

Solmax International Inc., 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tel.: (450) 929-1234 Fax: (450) 929-2550 www.solmax.com

| PROPERTY | TEST METHOD | FREQUENCY ⁽¹⁾ | UNIT Metric | Solmax 460W-2000 | Solmax 480W-2000 | Solmax 500W-2000 |
|---|-------------|--------------------------|----------------|------------------|------------------|------------------|
| SPECIFICATIONS | | | | | | |
| Thickness (min. avg.) | ASTM D-5199 | Every roll | mm | 1.50 | 2.00 | 2.50 |
| Thickness (min.) | ASTM D-5199 | Every roll | mm | 1.35 | 1.80 | 2.25 |
| Resin Density | ASTM D-1505 | 1/Batch | g/cc | > 0.932 | > 0.932 | > 0.932 |
| Melt Index - 190/2.16 (max.) | ASTM D-1238 | 1/Batch | g/10 min | 1.0 | 1.0 | 1.0 |
| Sheet Density (8) | ASTM D-1505 | Every 2 rolls | g/cc | ≥ 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 |
| Carbon Black Dispersion | ASTM D-5596 | Every 6 rolls | Category | Cat. 1 / Cat. 2 | Cat. 1 / Cat. 2 | Cat. 1 / Cat. 2 |
| OIT - standard (avg.) | ASTM D-3895 | 1/Batch | min | 100 | 100 | 100 |
| Tensile Properties (min. avg) (2) | ASTM D-6693 | Every 2 rolls | | | | |
| Strength at Yield | | | kN/m | 22 | 31 | 37 |
| Elongation at Yield | | | % | 13 | 13 | 12 |
| Strength at Break | | | kN/m | 42 | 57 | 67 |
| Elongation at Break | | | % | 700 | 700 | 700 |
| Tear Resistance (min. avg.) | ASTM D-1004 | Every 6 rolls | N | 187 | 250 | 311 |
| Puncture Resistance (min. avg.) | ASTM D-4833 | Every 6 rolls | N | 540 | 695 | 800 |
| Dimensional Stability | ASTM D-1204 | Certification | % | ± 2 | ± 2 | ± 2 |
| Stress Crack Resistance (SP-NCTL) | ASTM D-5397 | 1/Batch | hr | 500 | 500 | 500 |
| Oven Aging - % retained after 90 days | ASTM D-5721 | Per formulation (5) | | | | |
| HP OIT (min. avg.) | ASTM D-5885 | | % | 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 |
| SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%) | | | | | | |
| Roll Dimension - Width | - | | m | 6.80 | 6.80 | 6.80 |
| Roll Dimension - Length | - | | m | 158.5 | 121.9 | 97.5 |
| Area (Surface/Roll) | - | | m ² | 1077.8 | 828.9 | 663.0 |
| Color (one side) (4) | - | - | | White | White | White |



TECHNICAL DATA SHEET

Solmax HDPE Reflective Smooth - Metric Values

Solmax International Inc., 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
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| PROPERTY | TEST METHOD | FREQUENCY ⁽¹⁾ | UNIT Metric | Solmax 460W-2000 | Solmax 480W-2000 | Solmax 500W-2000 |
|----------|-------------|--------------------------|-------------|------------------|------------------|------------------|
|----------|-------------|--------------------------|-------------|------------------|------------------|------------------|

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. Smooth edge may not have the same consistent shade of color as the membrane itself. The colored layer may cause the carbon black content results to be higher than 3%.
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.

* The information contained herein is provided for reference purposes only and is not intended as a warranty of guarantee. Final determination of suitability for use contemplated is the sole responsibility of the user. SOLMAX assumes no liability in connection with the use of this information.

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| PROPERTY | TEST METHOD | FREQUENCY ⁽¹⁾ | UNIT Metric | Solmax 460WST-2000 | Solmax 480WST-2000 | Solmax 500WST-2000 |
|---|-------------|--------------------------|----------------|--------------------|--------------------|--------------------|
| SPECIFICATIONS | | | | | | |
| Nominal Thickness | - | - | mm | 1.50 | 2.00 | 2.50 |
| Thickness (min. avg.) | ASTM D-5994 | Every roll | mm | 1.43 | 1.90 | 2.38 |
| Lowest individual for 8 out of 10 values | | | mm | 1.35 | 1.80 | 2.25 |
| Lowest individual for 10 out of 10 values | | | mm | 1.28 | 1.70 | 2.13 |
| Asperity Height (min. avg.) (3) | ASTM D-7466 | Every roll | mm | 0.40 | 0.40 | 0.40 |
| Resin Density | ASTM D-1505 | 1/Batch | g/cc | > 0.932 | > 0.932 | > 0.932 |
| Melt Index - 190/2.16 (max.) | ASTM D-1238 | 1/Batch | g/10 min | 1.0 | 1.0 | 1.0 |
| Sheet Density (8) | ASTM D-1505 | Every 2 rolls | g/cc | ≥ 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 |
| Carbon Black Dispersion | ASTM D-5596 | Every 6 rolls | Category | Cat. 1 / Cat. 2 | Cat. 1 / Cat. 2 | Cat. 1 & Cat. 3 |
| OIT - standard (avg.) | ASTM D-3895 | 1/Batch | min | 100 | 100 | 100 |
| Tensile Properties (min. avg.) (2) | ASTM D-6693 | Every 2 rolls | | | | |
| Strength at Yield | | | kN/m | 23 | 30 | 37 |
| Elongation at Yield | | | % | 13 | 13 | 12 |
| Strength at Break | | | kN/m | 23 | 29 | 26 |
| Elongation at Break | | | % | 150 | 150 | 100 |
| Tear Resistance (min. avg.) | ASTM D-1004 | Every 6 rolls | N | 200 | 267 | 311 |
| Puncture Resistance (min. avg.) | ASTM D-4833 | Every 6 rolls | N | 534 | 667 | 667 |
| Dimensional Stability | ASTM D-1204 | Certification | % | ± 2 | ± 2 | ± 2 |
| Stress Crack Resistance (SP-NCTL) | ASTM D-5397 | 1/Batch | hr | 500 | 500 | 500 |
| Oven Aging - % retained after 90 days | ASTM D-5721 | Per formulation (5) | | | | |
| HP OIT (min. avg.) | ASTM D-5885 | | % | 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 |
| SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%) | | | | | | |
| Roll Dimension - Width | - | - | m | 6.80 | 6.80 | 6.80 |
| Roll Dimension - Length | - | - | m | 170.7 | 134.1 | 97.5 |
| Area (Surface/Roll) | - | - | m ² | 1160.8 | 911.9 | 663 |
| Color (one side) (4) | - | - | | White | White | White |



TECHNICAL DATA SHEET

Solmax HDPE Reflective Single-Sided Textured Metric Values

Solmax International Inc., 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tel.: (450) 929-1234 Fax: (450) 929-2550 www.solmax.com

| PROPERTY | TEST METHOD | FREQUENCY ⁽¹⁾ | UNIT Metric | Solmax 460WST-2000 | Solmax 480WST-2000 | Solmax 500WST-2000 |
|----------|-------------|--------------------------|-------------|--------------------|--------------------|--------------------|
|----------|-------------|--------------------------|-------------|--------------------|--------------------|--------------------|

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.
3. Lowest individual and 8 out of 10 readings as per GRI-GM13 / 17, latest version.
4. Smooth edge may not have the same consistent shade of color as the membrane itself. The colored layer may cause the carbon black content results to be higher than 3%.
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.

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|---|-------------|--------------------------|----------------|----------------------|----------------------|----------------------|
| SPECIFICATIONS | | | | | | |
| Nominal Thickness | - | - | mm | 1.50 | 2.00 | 2.50 |
| Thickness (min. avg.) | ASTM D-5994 | Every roll | mm | 1.43 | 1.90 | 2.38 |
| Lowest individual for 8 out of 10 values | | | mm | 1.35 | 1.80 | 2.25 |
| Lowest individual for 10 out of 10 values | | | mm | 1.28 | 1.70 | 2.13 |
| Asperity Height (min. avg.) (3) | ASTM D-7466 | Every roll | mm | 0.40 | 0.40 | 0.40 |
| Resin Density | ASTM D-1505 | 1/Batch | g/cc | > 0.932 | > 0.932 | > 0.932 |
| Melt Index - 190/2.16 (max.) | ASTM D-1238 | 1/Batch | g/10 min | 1.0 | 1.0 | 1.0 |
| Sheet Density (8) | ASTM D-1505 | Every 2 rolls | g/cc | ≥ 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 |
| Carbon Black Dispersion | ASTM D-5596 | Every 6 rolls | Category | Cat. 1 / Cat. 2 | Cat. 1 / Cat. 2 | Cat. 1 & Cat. 2 |
| OIT - standard (avg.) | ASTM D-3895 | 1/Batch | min | 100 | 100 | 100 |
| Tensile Properties (min. avg.) (2) | ASTM D-6693 | Every 2 rolls | | | | |
| Strength at Yield | | | kN/m | 23 | 30 | 37 |
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| Elongation at Break | | | % | 150 | 150 | 150 |
| Tear Resistance (min. avg.) | ASTM D-1004 | Every 6 rolls | N | 200 | 267 | 311 |
| Puncture Resistance (min. avg.) | ASTM D-4833 | Every 6 rolls | N | 530 | 667 | 667 |
| Dimensional Stability | ASTM D-1204 | Certification | % | ± 2 | ± 2 | ± 2 |
| Stress Crack Resistance (SP-NCTL) | ASTM D-5397 | 1/Batch | hr | 500 | 500 | 500 |
| Oven Aging - % retained after 90 days | ASTM D-5721 | Per formulation (5) | | | | |
| HP OIT (min. avg.) | ASTM D-5885 | | % | 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 |
| SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%) | | | | | | |
| Roll Dimension - Width | - | - | m | 6.80 | 6.80 | 6.80 |
| Roll Dimension - Length | - | - | m | 164.6 | 128.0 | 97.5 |
| Area (Surface/Roll) | - | - | m ² | 1119.3 | 870.4 | 663 |
| Color (one side) (4) | - | - | | White | White | White |

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|----------|-------------|--------------------------|-------------|-------------------|-------------------|-------------------|
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NOTES

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3. Lowest individual and 8 out of 10 readings as per GRI-GM13 / 17, latest version.
4. Black or grey spots may be visible on the textured surface. Smooth edge may not have the same consistent shade of color as the membrane itself. The colored layer may cause the carbon black content results to be higher than 3%.
5. Certified by black formulation on geomembrane roll or molded plaque.
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