

TECHNICAL DATASHEET

HDPE SMOOTH GEOMEMBRANE (6.95/7.5)

PRODUCT DESCRIPTION

HDPE is a smooth high density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require excellent chemical resistance and endurance properties.



TESTED PROPERTY	UNIT	TEST METHOD	VALUES(*)		
THICKNESS (a)	mm	ASTM D 5199	0.5	0.75	1.0
DENSITY	g/cm ³	ASTM D 792	>0.94	>0.94	>0.94
TENSILE PROPERTIES (EACH DIRECTION)		ASTM D 638/D 6693 TYPE IV			
			8 (7)	13 (11)	16 (15)
STRENGTH AT YIELD	N/mm	50mm/min	13 (12)	14 (12)	16 (13)
ELONGATION AT YIELD	%	lo = 33mm	17 (12)	26 (20)	33 (27)
STRENGTH AT BREAK	N/mm	50mm/min	800 (700)	800 (700)	800 (700)
ELONGATION AT BREAK	%	lo = 50mm			
TEAR RESISTANCE	N	ASTM D 1004	70 (65)	100 (95)	140 (130)
PUNCTURE RESISTANCE	N	ASTM D 4833	240 (160)	340 (240)	420 (320)
CARBON BLACK CONTENT	%	ASTM D 4218	2.0-3.0	2.0 - 3.0	2.0 - 3.0
CARBON BLACK DISPERSION	CATEGORY	ASTM D 5596	1/2 ^(b)	1/2 ^(b)	1/2 ^(b)
DIMENSIONAL STABILITY (EACH DIRECTION)	%	ASTM D 1204 (120°C/1h)	±2	±2	±2
MELT FLOW INDEX (c)	g/10 min	ASTM D 1238 (190°C /5.0 kg) (190°C /2.16 kg)	≤3.0 ≤1.0	≤3.0 ≤1.0	≤3.0 ≤1.0
STRESS CRACK RESISTANCE (NCTL)	h	ASTM D 5397; APPENDIX	≥500	≥500	≥500
OXIDATIVE INDUCTION TIME (OIT)	min	ASTM D3895 (200°C; PURE O ₂ ; 1atm)	≥100	≥100	≥100
TYPICAL ROLL DIMENSIONS					
LOW TEMPERATURE BRITTLINESS	°C	ASTM D 746	-77	-77	-77
UV RESISTANCE (d)	%	ASTM D 7238	≥50	≥50	≥50
HP-OIT RETAINED AFTER 1,600 hours (e)	%	ASTM D 5885	≥50	≥50	≥50
ROLL WIDTH (APPROX.) (f)	m	---	7.0	6.95	6.95/7.5
SURFACE	---	---	DOUBLE-SIDED SMOOTH		

NOTES:

- (*) All values-unless otherwise noted are minimum average values.
- (a) Tolerance ±10% for the lowest individual reading - special thickness available upon request.
- (b) Dispersion only applies to near spherical agglomerates 9 of 10 views shall be category 1 or 2. No more than 1 view from Category 3.
- (c) Standard conditions: 190°C/5.0 kg
- (d) Test-Conditions: 20 hours UV cycle at 75°C followed by 4 hours condensation at 60°C
- (e) UV resistance is based on percent retained value regardless of the original High Pressure - OIT value.
- (f) Roll widths and lengths have a tolerance of ±1%

1. TCS Geotechnics is a trading name of Technical Civils Solutions Ltd.
2. TCS Geotechnics Ltd reserves the right to alter product specifications without prior notice.
3. It is the responsibility of all users to satisfy themselves that the above data is current.
4. The above figures are average values obtained from testing to current EN ISO standards.
5. TCS Ltd cannot accept responsibility for the performance of these products as the conditions of use are beyond our control.
6. Installation details are available on request.

REGISTERED OFFICE ADDRESS

Units 2 & 5 Tetbury Close
Martland Industrial Park
Wigan
Greater Manchester
WN5 0LA



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PRODUCT DESCRIPTION

HD is a smooth high density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require excellent chemical resistance and endurance properties.



TESTED PROPERTY	UNIT	TEST METHOD	VALUES(*)	
THICKNESS ^(a)	mm	ASTM D 5199	1.5	2.0
DENSITY	g/cm ³	ASTM D 792	>0.94	>0.94
TENSILE PROPERTIES (EACH DIRECTION)		ASTM D 638/D 6693 TYPE IV	24 (22)	32 (30)
STRENGTH AT YIELD	N/mm	50mm/min	16 (13)	16 (13)
ELONGATION AT YIELD	%	lo = 33mm	49 (40)	66 (53)
STRENGTH AT BREAK	N/mm	50mm/min	800 (700)	800 (700)
ELONGATION AT BREAK	%	lo = 50mm		
TEAR RESISTANCE	N	ASTM D 1004	205 (190)	275 (250)
PUNCTURE RESISTANCE	N	ASTM D 4833	560 (480)	690 (640)
CARBON BLACK CONTENT	%	ASTM D 4218	2.0-3.0	2.0 - 3.0
CARBON BLACK DISPERSION	CATEGORY	ASTM D 5596	1/2 ^(b)	1/2 ^(b)
DIMENSIONAL STABILITY (EACH DIRECTION)	%	ASTM D 1204 (120°C/1h)	±2	±2
MELT FLOW INDEX ^(c)	g/10 min	ASTM D 1238 (190°C /5.0 kg) (190°C /2.16 kg)	≤3.0 ≤1.0	≤3.0 ≤1.0
STRESS CRACK RESISTANCE (NCTL)	h	ASTM D 5397; APPENDIX	≥500	≥500
OXIDATIVE INDUCTION TIME (OIT)	min	ASTM D3895 (200°C; PURE O ₂ ; 1atm)	≥100	≥100
TYPICAL ROLL DIMENSIONS				
LOW TEMPERATURE BRITTLENESS	°C	ASTM D 746	-77	-77
UV RESISTANCE ^(d) HP-OIT RETAINED AFTER 1,600 hours ^(e)	%	ASTM D 7238 ASTM D 5885	≥50	≥50
ROLL WIDTH (APPROX.) ^(f)	m	---	7.5/6.95	
SURFACE	---	---	DOUBLE-SIDED SMOOTH	

NOTES:

- (*) All values-unless otherwise noted are minimum average values.
- ^(a) Tolerance ±10% for the lowest individual reading - special thickness available upon request.
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