

**PARADRAIN® 50/5**

**STRIP BONDED DRAINING GEOGRIDS WITH HIGH TENACITY POLYESTER CORE**

ParaDrain® geogrids are planar structures consisting of a biaxial array of composite geosynthetic strips combining reinforcement and drainage functions in one product. They have been specially developed for the reinforcement of slopes constructed from poorly draining backfill. ParaDrain® geogrids are CE certified for reinforcement applications according to EN 13249:2016, EN 13250:2016, EN 13251:2016, EN 13253:2016, EN 13254:2016, EN 13255:2016, EN 13257:2016, EN 13265:2016, and BBA HAPAS certified (16/H249 Product Sheet 1).

ParaDrain®			50/5
<b>Mechanical properties</b>			
Ultimate tensile strength - MD <sup>(1)</sup>	EN ISO 10319	kN/m	57 (- 7)
Nominal strain at T <sub>ch</sub> - MD <sup>(1)</sup>		%	9.0
Ultimate tensile strength - CMD <sup>(1)</sup>		kN/m	6 (- 1)
Nominal strain at T <sub>ch</sub> - CMD <sup>(1)</sup>		%	9.0
<b>Hydraulic properties</b>			
In plane flow at 15 kPa, S/S contact <sup>(2)</sup>	i = 0.03	m <sup>3</sup> /s/m	2.17 x 10 <sup>-7</sup>
	i = 0.10	m <sup>3</sup> /s/m	8.50 x 10 <sup>-7</sup>
	i = 1.00	m <sup>3</sup> /s/m	1.11 x 10 <sup>-5</sup>
In plane flow at 50 kPa, S/S contact <sup>(2)</sup>	i = 0.03	m <sup>3</sup> /s/m	8.12 x 10 <sup>-8</sup>
	i = 0.10	m <sup>3</sup> /s/m	2.73 x 10 <sup>-7</sup>
	i = 1.00	m <sup>3</sup> /s/m	4.53 x 10 <sup>-6</sup>
Index value: in plane flow at 100 kPa, R/R contact <sup>(3)</sup>	i = 0.10	m <sup>3</sup> /s/m	2.44 x 10 <sup>-7</sup>
	i = 0.50	m <sup>3</sup> /s/m	5.33 x 10 <sup>-7</sup>
	i = 1.00	m <sup>3</sup> /s/m	1.07 x 10 <sup>-6</sup>
Permeability normal to the plane of the filter <sup>(2)</sup>	EN ISO 11058	l/m <sup>2</sup> /s	90
Pore size of the filter AOS O <sub>90</sub> <sup>(2)</sup>	EN ISO 12956	mm	100
<b>Physical Properties</b>			
Strip reinforcement polymer			PET
Strip coating polymer			PE
Filter polymer			PP/PE
Strip width - MD <sup>(4)</sup>		mm	24
Grid size warp/weft <sup>(4)</sup>		mm	75 x 450
Roll width <sup>(5)</sup>		m	3.9
Roll length <sup>(5)</sup>		m	50
<b>Durability, Environmental and Sustainability Properties</b>			
Content of SVHC <sup>(6)</sup>	ISO 14025 EN 15804	%	≤ 0.1
Global Warming Potential Total (GWP) <sup>(6)</sup>		kg CO <sub>2</sub> Eq.	≤ 9.66E-01
Acidification potential (AP) <sup>(6)</sup>		mol H+ Eq.	≤ 2.36E-03
Eutrophication Potential freshwater (EP-fr) <sup>(6)</sup>		kg P Eq.	≤ 2.65E-06
Eutrophication Potential marine (EP-mar) <sup>(6)</sup>		kg N Eq.	≤ 7.42E-04
Eutrophication Potential terrestrial (EP-ter) <sup>(6)</sup>		mol N Eq.	≤ 8.04E-03
Durability	Annex - B hEN	Covered within one month after installation. Predicted to be durable for more than 120 years in natural soils with 4<pH<11 and soil temperatures <30 °C.	



- (1) Short-term tests in accordance with EN ISO 10319:2015. The values given are mean values of ultimate strength and tolerance values correspond to the 95% confidence level to establish the characteristic short-term tensile strength (T<sub>ch</sub>) in accordance with EN 13251:2016;
- (2) Typical value, a standard tolerance of 10% on the reported value is admitted;
- (3) Index value obtained from consolidation tests carried out on English China Clay Grade E soil;
- (4) Mean measured dimensions;
- (5) Standard value;
- (6) Values reported in the EPD certificate KIWA-EE- 000375-EN issued in accordance with EN15804+A2: 2019 and ISO14025 with validity till April 2029. The reported values are selected among the 13 mandatory certified values (EN 15804+A2:2019) and referred to the Product Stage A1-A3. Additional environmental impact indicators and different Product Stages valid for Life Cycle Assessment are reported in the full EPD certificate of the product.

MD: Machine Direction; CMD: Cross Machine Direction



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