

# TECHNICAL DATASHEET

## HDPE GEOMEMBRANE GRI-GM13

### PRODUCT DESCRIPTION

A highly impermeable geomembrane barriers. Inert to biological degradation and naturally encountered chemicals, alkalis and acids. The main purpose of the product is to serve as a barrier protecting various engineering structures against moisture, water, liquids and chemical substances, gases (radon, methane and carbon dioxide).

These product specifications meet or exceed **GRI-GM13**

Characteristics required for use in the construction of: reservoirs and dams according to EN 13361, Tunnels and underground structures according to EN 13491, canals according to EN 13362. Liquid waste disposal sites, transfer stations or secondary containment according to EN 13492, Solid waste storage and disposal sites according to EN 13493. Transportaion infrastructure according to EN 15382



CHARACTERISTICS	TEST METHOD	UNITS	HDPE			
			0.75	1.0	1.5	2.0
SURFACE			G/G (SMOOTH/SMOOTH)	G/G (SMOOTH/SMOOTH)		
THICKNESS (min. ave.) LOWEST INDIVIDUAL OF 10 VALUES	ASTM D 5199	mm	0.75 - 10 %	1.0 - 10 %	1.5 - 10 %	2.0 - 10 %
DENSITY (min.)	ASTM D 1505	g/cm <sup>3</sup>	0,940	0,940	0,940	0,940
TENSILE PROPERTIES (min. ave.)						
• YIELD STRENGTH	ASTM D 6693 type	kN/m	12	17	25	33
• BREAK STRENGTH		kN/m	24	30	45	58
• YIELD ELONGATION		%	12	12	12	12
• BREAK ELONGATION		%	750	750	750	750
TEAR RESISTANCE (min. ave.)	ASTM D 1004	N	100	130	190	280
PUNCTURE RESISTANCE (min. ave.)	ASTM D 4833	N	300	350	550	700
STRESS CRACK RESISTANCE	ASTM D 5397	HR.	500	500	500	500
CARBON BLACK CONTENT	ASTM D 4218 ASTM 6370	%	2 - 3	2 - 3	2 - 3	2 - 3
CARBON BLACK DISPERSION	ASTM D 5596	CATEGORY	min. 9 IN CATEGORIES 1 OR 2 AND MAX. 1 IN CATEGORY 3			
OXIDATION INDUCTION TIME (OIT) (min. ave.)						
STANDARD	ASTM D 3895 ASTM D 5885	min	100	100	100	100
HIGH PRESSURE OIT				400	400	400
OVEN AGING AT 85 °C						
STANDARD OIT (min. ave.) - % RETAINED AFTER 90 DAYS	ASTM D 5721 ASTM D 3895 ASTM D 3885	%	55	55	55	55
HIGH PRESSURE (min. ave.) - % RETAINED AFTER 90 DAYS				80	80	80
UV RESISTANCE	ASTM D 7238 ASTM D 5885	%		50	50	50
HIGH PRESSURE OIT (min. ave.) - % RETAINED AFTER 1600 HRS						
<b>STANDARD ROLL DIMENSIONS</b>						
ROLL LENGTH		m	100	200	150	120
ROLL WIDTH		m	5.1	5,1 OR 8,0		
ROLL AREA		m <sup>2</sup>	510	1020 1600	765 1200	612 960

### 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.

