

**PARADRAIN® 150/5**

**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®			150/5
<b>Mechanical properties</b>			
Ultimate tensile strength - MD <sup>(1)</sup>	EN ISO 10319	kN/m	160 (-10)
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	33
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.	≤ 1.87E+00
Acidification potential (AP) <sup>(6)</sup>		mol H+ Eq.	≤ 4.32E-03
Eutrophication Potential freshwater (EP-fr) <sup>(6)</sup>		kg P Eq.	≤ 5.70E-06
Eutrophication Potential marine (EP-mar) <sup>(6)</sup>		kg N Eq.	≤ 1.36E-03
Eutrophication Potential terrestrial (EP-ter) <sup>(6)</sup>		mol N Eq.	≤ 1.48E-02
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



For the optimisation and improvement process of the technical characteristics of the products, the producer reserves the right to modify standards and characteristics of the product without warning. The information contained herein is to the best of our knowledge accurate, but since the circumstances and conditions in which it may be used are beyond our control, we do not accept any liability for any loss or damage, however arising, which results directly or indirectly from the use of such information nor do we offer any warranty or immunity against patent infringement. Specifiers are requested to check the validity of the specification they are using.

**Maccaferri Ltd:**  
T: (+44) 1865 770555 [www.maccaferri.com/uk](http://www.maccaferri.com/uk)  
**Rep of Ireland:**  
T: (+353) 18851662 [www.geostrong.net](http://www.geostrong.net)

**Specialist areas:**  
Sales: E: sales.uk@maccaferri.com  
Technical: E: technical.uk@maccaferri.com  
Construction: E: construction.uk@maccaferri.com

