

ERTHA WC Series

WOVEN COATED POLYETHYLENE GEOMEMBRANE LINER PRODUCT DATA SHEETS

ERTHA™ IS A SERIES OF PRODUCTS WHOLLY-OWNED BY GEOSOLUTIONS, INC.



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ERTHA WC 12 12 Mil Woven Coated Polyethylene Geomembrane Liner

A medium weight fabric incorporating a new coating recipe designed to improve toughness and abrasion resistance.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- **Width** Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 2000 yds/roll (1828 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 1.5 mil average each side (35.6 g/m²/side)
- Color Black or other colored coatings available
- **Weight** $5.2 \text{ oz/yd}^2 (176 \text{ g/m}^2) \pm 5\%$

RECOMMENDED APPLICATIONS

Grain Covers, Temporary Landfill Covers, Short-term Liners



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	12 MIL
Thickness	ASTM D1777	Nominal 12 mil (0.50 mm), ± 10%
Grab Tensile	ASTM D7004	MD 180 lb. (799) TD 125 lb. (555)
Strip Tensile	ASTM D7003	MD 140 lb./in (1243) TD 100 lb./in (888)
Tongue Tear - Large Scale	ASTM D5884	MD 50 lb. (222) TD 50 lb. (222)
Mullen Burst	ASTM D751	275 psi (1895 kPa)
MVTR	ASTM E96 Proc. BM	0.35 g/m² x 24 hr. (0.05 perms)
Hydraulic Conductivity	Calculated from MVTR	1.37 x 10⁻¹⁴ cm/s
Hydrostatic Resistance	ASTM D751	130 psi (896 kPa)
Puncture Resistance	ASTM D4833	76 lb. (337 N)
CBR Static Puncture	ASTM D6241	530 lb. (2353 N)
Carbon Black Contrent	ASTM D4218	3%
Dimensional Stability	ASTM D1204	MD -2.9% TD -2.2%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -40°C (-40°F)
HP - OIT	ASTM D5885 (measured on coating formulation)	1330 minutes
Accelerated UV Weathering*	ASTM G151 ASTM G154	>90% strength retention after 2000 hrs. exposure @ 0.77 W/m²/nm, or 1200 hrs. exposure @ 1.35 W/m²/nm

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 8 hrs. UV @ 60°C; 4 hrs. condensation @ 50°C



IEERED COATING

ENGINEERED COATIN

ERTHA WC 16 16 Mil Woven Coated Polyethylene Geomembrane Liner

A medium weight fabric incorporating a new coating recipe designed to improve toughness and abrasion resistance.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- Width Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 2.5 mil average each side (59 g/m²/side)
- **Color** White, black or other colored coatings available
- **Weight** $7.2 \text{ oz/yd}^2 (244 \text{ g/m}^2) \pm 5\%$

RECOMMENDED APPLICATIONS

Interim Landfill Covers, Liners, Misc. Covers



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	16 MIL
Thickness	ASTM D1777	Nominal 16 mil (0.50 mm), ± 10%
Grab Tensile	ASTM D7004	MD 210 lb. (932) TD 190 lb. (844)
Strip Tensile	ASTM D7003	MD 135 lb./in (1199) TD 130 lb./in (1154)
Tongue Tear - Large Scale	ASTM D5884	MD 60 lb. (266) TD 60 lb. (266)
Mullen Burst	ASTM D751	375 psi (2584 kPa)
MVTR	ASTM E96 Proc. BM	0.24 g/m² x 24 hr. (0.03 perms)
Hydraulic Conductivity	Calculated from MVTR	5.42 x 10 ⁻¹⁵ cm/s
Hydrostatic Resistance	ASTM D751	97 psi (668 kPa)
Puncture Resistance	ASTM D4833	113 lb. (502 N)
CBR Static Puncture	ASTM D6241	922 lb. (4094 N)
Carbon Black Contrent	ASTM D4218	3%
Dimensional Stability	ASTM D1204	MD -2.3% TD -2.0%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -40°C (-40°F)
HP - OIT	ASTM D5885 (measured on coating formulation)	2122 minutes
Accelerated UV Weathering*	ASTM G151 ASTM G154	>90% strength retention after 2000 hrs. exposure @ 0.77 W/m²/nm, or 1200 hrs. exposure @ 1.35 W/m²/nm

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 8 hrs. UV @ 60°C; 4 hrs. condensation @ 50°C



EERED COATING

ENGINEERED COATIN

ERTHA WC 20 20 Mil Woven Coated

Polyethylene Geomembrane Liner

A heavyweight fabric incorporating a new coating recipe designed to improve toughness and abrasion resistance. This product is intended for exposed applications up to 5 years.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- **Width** Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 2.5 mil average each side (60 g/m²/side)
- **Color** White, black or other colored coatings available
- Weight $9.0 \text{ oz/yd}^2 (305 \text{ g/m}^2) \pm 5\%$

RECOMMENDED APPLICATIONS

Interim Landfill Covers. Short-term Liners



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	20 MIL
Thickness	ASTM D1777	Nominal 20 mil (0.50 mm), ± 10%
Grab Tensile	ASTM D7004	MD 250 lb. (1110) TD 340 lb. (1510)
Strip Tensile	ASTM D7003	MD 175 lb./in (1554) TD 270 lb./in (2398)
Tongue Tear - Large Scale	ASTM D5884	MD 75 lb. (333) TD 75 lb. (333)
Mullen Burst	ASTM D751	550 psi (3790 kPa)
MVTR	ASTM E96 Proc. BM	0.29 g/m² x 24 hr. (0.04 perms)
Hydraulic Conductivity	Calculated from MVTR	1.02 x 10 ⁻¹⁴ cm/s
Hydrostatic Resistance	ASTM D751	139 psi (958 kPa)
Puncture Resistance	ASTM D4833	140 lb. (622 N)
CBR Static Puncture	ASTM D6241	973 lb. (4320 N)
Carbon Black Contrent	ASTM D4218	3%
Dimensional Stability	ASTM D1204	MD -2.5% TD -1.8%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -65°C (-85°F)
HP - OIT	ASTM D5885 (Measured on coating formulation)	1684 minutes
Accelerated UV Weathering*	ASTM G151 ASTM G154	>90% strength retention after 2000 hrs. exposure @ 0.77 W/m²/nm, or 1200 hrs. exposure @ 1.35 W/m²/nm

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 8 hrs. UV @ 60°C; 4 hrs. condensation @ 50°C



HERED COATING

ENGINEERED COATIN

ERTHA WC 24 24 Mil Woven Coated

Polyethylene Geomembrane Liner

A heavyweight fabric incorporating a special weave pattern to enhance puncture, flatness, and tear properties. The coating recipe is designed to improve toughness and abrasion resistance. This product is intended for exposed applications up to 5 years.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- **Width** Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 2.4 mil average each side (57 g/m²/side)
- Color White, black or other colored coatings available
- **Weight** $9.1 \text{ oz/yd}^2 (309 \text{ g/m}^2) \pm 5\%$

RECOMMENDED APPLICATIONS

Interim Landfill Covers. Containment Liners



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	24 MIL
Thickness	ASTM D1777	Nominal 24 mil (0.60 mm), ± 10%
Grab Tensile	ASTM D7004	MD 294 lb. (1305) TD 242 lb. (1074)
Strip Tensile	ASTM D7003	MD 240 lb./in (2131) TD 270 lb./in (2398)
Tongue Tear - Large Scale	ASTM D5884	MD 90 lb. (400) TD 92 lb. (408)
Mullen Burst	ASTM D751	530 psi (3652 kPa)
MVTR	ASTM E96 Proc. BM	0.23 g/m² x 24 hr. (0.03 perms)
Hydraulic Conductivity	Calculated from MVTR	9.79 x 10 ⁻¹⁵ cm/s
Hydrostatic Resistance	ASTM D751	262 psi (1805 kPa)
Puncture Resistance	ASTM D4833	150 lb. (666 N)
CBR Static Puncture	ASTM D6241	993 Ib. (4409 N)
Dimensional Stability	ASTM D1204	MD -2.9% TD -1.8%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -65°C (-85°F)
HP - OIT	ASTM D5885 (Measured on coating formulation)	1071 minutes
Accelerated UV Weathering*	ASTM D7238	>90% tensile strength retention after 10,000 light hours

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 8 hrs. UV @ 75°C; 4 hrs. condensation @ 60°C



IEERED COATING

ENGINEERED COATIN

ERTHA WC 30 30 Mil Woven Coated

Polyethylene Geomembrane Liner

A heavyweight fabric incorporating a special weave pattern to enhance puncture, flatness, and tear properties. The coating recipe is designed to improve toughness and abrasion resistance. This product is intended for exposed applications up to 10 years.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- **Width** Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 4 mil average each side (95 g/m²/side)
- Color White, black or other colored coatings available
- Weight $12.2 \text{ oz/yd}^2 (414 \text{ g/m}^2) \pm 5\%$

RECOMMENDED APPLICATIONS

Interim Landfill Covers, Containment Liners



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	30 MIL
Thickness	ASTM D1777	Nominal 30 mil (0.60 mm), ± 10%
Grab Tensile	ASTM D7004	MD 282 lb. (1252) TD 320 lb. (1421)
Strip Tensile	ASTM D7003	MD 188 lb./in (1669) TD 225 lb./in (1998)
Tongue Tear - Large Scale	ASTM D5884	MD 70 lb. (311) TD 85 lb. (377)
Mullen Burst	ASTM D751	585 psi (4031 kPa)
MVTR	ASTM E96 Proc. BM	0.21 g/m² x 24 hr. (0.03 perms)
Hydraulic Conductivity	Calculated from MVTR	1.46 x 10 ⁻¹⁴ cm/s
Hydrostatic Resistance	ASTM D751	423 psi (2914 kPa)
Puncture Resistance	ASTM D4833	165 lb. (733 N)
CBR Static Puncture	ASTM D6241	1025 lb. (4551 N)
Carbon Black Content	ASTM D4218	3%
Dimensional Stability	ASTM D1204	MD -2.2% TD -1.6%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -65°C (-85°F)
HP - OIT	ASTM D5885 (Measured on coating formulation)	1071 minutes
Accelerated UV Weathering*	ASTM D7238	>90% tensile strength retention after 10,000 light hours

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 8 hrs. UV @ 75°C; 4 hrs. condensation @ 60°C

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IEERED COATING

ENGINEERED COATIN

ERTHA WC 40

40 Mil Woven Coated Polyethylene Geomembrane Liner

A heavyweight, reinforced polyethylene material with ½ the weight of standard 40 mil non-reinforced HDPE, but with double the physical strength properties. The coating recipe is designed to improve toughness and abrasion resistance. This product is intended for exposed applications up to 15 years.

PRODUCT DIMENSIONS

- Cores 4 inch I.D. or 5 inch I.D. available (10 cm or 13 cm)
- Width Up to 150 in (381 cm) (-0, +0.5) as ordered
- Length Minimum 250 yds/roll (229 m); up to 1000 yds/roll (914 m)

PRODUCT SPECIFICATIONS

- Weave Woven black HDPE scrim
- **Coating** LDPE, 4 mil average each side (95 g/m²/side)
- **Color** White, black or other colored coatings available
- Weight 14.2 oz/yd² (481 g/m²) ± 5%

RECOMMENDED APPLICATIONS

Permanent Landfill Covers, Containment Liners, Canal Liners



The following data are typical values based on ASTM standard tests. This data should not be considered specification.

	TEST METHOD	40 MIL
Thickness	ASTM D1777	Nominal 40 mil (1.0 mm), ± 10%
Grab Tensile	ASTM D7004	MD 460 lb. (2042) TD 490 lb. (2146)
Strip Tensile	ASTM D7003	MD 285 lb./in (2531) TD 350 lb./in (3108)
Tongue Tear - Large Scale	ASTM D5884	MD 90 lb. (400) TD 120 lb. (533)
Mullen Burst	ASTM D751	835 psi (5753 kPa)
MVTR	ASTM E96 Proc. BM	0.189 g/m² x 24 hr. (0.02 perms)
Hydraulic Conductivity	Calculated from MVTR	1.37 x 10⁻¹⁴ cm∕s
Hydrostatic Resistance	ASTM D751	612 psi (4217 kPa)
Puncture Resistance	ASTM D4833	210 lb. (932 N)
CBR Static Puncture	ASTM D6241	1558 lb. (6918 N)
Carbon Black Content	ASTM D4218	3%
Dimensional Stability	ASTM D1204	MD -3.7% TD -2.1%
Low Temp. Flex	ASTM D2136	MD & TD: Pass @ -65°C (-85°F)
HP - OIT	ASTM D5885 (Measured on coating formulation)	2880 minutes
Accelerated UV Weathering*	ASTM D7238	>90% tensile strength retention after 2,000 light hours

MD = Machine Direction. TD = Transverse Direction.

* Q.U.V. [A-340 Lamps]; 20 hrs. UV @ 75°C; 4 hrs. condensation @ 60°C

