

TECHNICAL DATASHEET

1.0MM HDPE

PRODUCT DESCRIPTION

1.0mm HDPE geomembranes are manufactured from the best in class polyethylene (HDPE) resins coupled with specific antioxidant package by the most advanced flat-die technology. This results in a quality and consistent product with maximum durability and long term performance. Scoring the highest stress crack resistance value in the industry, with unrivalled mechanical and chemical properties.



PROPERTY	TEST METHOD	UNIT	VALUE	FREQUENCY ¹
PHYSICAL PROPERTIES				
DENSITY OF RAW MATERIAL	EN ISO 1183-1	g/cc	≥ 0.932	-
MELT FLOW INDEX	EN ISO 1183-1 (190°C/5 kg) (190°C/2.16kg)	g/10 min	< 1.30 < 0.40	1 PER BATCH
DENSITY OF GEOMEMBRANE	EN ISO 1183-1	g/cc	0.946 ± 0.004	90,000kg
CARBON BLACK CONTENT	ASTM D 4218	%	2.0 - 2.5	PER ROLL
CARBON BLACK DISPERSION	ISO 18553	-	≤ 3	20,000kg
DIMENSIONAL STABILITY	EN ISO 14632 (100°C 1h)	%	± 1.5	PER DAY
LOW TEMPERATURE BRITTLENESS (t ^o -170°C)	EN 495-5	-	NO CRACKS	PER FORMULATION
ENDURANCE PROPERTIES				
STRESS CRACK RESISTANCE	EN 14576/ISO 18488 ⁽⁴⁾	h	≥ 3,000	90,000 kg
OXIDATIVE INDUCTION TIME (OIT) Std OIT HP OIT	ISO 11357-6 ASTM D 5885	min	≥ 120 ≥ 500	90,000 kg
OVEN AGING AT 85°C HP OIT % RETAINED AFTER 90 DAYS	ASTM D 5721 ASTM D 5885	%	≥ 80	PER FORMULATION
UV RESISTANCE BREAK THROUGH STRENGTH % RETAINED AFTER 3000h	EN 12224	%	≥ 75	PER FORMULATION
OXIDATION AT 85°C	EN 14575	%	≥ 15	PER FORMULATION
MANUFACTURING PROPERTIES				
THICKNESS (NOMINAL)		mm	1.00	PER ROLL
THICKNESS (MINIMUM AVERAGE)	EN 1849-2	%	5	
THICKNESS (MINIMUM INDIVIDUAL VALUE)		%	10	
MECHANICAL PROPERTIES ²				
TENSILE STRENGTH AT YIELD	EN ISO 527 (TYPE 5). lo 25mm	N/mm	18 (16)	9,000 kg
ELONGATION AT YIELD		%	≥ 12	
TENSILE STRENGTH AT BREAK		N/mm	31 (27)	
ELONGATION AT BREAK		%	800 (700)	
TEAR RESISTANCE	ISO 34. -1	N	≥ 135	20,000 kg
PUNCTURE RESISTANCE	EN ISO 12236	kN	3.1 (2.6)	20,000 kg

PARAMETER	UNIT	1mm HDPE
ROLL WIDTH	m	3
ROLL LENGTH	m	100

REGISTERED OFFICE ADDRESS

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

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.
7. Values indicated are medium. In brackets minimum values with 95% confidence level.

