

HDPE Smooth Geomembrane Lining Systems

Technical Data Pack (1.0 mm | 1.5 mm | 2.0 mm)

Geosynthetics Africa is a pan-African execution partner delivering complete **HDPE geomembrane lining solutions** — from material **supply** and cross-border **logistics** to qualified **installation** and **QA/QC** — for mining, water, environmental, and infrastructure projects across Africa.

SUPPLY

Specification-compliant HDPE geomembranes with reliable availability and project-ready stock planning.

LOGISTICS

Pan-African delivery including cross-border transport, customs coordination, and site-ready logistics.

INSTALLATION

Qualified installation teams supported by documented QA/QC and execution to international standards.

Manufacturer Technical Data

This technical data pack contains manufacturer-issued technical specifications for GSE® HDPE geomembrane liners manufactured by Solmax. The manufacturer's original technical data sheets are provided from Page 2 onward without modification and remain the sole technical authority for product performance and compliance.

Final liner thickness and surface selection should be confirmed in accordance with project-specific design requirements and engineering specifications.

HDPE 7000 1.00 mm Black Smooth

PROPERTY ⁽¹⁾	TEST METHOD	FREQUENCY	UNIT Metric	1114938
SPECIFICATIONS				
Thickness (min. avg.)	ASTM D5199	Every roll	mm	0.90
Resin Density	ASTM D1505	Certified	g/cc	> 0.932
Melt Index - 190°C/2.16 kg (max.)	ASTM D1238	Certified	g/10 min	1.0
Density	ASTM D792	One per batch	g/cm ³	≥ 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	Per formulation	min	100
Tensile Properties (min. avg) (2)	ASTM D6693	Every 5 rolls		
Strength at Yield			kN/m	15
Elongation at Yield			%	12
Strength at Break			kN/m	27
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 10 rolls	N	106
Puncture Resistance (min. avg.)	ASTM D4833	Every 10 rolls	N	320
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		
HP-OIT (min. avg.)	ASTM D5885		%	80
UV Resistance - % retained after 1,600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
SUPPLY SPECIFICATIONS(Roll dimensions may vary ±1%)				
Roll Dimension - Width	-		m	7.00
Roll Dimension - Length	-		m	210.0
Area (Surface/Roll)	-		m ²	1470.00

NOTES

1. Testing frequency based on standard roll dimensions.
2. Machine Direction (MD) and Cross Machine Direction (CMD) average values should be on the basis of 5 specimens each direction.

* 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 or 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.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

HDPE 7000 1.50 mm Black Smooth

PROPERTY ⁽¹⁾	TEST METHOD	FREQUENCY	UNIT Metric	1120116
SPECIFICATIONS				
Thickness (Nominal $\pm 10\%$) (11)	ASTM D5199	-	mm	1.50
Resin Density	ASTM D1505	Certified	g/cc	> 0.932
Melt Index - 190°C/2.16 kg (max.)	ASTM D1238	Certified	g/10 min	1.0
Density	ASTM D792	One per batch	g/cm ³	≥ 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	Per formulation	min	100
Tensile Properties (min. avg.) (2)	ASTM D6693	Every 5 rolls		
Strength at Yield			kN/m	22
Elongation at Yield			%	12
Strength at Break			kN/m	40
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 10 rolls	N	168
Puncture Resistance (min. avg.)	ASTM D4833	Every 10 rolls	N	480
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		
HP-OIT (min. avg.)	ASTM D5885		%	80
UV Resistance - % retained after 1,600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
SUPPLY SPECIFICATIONS(Roll dimensions may vary $\pm 1\%$)				
Roll Dimension - Width	-		m	7.00
Roll Dimension - Length	-		m	150.0
Area (Surface/Roll)	-		m ²	1050.00

NOTES

1. Testing frequency based on standard roll dimensions.
2. Machine Direction (MD) and Cross Machine Direction (CMD) average values should be on the basis of 5 specimens each direction.
11. The minimum average thickness is $\pm 10\%$ of the nominal value.

* 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 or 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.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

HDPE 7000 2.00 mm Black Smooth

PROPERTY ⁽¹⁾	TEST METHOD	FREQUENCY	UNIT Metric	1085280
SPECIFICATIONS				
Thickness (Nominal $\pm 10\%$) (11)	ASTM D5199	-	mm	2.00
Resin Density	ASTM D1505	Certified	g/cc	> 0.932
Melt Index - 190°C/2.16 kg (max.)	ASTM D1238	Certified	g/10 min	1.0
Density	ASTM D792	One per batch	g/cm ³	≥ 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	Per formulation	min	100
Tensile Properties (min. avg.) (2)	ASTM D6693	Every 5 rolls		
Strength at Yield			kN/m	29
Elongation at Yield			%	12
Strength at Break			kN/m	53
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 10 rolls	N	224
Puncture Resistance (min. avg.)	ASTM D4833	Every 10 rolls	N	640
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		
HP-OIT (min. avg.)	ASTM D5885		%	80
UV Resistance - % retained after 1,600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
SUPPLY SPECIFICATIONS(Roll dimensions may vary $\pm 1\%$)				
Roll Dimension - Width	-		m	7.00
Roll Dimension - Length	-		m	110.0
Area (Surface/Roll)	-		m ²	770.00

NOTES

1. Testing frequency based on standard roll dimensions.
2. Machine Direction (MD) and Cross Machine Direction (CMD) average values should be on the basis of 5 specimens each direction.
11. The minimum average thickness is $\pm 10\%$ of the nominal value.

* 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 or 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.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.