</sup>	UNIT Metric	Solmax 430W-9000	Solmax 440W-9000	Solmax 460W-9000	Solmax 480W-9000	Solmax 500W-9000
<b>SPECIFICATIONS</b>								
Thickness (min. avg.)	ASTM D-5199	Every roll	mm	0.75	1.00	1.50	2.00	2.50
Thickness (min.)	ASTM D-5199	Every roll	mm	0.68	0.90	1.35	1.80	2.25
Sheet Density (8)	ASTM D-1505	Every 10 rolls	g/cc	≥ 0.940	≥ 0.940	≥ 0.940	≥ 0.940	≥ 0.940
Carbon Black Content (9)	ASTM D-4218	Every 2 rolls	%	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D-5596	Every 10 rolls	Category	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2
OIT - standard (avg.)	ASTM D-3895	1/Batch	min	100	100	100	100	100
Tensile Properties (min. avg) (2)	ASTM D-6693	Every 2 rolls						
Strength at Yield			kN/m	11.5	15	22	31	37
Elongation at Yield			%	13	13	13	13	12
Strength at Break			kN/m	21	28	42	57	67
Elongation at Break			%	700	700	700	700	700
Tear Resistance (min. avg.)	ASTM D-1004	Every 5 rolls	N	93	125	187	253	311
Puncture Resistance (min. avg.)	ASTM D-4833	Every 5 rolls	N	265	355	540	695	800
Dimensional Stability	ASTM D-1204	Per formulation	%	± 2	± 2	± 2	± 2	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D-5397	1/Batch	hr	400	400	400	400	400
Oven Aging - % retained after 90 days	ASTM D-5721	Per formulation (5						
HP OIT (min. avg.)	ASTM D-5885		%	80	80	80	80	80
UV Resistance - % retained after 1600 hr	GRI-GM-11	Per formulation (5						
HP-OIT (min. avg.)	ASTM D-5885		%	50	50	50	50	50
<b>SUPPLY SPECIFICATIONS</b> (Roll dimensions may vary ±1%)								
Roll Dimension - Width	-		m	7.50	7.50	7.50	7.50	7.50
Roll Dimension - Length	-		m	280.0	210.0	140.0	105.0	85.0
Area (Surface/Roll)	-		m <sup>2</sup>	2100	1575	1050	787.5	637.5
Color (one side) (4)	-	-		White	White	White	White	White

### 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.
4. No smooth edge. The white layer may cause the carbon black content results to be 3% higher than specified on the data sheet.
5. Certified by black formulation on geomembrane roll or molded plaque
8. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.
9. Correlation table is available for ASTM D1603 vs ASTM D4218. Both methods give the same results.

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

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PRO PERTY	TEST MEIHO D	FREQ UEN CY <sup>(1)</sup>	UNIT Me t r i c	So l m a x 430WST9000	So l m a x 440WST9000	So l m a x 460WST9000	So l m a x 480WST9000	So l m a x 500WST9000
<b>SPECIFICATIONS</b>								
Thickness (min. avg.)	ASTM D-5994	Every roll	mm	0.75	1.00	1.50	2.00	2.50
Lowest individual for 10 out of 10 values			mm	0.68	0.90	1.35	1.80	2.25
Asperity Height (min. avg.) (3)	ASTM D-7466	Every roll	mm	0.40	0.45	0.45	0.45	0.45
Sheet Density (8)	ASTM D-1505	Every 10 rolls	g/cc	≥ 0.940	≥ 0.940	≥ 0.940	≥ 0.940	≥ 0.940
Carbon Black Content (9)	ASTM D-4218	Every 2 rolls	%	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D-5596	Every 10 rolls	Category	Cat. 1 & Cat. 2	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2	Cat. 1 / Cat. 2	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D-3895	1/Batch	min	100	100	100	100	100
Tensile Properties (min. avg) (2)	ASTM D-6693	Every 2 rolls						
Strength at Yield			kN/m	11	15.3	23	30	37
Elongation at Yield			%	12	13	13	13	12
Strength at Break			kN/m	8	15.3	23	30	26
Elongation at Break			%	200	200	200	200	200
Tear Resistance (min. avg.)	ASTM D-1004	Every 5 rolls	N	93	130	200	267	311
Puncture Resistance (min. avg.)	ASTM D-4833	Every 5 rolls	N	200	400	530	667	667
Dimensional Stability	ASTM D-1204	Per formulation	%	± 2	± 2	± 2	± 2	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D-5397	1/Batch	hr	400	400	400	400	400
Oven Aging - % retained after 90 days	ASTM D-5721	Per formulation (5						
HP OIT (min. avg.)	ASTM D-5885		%	80	80	80	80	80
UV Resistance - % retained after 1600 hr	GRI-GM-11	Per formulation (5						
HP-OIT (min. avg.)	ASTM D-5885		%	50	50	50	50	50
<b>SUPPLY SPECIFICATIONS</b> (Roll dimensions may vary ±1%)								
Roll Dimension - Width	-		m	7.50	7.50	7.50	7.50	7.50
Roll Dimension - Length	-		m	250.0	200.0	135.0	105.0	85.0
Area (Surface/Roll)	-		m <sup>2</sup>	1875	1500	1012.5	787.5	637.5
Color (one side) (4)	-	-		White	White	White	White	White

### NOTES

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2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
3. ASTM D7466 is identical to GRI-GM12.
4. Black or grey spots may be visible on the textured surface. No smooth edge. The white layer may cause the carbon black content results to be 3% higher than specified on the data sheet.
5. Certified by black formulation on geomembrane roll or molded plaque
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Elongation at Break			%	200	200	200	200	200
Tear Resistance (min. avg.)	ASTM D-1004	Every 5 rolls	N	102	130	200	267	311
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Dimensional Stability	ASTM D-1204	Per formulation	%	± 2	± 2	± 2	± 2	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D-5397	1/Batch	hr	400	400	400	400	400
Oven Aging - % retained after 90 days	ASTM D-5721	Per formulation (5						
HP OIT (min. avg.)	ASTM D-5885		%	80	80	80	80	80
UV Resistance - % retained after 1600 hr	GRI-GM-11	Per formulation (5						
HP-OIT (min. avg.)	ASTM D-5885		%	50	50	50	50	50
<b>SUPPLY SPECIFICATIONS</b> (Roll dimensions may vary ±1%)								
Roll Dimension - Width	-		m	7.50	7.50	7.50	7.50	7.50
Roll Dimension - Length	-		m	250.0	190.0	135.0	105.0	85.0
Area (Surface/Roll)	-		m <sup>2</sup>	1875	1425	1012.5	787.5	637.5
Color (one side) (4)	-	-		White	White	White	White	White

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