



GPT – Protection & Drainage Composites

1. DESCRIPTION

GPT geocomposites comprise longitudinal band drains incorporated within (GPT5 – GPT 19), or on one side of (GPT3 & GPT4) a geotextile to provide low-cost area drainage and protection to a membrane. All components are manufactured from 100% virgin polymer for assured durability and compliance with EA guidance documents.



2. FEATURES

- Guaranteed as 100% prime grade virgin polymer – Contains no post-consumer or post-industrial recycled polymer
- High interface friction with soils for optimum stability on slopes
- 5.9m wide for rapid installation
- Reliable drainage and protection with a single product
- UV protected (1% active carbon black)
- Chemically inert
- Simple jointing – no welds or tapes required

	Test	Unit	MEAN VALUES											
			GPT 3	GPT 4	GPT 5	GPT 6	GPT 7	GPT 8	GPT 9	GPT 11	GPT 12	GPT 14	GPT 17	GPT 19
3. MECHANICAL PROPERTIES - Composite														
Static puncture (CBR)	EN ISO 12236	kN	3	4	5	6	7	8	9	11	12	14	17	19
Tensile strength (MD/CMD)		kN/m	20	25	30	35	40	45	50	60	65	75	90	100
Tensile elongation (MD/CMD)	EN ISO 10319	%	80	80	80	80	80	80	80	80	80	80	80	80
Cone drop	EN ISO 13433	mm	6	5	5	4	3	2	2	1	1	0	0	0
Protection efficiency (10 ³)	EN ISO 13719	kN/m ²	-	-	14	20	25	30	33	39	42	48	56	60
4. FILTER PROPERTIES – Protection textile														
Apparent opening size	EN ISO 12956	µm	60	60	<69	<69	<69	<69	<69	<69	<69	<69	<69	<69
Water flow	EN ISO 11058	l/(m ² .s)	50	45	40	40	35	30	30	24	16	16	10	10
5. PHYSICAL PROPERTIES – Composite														
Thickness @ 2kPa (nominal)	EN ISO 9863-1	mm	3.8	4.0	4.2	4.8	5.2	5.5	5.8	6.7	7.0	7.8	8.2	9.5
6. HYDRAULIC PROPERTIES			With band drains @1.0m centres [@0.5m centres – GPTa]											
In plane flow capacity i = 1 @ 20kPa			0.2 [0.4]											
i = 1 @ 100kPa			0.2 [0.4]											
i = 1 @ 200kPa	EN ISO 12958	l/(m.s)	0.2 [0.4]											
i = 1 @ 500kPa			0.18 [0.36]											



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7. DURABILITY	Test	
Weathering 50 MJ/m ² exposure (1 month)	EN ISO 12224	>90% Retained Strength
Microbiological resistance	EN ISO 12225	No Loss in Strength
Resistance to acids & alkalis	EN ISO 14030	No Loss in Strength
Oxidation at 112 days (100 years)	EN ISO 13438	>90% Retained Strength

Notes:

- a) Mean values indicate the arithmetic mean derived from the samples taken for any one test as defined in the standard – usually an overall mean of five samples. Mean values are subject to tolerances based on 95% confidence limits as published on the product CE declaration of performance.
- b) Nominal Value (indicates an average manufacturing norm and not a controlled performance parameter).
- c) MD: Machine Direction (longitudinal to the roll).
- d) CMD: Cross Machine Direction (across the roll).
- e) Tensile testing is performed using extensometers.
- f) In plane flow capacity tested using hard/soft platens.

8. STANDARD DIMENSIONS	Unit	VALUES											
		GPT 3	GPT 4	GPT 5	GPT 6	GPT 7	GPT 8	GPT 9	GPT 11	GPT 12	GPT 14	GPT 17	GPT 19
Roll Width	m	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Length	m	75	75	75	75	75	75	50	50	50	50	50	50
Approximate Roll Weight	Kg	165	190	250	270	290	320	270	290	320	370	460	500

9. NEEDLE DETECTION

During manufacture, the geotextile passes close to three sets of magnets which remove metal particles up to 12g and >2mm. Just before the roll up, the geotextile passes through an electronic metal detection field. Audio and visual alarms indicate if metal particles are detected. Rolls are sent to stock if they pass through the field without an alarm event or, in the case of an alarm event, the operator inspects the suspect area, locates any metal particles and removes them. If unsuccessful, or if any doubt remains as to the presence of metal particles, then the roll goes to the re-inspection facility

10. TESTING

All materials are tested every 6000m² in an UKAS accredited ISO 17025 laboratory to all mechanical properties prior to release.

11. STORAGE

Geocomposites are supplied in packaging designed to protect the product from damage during handling and storage and degradation as a result of UV exposure. The product should be kept in appropriate packaging until such time that it is required for installation. The geotextile is clearly and indelibly marked with the product name along the edge of the roll at regular intervals no greater than 5m. The packaging is labelled clearly to identify the product supplied in accordance with EN ISO 10320: Geotextile and Geotextile related products – Identification on site. Use slings where provided. Product weights are given on roll tickets. Use equipment appropriate to weight and dimension. Store and handle in accordance with good occupational hygiene and safety practice.



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