MACCAFERRI

TECHNICAL DATA SHEET
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TERRADRAIN® W 1081
DRAINAGE COMPOSITE

Geocomposite for planar drainage (GCD), realized by thermo-bonding a draining core in extruded monofilaments (GMA) with two filtering nonwoven geotextiles (GTX-N) that may also be working as separation or protecting layers. The three-dimensional draining core presents a "W" configuration as longitudinal parallel channels.

TerraDrain®			W 1081
Geocomposite (GCO)			
Thickness at 2 kPa (1,3)	EN ISO 9863-1	mm	8.3 (+/- 10%)
Mass per unit area (1,3)	EN ISO 9864	g/m²	890 (+/- 10%)
Tensile strength - MD (2,4)	EN ISO 10319	kN/m	21 (- 5)
In plane flow capacity - MD (1,2,4,5)	EN ISO 12958	l/m/s	See table below (+/- 30%)

		Short-term properties			After 20yrs (5)	After 100yrs (5)
	Gradient =	0.03	0.1	1.0	1.0	1.0
S/S contact (2,4)	20 kPa	-	-	2.76	-	-
R/S contact (1,4)	20 kPa	0.40	0.72	2.88	-	-
	100 kPa	0.30	0.51	2.13	1.88	1.85
	200 kPa	0.20	0.38	1.79	1.36	1.14

External filters (GTX-N)			
Structure: nonwoven geotextiles			
Raw material: UV stabilized polyolefin			
Mass per unit area (1,3)	EN ISO 9864	g/m²	125 (+/- 10%)
Thickness at 2 kPa (1,3)	EN ISO 9863-1	mm	0.73 (+/- 33%)
Tensile strength - MD & CMD (1,4)	EN ISO 10319	kN/m	9.25 (- 1.7)
Static puncture resistance (1,4)	EN ISO 12236	N	1600 (- 21%)
Dynamic puncture resistance (1,4)	EN ISO 13433	mm	26 (+ 6)
Flux normal to the plane (1,4)	EN ISO 11058	l/m²/s	110 (+/- 30)
Characteristic opening size O_{90} (1,4)	EN ISO 12956	µm	100 (+/- 45)
Draining core (GMA)			
Structure: three-dimensional geomats made by extruded monofilaments set in longitudinal parallel channel configuration			
Raw material: polypropylene UV stabilized by carbon black			
Mass per unit area (1,3)	EN ISO 9864	g/m²	640 (+/- 6%)
Durability, Environmental and Sustainability properties			
Content of SVHC (6)	ISO 14025 EN 15804	%	≤ 0.1
Global Warming Potential Total (GWP) (6)		kg CO_2 Eq.	≤ 2.11E+00
Acidification potential (AP) (6)		mol H+ Eq.	≤ 5.15E-03
Eutrophication Potential freshwater (EP-fr) (6)		kg P Eq.	≤ 4.27E-06
Eutrophication Potential marine (EP-mar) (6)		kg N Eq.	≤ 1.79E-03
Eutrophication Potential terrestrial (EP-ter) (6)		mol N Eq.	≤ 1.93E-02
Durability	EN 13252	Can be exposed up to 14 days; durable for service lives up to 25yr, 50yr (type II), and 100yr (type I) in natural soil with 4<pH<9 and soil temperature <25°C	



(1) Informative value not reported in the DoP;
(2) Certified value reported in the DoP;
(3) Nominal value; if not differently indicated a standard 10% tolerance value is admitted;
(4) Characteristic value corresponds to the mean value deducted the tolerance and correspond to the MARV at 95% of confidence limit.
(5) Long term properties reported are calculated on the base on long term compressive creep tests run under normal compressive loads from 50 to 500 kPa using both the Stepped Isothermal Method (SIM) of time-temperature superposition (TTS) compressive creep tests and conventional isothermal compressive creep tests performed at room temperature as per ASTM D7361-07:2012 and ISO 25619-1:2008;
(6) Values reported in the EPD certificate KIWA-EE- 000377-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.

Variable width and length according to the project requirements can be available depending on the production plan and the machines availability; please check stock position with the logistic dept. Special products can be manufactured on request for specific projects.

MD : Machine Direction; CMD: Cross Machine Direction

ECO PLATFORM EPD VERIFIED kiwa Ecobility Experts

LONG TERM TESTED COMPRESSIVE CREEP

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.

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