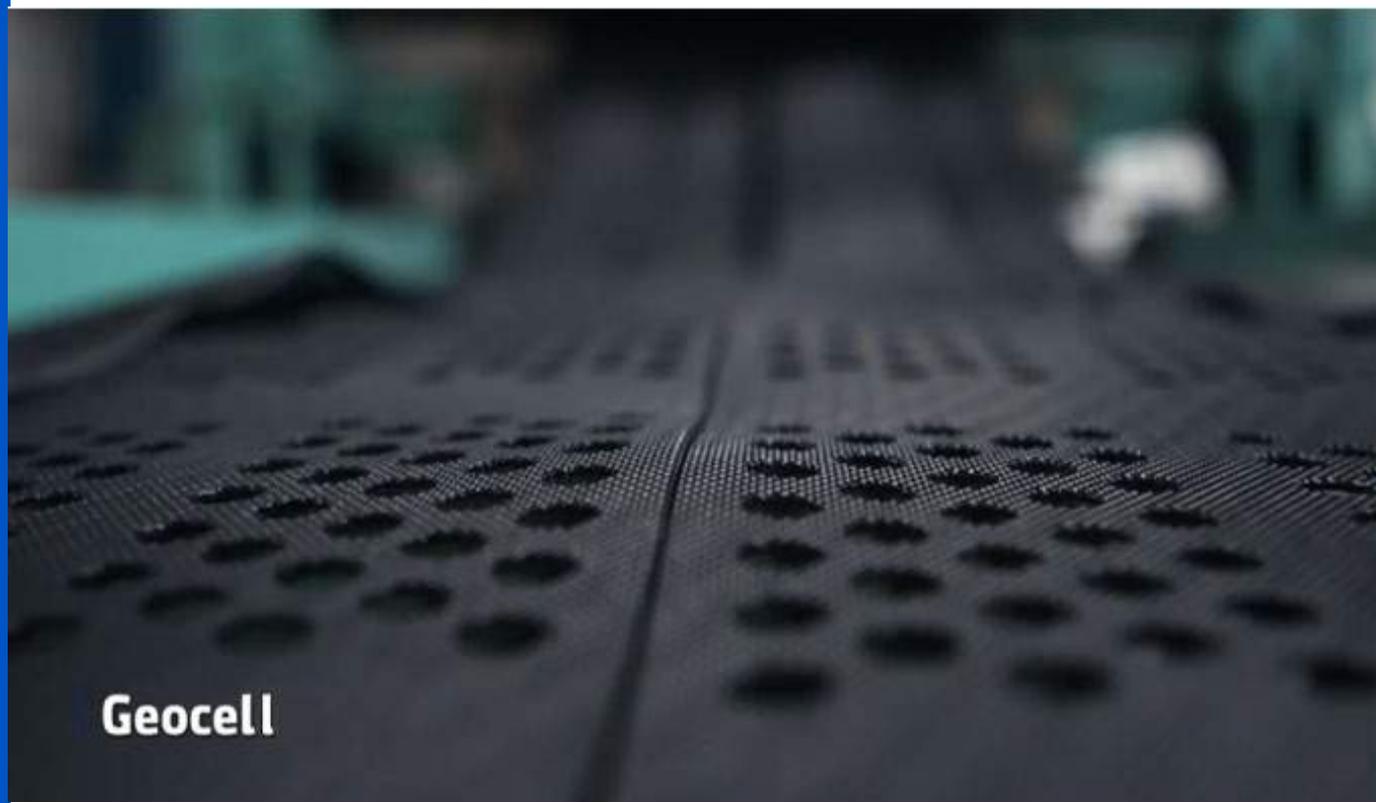


Environmental Product Declaration (EPD)
According to ISO 14025 and EN 15804+A2

TECWEB and G-1 GEOCELL



Registration number:	Kiwa-EE-000451-EN
Issue date:	29.09.2025
Valid until:	29.09.2030
Declaration owner:	TDM Geosintéticos S.A.
Publisher:	Kiwa-Ecobility Experts
Program operator:	Kiwa-Ecobility Experts



Geocell

1 General information

1.1 PRODUCT

TECWEB Geocell and G1 Geocell are made from extruded high-density polyethylene (HDPE). It consists of perforated and textured strips, ultrasonically welded together to form a flexible honeycomb-shaped element. It retains materials such as soil, concrete, gravel, soil-cement, and local materials with high shear resistance.

1.2 REGISTRATION NUMBER

Kiwa-EE-000451-EN

1.3 VALIDITY

Issue date: 29.09.2025

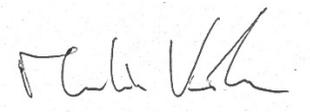
Valid until: 29.09.2030

1.4 PROGRAM OPERATOR

Kiwa-Ecobility Experts
Wattstraße 11-13
13355 Berlin
Germany



Raoul Mancke
*(Head of program operations,
Kiwa-Ecobility Experts)*



Martin Köhrer/ Kripanshi Gupta
*(Verification body, Kiwa-
Ecobility Experts)*

1.5 OWNER OF THE DECLARATION

Declaration owner: TDM Geosintéticos S.A.

Address: Alameda los Horizontes Nro. 905 Urbanización los huertos de Villa Chorrillos-Lima-Perú



E-mail: contactenos@grupotdm.com

Website: <https://www.tdm.com.pe/>

Production location: Lurín, Lima - Perú

Address production location: Calle D Mz. A Lt. 17, Urb. Las Praderas de Lurín, Lurín.

Company Description: TDM Geosintéticos S.A. is part of the TDM Group, a leading company in Latin America in the development of innovative engineering solutions. Founded in 1992, it is dedicated to the production and commercialization of geosynthetics, complying with the highest international quality standards.

Certifications:

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP), Authorized Economic Operator (AEO).

1.6 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804:2012+A2:2019 serves as the core PCR.

Internal External



Lucas Pedro Berman
(Third party verifier)

1.7 STATEMENTS

The owner of this EPD shall be liable for the underlying information and evidence. The program operator Kiwa-Ecobility Experts shall not be liable with respect to manufacturer data, life cycle assessment data and evidence.

1.8 PRODUCT CATEGORY RULES

Kiwa-EE GPI R.2.0

Kiwa-Ecobility Experts, General Programme Instructions “Product Level”, Program EE 1201 (27.02.2025)

Kiwa-EE GPI R.2.0 Annex B1

Kiwa-Ecobility Experts, General Programme Instructions “Product Level” – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, Program EE 1203 (27.02.2025)

Kiwa-EE GPI R.2.0 PCR B

Kiwa-Ecobility Experts, PCR B – Product Category Rules for Geosynthetic Products (21.07.2023)

1.9 COMPARABILITY

In principle, a comparison or assessment of the environmental impacts of different products is only possible if they have been prepared in accordance with EN 15804. For the evaluation of the comparability, the following aspects have to be considered in particular: PCR used, functional or declared unit, geographical reference, the definition of the system boundary, declared modules, data selection (primary or secondary data, background database, data quality), scenarios used for use and disposal phases, and the life cycle inventory (data collection, calculation methods, allocations, validity period). PCRs and general program instructions of different EPDs programs may differ. Comparability needs to be evaluated. For further guidance, see EN 15804+A2 (5.3 Comparability of EPD for construction products) and ISO 14025 (6.7.2 Requirements for comparability).

1.10 CALCULATION BASIS

LCA method: EN15804+A2

LCA software: OpenLCA 2.4

Characterization method: EN15804+A2 (EF 3.1)

LCA database profiles: Ecoinvent EN 15804

Version database: v3.11

1.11 PROJECT REPORT

This EPD is generated on the basis of the following report: Declaración Ambiental de Producto Geoceldas



2 Product

2.1 PRODUCT DESCRIPTION

TECWEB and G1 geocells, manufactured from high-density polyethylene (HDPE), are currently used in sectors such as mining, construction, road and hydraulic infrastructure, due to their high shear strength and their ability to confine materials such as natural soils, gravel, concrete, soil-cement and other materials available on site. These three-dimensional structures allow a uniform distribution of loads and an improvement in the stability of the terrain, being applied in a wide variety of projects.



This Environmental Product Declaration (EPD) encompasses a broad range of products within the TECWEB and G1 Geocell families. These products primarily differ in weight per square meter, surface area, and height. Nevertheless, all items share similar production processes and materials, allowing their environmental impact to be reported collectively in a single declaration. Therefore, the present EPD is considering an average Geocell product.

TECWEB Geocell		G1 Geocell
TW 20	TW 40	G1-TW 30
TW 25	TW 60	G1-TW 35
TW 30	TW 80	G1-TW 40
TW 35	TW 100	-

Product specification

The composition of the product is described in the following table:

Table 1 Geocell Composition

	TECWEB	G1
Materials	Weight [m-%]	Weight [m-%]
POLYETHYLENE	95.02%	92.60%
BLACK MASTERBATCH	3.33%	2.60%
GREEN MASTERBATCH	-	2.50%
ANTIOXIDANT MASTER	1.26%	1.20%
UV STABILIZER MASTER	0.39%	1.10%

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

TECWEB Y G1 geocells comply with the GRI-GS15 standard and are used for canal linings, riverside defenses, slope erosion control, soil stabilization, environmental closures, retaining walls and reinforced pavements. Its use allows optimizing costs and execution times, while ensuring durability, technical efficiency and adaptability to demanding geotechnical conditions."

Applications: Canals, Riverside Defenses, Slope Erosion Control, Mine Closures, Walls, Reinforced Pavements, etc.

2.3 REFERENCE SERVICE LIFE (RSL)



RSL PRODUCT

Not applicable, due to the stages of construction and use are not contemplated in the scope of this EPD, in accordance with the requirements of ISO 14025. In addition, the useful life of the Geocell depends on factors such as the manufacturing process and the exposure conditions in each application, so its useful life has variable ranges.

USED RSL (YR) IN THIS CALCULATION

No reference service life is calculated

2.4 TECHNICAL DATA

The table below presents the primary characteristics of the products included in this Environmental Product Declaration (EPD).

SERIE	MASS / AREA UNIT (Kg/m ²)	HEIGHT (mm)
GEOCELL TECWEB		
GEOCELL TW 20	0.60, 0.92, 1.20, 1.84, 2.40, 3.67	50, 75, 100, 150, 200, 300
GEOCELL TW 25	0.53, 0.80, 1.07, 1.60, 2.14, 3.20	50, 75, 100, 150, 200, 300
GEOCELL TW 30	0.48, 0.72, 0.97, 1.45, 1.93, 2.90	50, 75, 100, 150, 200, 300
GEOCELL TW 35	0.39, 0.58, 0.77, 1.16, 1.55, 2.32	50, 75, 100, 150, 200, 300
GEOCELL TW 40	0.28, 0.42, 0.56, 0.84, 1.12, 1.68	50, 75, 100, 150, 200, 300
GEOCELL TW 60	0.25, 0.37, 0.50, 0.75, 1.00	50, 75, 100, 150, 200
GEOCELL TW 80	0.20, 0.29, 0.39, 0.59, 0.78	50, 75, 100, 150, 200
GEOCELL TW 100	0.16, 0.24, 0.32, 0.49, 0.65	50, 75, 100, 150, 200
GEOCELL G1		
G1-TW 30	1.45, 1.93, 2.90	150, 200, 300
G1-TW 35	1.16, 1.55, 2.32	150, 200, 300
G1-TW 40	0.84, 1.12, 1.68	150, 200, 300

2.5 SUBSTANCES OF VERY HIGH CONCERN

The Geocells included in the EPD do not content any substances of very high concern.

2.6 DESCRIPTION PRODUCTION PROCESS

Extrusion

At this stage, the raw material is melted in the extruder to produce a sheet. It is previously weighed according to the established formulation. During the process, the required thicknesses are adjusted, and the final sheet is obtained. Subsequently, a sample is taken and sent to the quality department for evaluation as part of the quality control test.

Punching

Once the quality controls are approved, the sheet is processed through the punching die, which has a specific design that defines the number of holes and the spacing between each punch. After this process, the punched sheets are obtained and then fed into the cutting machine for final sizing.

Cutting

The sheet is fed into the cutting machine, where the roller speed, blade adjustment, and shear operation are programmed to ensure an efficient and precise cut. Subsequently, the strip widths obtained are verified and, if necessary, corrected to ensure compliance with the established technical specifications. This process is key to maintaining the quality of the final product and preventing rework in later stages.

Welding

At this stage, the strips are welded using ultrasonic welding heads. During the process, welding parameters are controlled, and the spacing between welds is verified to ensure compliance with technical specifications. Subsequently, a sample of the welded strips is sent to the quality department to evaluate the welding efficiency according to the established quality plan. This evaluation corresponds to the second quality control test. Once the result is validated, production of the welded panels continues.

Drilling and Bandsaw

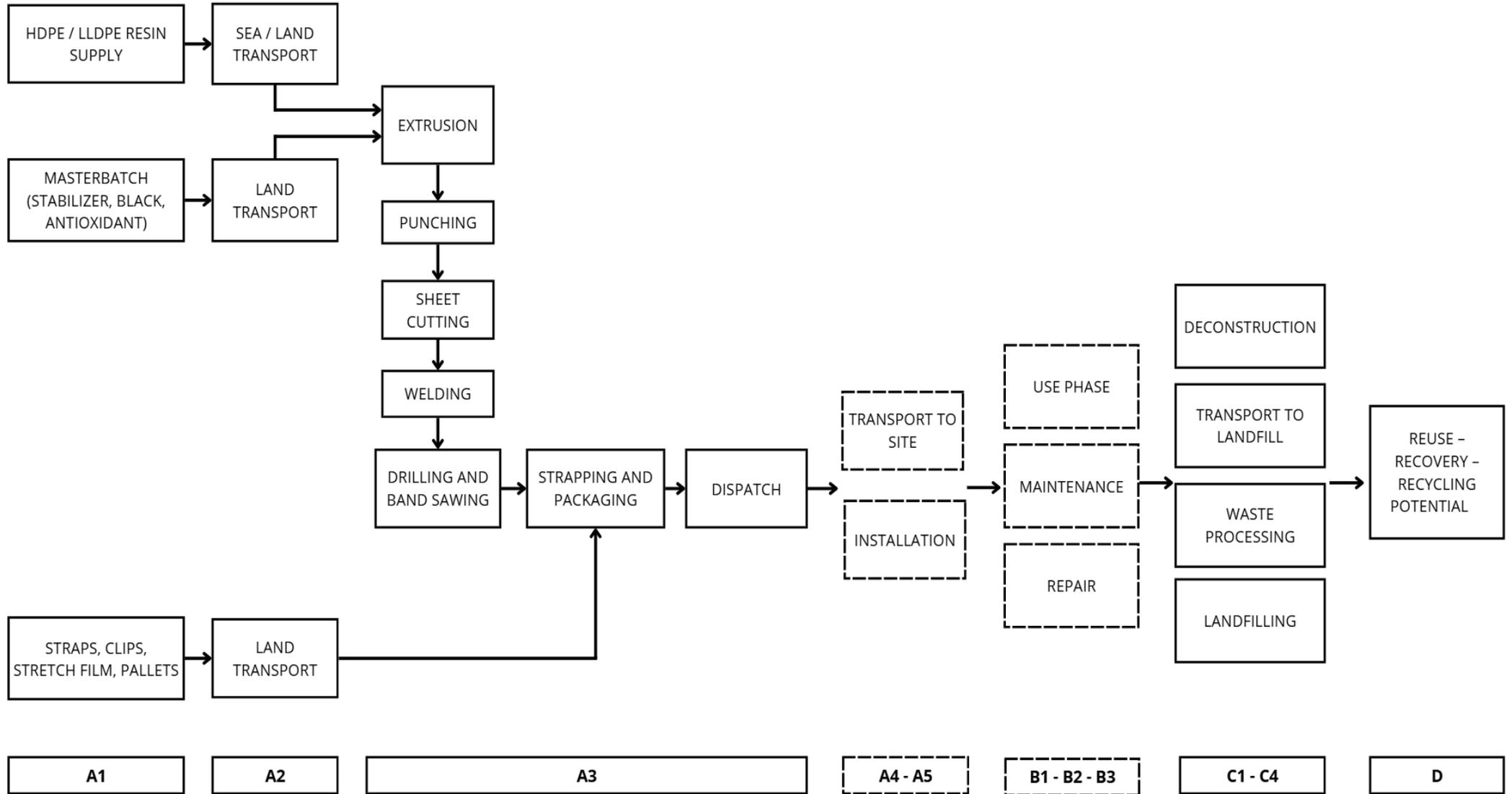
The parameters and corresponding product codes are entered, and the drilling distances are adjusted and verified using the drilling machine. Next, the alignment and centering of the bandsaw are checked to ensure it is set to the required cutting height. Finally, a final inspection is carried out to confirm that the product meets the specified properties.

Strapping and Packaging

The produced geocells are strapped and stacked on pallets, then labeled with a distinctive code that identifies their corresponding Production Order. Next, the production is recorded in the system, and as a final step, the pallets are aligned and delivered to the warehouse area for storage and subsequent dispatch.



Figure 1: Modules included in the EPD. Modules in dashed lines are not included



3 Calculation rules

3.1 DECLARED UNIT

The declared unit for this study is 1 kilogram of average geocell.

3.2 CONVERSION FACTORS

Since declared unit for this study is 1 kilogram of geocell no conversion factors are considered.

3.3 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

The Scope of the following study is Cradle to gate with options module C1-C4 and module D.

The life cycle stages included are as shown below:

(X = module declared, ND = module not declared)

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	X	X	X	X	X								

The modules of the EN15804+A2 contain the following:

Module A1 = Raw material supply	Module B5 = Refurbishment
Module A2 = Transport	Module B6 = Operational energy use
Module A3 = Manufacturing	Module B7 = Operational water use
Module A4 = Transport	Module C1 = De-construction / Demolition
Module A5 = Construction - Installation process	Module C2 = Transport
Module B1 = Use	Module C3 = Waste Processing
Module B2 = Maintenance	Module C4 = Disposal
Module B3 = Repair	Module D = Benefits and loads beyond the product system

boundaries

Module B4 = Replacement

3.4 REPRESENTATIVENESS

This EPD is representative for an average Geocell, a product of TDM Geosintéticos. The average Geocell was calculated by dividing the total resource inputs required to produce the products described in Chapter 2.4 by the total production volume. This average Geocell is representative of the different variants presented in Chapter 2.4.

The geographical representativeness is the facilities located in District of Lurin, Province and Department of Lima, Peru

3.5 CUT-OFF CRITERIA

The following processes are excluded:

- Transportation and mobilization of workers, such as land and air travel
- Production of capital goods, such as plant construction
- Production of printing wax, excluded because it represents less than 0.1% of system inputs and no consistent emission or conversion factor is available for its use
- Research and development activities
- Long-term emissions

3.6 ALLOCATION

Mass allocation was considered for fuels, electricity consumption, residues and packaging materials used.

3.7 DATA COLLECTION & REFERENCE TIME PERIOD

Primary data including all raw materials, packaging materials, energy consumption and ancillary materials was comprehensively collected for the reference year from 2024-01-01 to 2024-12-31.

3.8 ESTIMATES AND ASSUMPTIONS

In order to account for fuel consumption, packaging materials, and waste generation, a mass-based allocation was applied between the production of geocells and geomembranes at the Lurín plant. For international imports of raw materials, only the maritime distance between the port of origin and the Port of Callao was considered.



3.9 DATA QUALITY

Overall, the quality of the data is considered good. Primary data were collected through questionnaires completed by the TDM Geosynthetics team, and all relevant process information was included in the study.

According to the methodology established in Annex E of the EN 15804+A2 standard, the quality of the data in the three representative dimensions (geographical, technological, and temporal) is assessed as good, based on the following criteria: i) Secondary data related to raw materials were modeled using the electricity mix of the country of origin; ii) The data are less than three years old at the time of reporting, as the information corresponds to the year 2024; and iii) The geographical data are site-specific and were collected directly for the location under assessment.

Secondary data were obtained from the ecoinvent 3.11 database, meeting the requirement of a temporal coverage of less than ten years, and processed using the OpenLCA 2.4 software.

3.10 POWER MIX

The energy consumed at the plant is electricity. It was assumed that 100% of the electricity used originates from renewable sources, applying a market-based electricity approach. Guarantee of Origin (GOs) were considered, The GWP-total environmental impact of the electricity used is 0.00710 kgCO₂eq/kWh.

4 Scenarios and additional technical information

4.1 RAW MATERIAL SUPPLY (A1)

Raw material extraction and processing are included in this stage. The input material is both virgin and recycled High Density Polyethylene (HDPE). Virgin HDPE is imported from international providers, to quantify its environmental impacts ecoinvent dataset were modified to model energy and fuels inputs from the corresponding country. Recycled HDPE is produced in the country. Minor additives like masterbatch, colouring substances and packaging material are considered in the assessment.

4.2 TRANSPORT (A2)

Land and sea transportation are considered from the manufacturer of the raw material to the production facility. Distances are considered from the destination port to the port of Callao. Inland transportation from the provider to the port are not considered.

4.3 MANUFACTURING (A3)

The manufacturing process is represented by extrusion, perforation and welding. Only electricity is used for the manufacturing process of geocells.

All production waste is returned to the system, creating a closed internal cycle. Some of the post-industrial secondary raw material from geocell production is returned to production.

4.4 DE-CONSTRUCTION, DEMOLITION (C1)

To date, and taking into account the extended service life of geocells, there have been no recorded instances of product uninstallation. Consequently, it is not feasible to estimate the real characteristics of this module. Nevertheless, using bibliographic and standard information, the environmental impact for 0.043 MJ/kg of product is considered as default value.

4.5 TRANSPORT END-OF-LIFE (C2)

For this study, an average transport distance of 50 kilometers is considered, based on the information provided by the technical team of TDM geosintéticos.

4.6 END OF LIFE (C3, C4)

No processing or recovery takes place after the service life and landfilling is considered as the end-of-life disposal method.

4.7 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

Module D represents the benefits of recycling the Geocells beyond their service life. Considering that no recycling or recovery is considered, the benefits and loads are assumed to be 0. Packaging materials has been considered, however they are regarded as non-representative.

5 Results

For the impact assessment, the characterization factors of the LCIA method EN15804+A2 (EF 3.1) are used. Long-term emissions (>100 years) are not considered in the impact assessment. The results of the impact assessment are only relative statements that do not make any statements about endpoints of the impact categories, exceedance of threshold values, safety margins or risks. The following tables show the results of the indicators of the impact assessment, of the use of resources as well as of waste and other output flows.

5.1 ENVIRONMENTAL IMPACT INDICATORS

CORE ENVIRONMENTAL IMPACT INDICATORS EN15804+A2

Abbreviation	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
AP	mol H ⁺ eqv.	7.05E-03	1.72E-03	1.50E-04	8.92E-03	3.87E-05	5.82E-05	0.00E+00	1.19E-04	0.00E+00
GWP-total	kg CO ₂ eqv.	2.12E+00	7.23E-02	-2.17E-02	2.17E+00	4.33E-03	1.03E-02	0.00E+00	1.11E-02	0.00E+00
GWP-b	kg CO ₂ eqv.	2.68E-02	-3.44E-06	-4.88E-02	-2.19E-02	8.76E-07	3.26E-06	0.00E+00	3.42E-02	0.00E+00
GWP-f	kg CO ₂ eqv.	2.09E+00	7.22E-02	2.71E-02	2.19E+00	4.33E-03	1.03E-02	0.00E+00	1.10E-02	0.00E+00
GWP-luluc	kg CO ₂ eqv.	1.25E-03	3.75E-05	2.99E-05	1.32E-03	4.43E-07	4.60E-06	0.00E+00	6.67E-06	0.00E+00
EP-m	kg N eqv.	1.53E-03	4.33E-04	5.95E-05	2.02E-03	1.80E-05	2.33E-05	0.00E+00	2.97E-05	0.00E+00
EP-fw	kg P eqv.	4.40E-04	3.69E-06	5.33E-06	4.49E-04	1.40E-07	1.13E-06	0.00E+00	1.76E-05	0.00E+00
EP-T	mol N eqv.	1.55E-02	4.80E-03	5.65E-04	2.08E-02	1.97E-04	2.54E-04	0.00E+00	3.22E-04	0.00E+00
ODP	kg CFC 11 eqv.	6.19E-08	1.01E-09	5.12E-10	6.34E-08	6.42E-11	1.31E-10	0.00E+00	2.69E-10	0.00E+00
POCP	kg NMVOC eqv	1.03E-02	1.33E-03	2.08E-04	1.18E-02	5.90E-05	8.06E-05	0.00E+00	1.15E-04	0.00E+00
ADP-f	MJ	5.94E+01	9.17E-01	4.91E-01	6.08E+01	5.64E-02	1.43E-01	0.00E+00	2.46E-01	0.00E+00
ADP-mm	kg Sb-eqv.	1.11E-05	1.01E-07	1.08E-07	1.13E-05	1.59E-09	3.45E-08	0.00E+00	2.13E-08	0.00E+00
WDP	m ³ world eqv.	4.07E+00	3.31E-03	7.21E-03	4.08E+00	1.45E-04	7.58E-04	0.00E+00	1.09E-02	0.00E+00

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN15804+A2



Abbreviation	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
ETP-fw	CTUe	1.49E+01	8.53E-02	2.14E-01	1.52E+01	3.06E-03	2.63E-02	0.00E+00	1.69E-01	0.00E+00
PM	Disease incidence	9.44E-08	3.18E-09	3.36E-09	1.01E-07	1.10E-09	1.07E-09	0.00E+00	1.79E-09	0.00E+00
HTP-c	CTUh	5.34E-10	1.45E-11	3.61E-11	5.85E-10	4.41E-13	3.77E-12	0.00E+00	4.26E-12	0.00E+00
HTP-nc	CTUh	1.42E-08	3.10E-10	1.81E-10	1.46E-08	6.97E-12	1.12E-10	0.00E+00	1.90E-10	0.00E+00
IR	kBq U-235 eqv.	8.27E-02	4.91E-04	8.64E-04	8.40E-02	2.40E-05	1.15E-04	0.00E+00	1.85E-04	0.00E+00
SQP	Pt	5.61E+00	2.70E-01	2.99E+00	8.88E+00	3.74E-03	8.35E-02	0.00E+00	5.76E-01	0.00E+00

CLASSIFICATION OF DISCLAIMERS TO THE DECLARATION OF CORE AND ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

5.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI) PER [enter reference unit (e.g. kilogram)]

Abbreviation	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	4.67E+00	8.36E-03	4.18E-01	5.10E+00	3.55E-04	1.97E-03	0.00E+00	3.20E-03	0.00E+00
PERM	MJ	0.00E+00	0.00E+00							
PERT	MJ	4.67E+00	8.36E-03	4.18E-01	5.10E+00	3.55E-04	1.97E-03	0.00E+00	3.20E-03	0.00E+00
PENRE	MJ	5.94E+01	9.17E-01	4.92E-01	6.08E+01	5.64E-02	1.43E-01	0.00E+00	2.47E-01	0.00E+00
PENRM	MJ	0.00E+00	0.00E+00							
PENRT	MJ	5.94E+01	9.17E-01	4.92E-01	6.08E+01	5.64E-02	1.43E-01	0.00E+00	2.47E-01	0.00E+00
SM	kg	3.34E-01	6.06E-04	1.92E-03	3.37E-01	3.23E-05	1.03E-04	0.00E+00	1.68E-04	0.00E+00
RSF	MJ	7.95E-03	6.00E-05	1.25E-04	8.13E-03	3.35E-06	1.22E-05	0.00E+00	2.34E-05	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00							
FW	m3	1.53E-01	7.84E-05	1.28E-04	1.53E-01	3.61E-06	1.91E-05	0.00E+00	-3.76E-03	0.00E+00

PARAMETERS DESCRIBING RESOURCE USE

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbreviation	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
HWD	kg	7.92E-02	1.11E-03	2.61E-03	8.29E-02	5.03E-05	2.42E-04	0.00E+00	3.28E-04	0.00E+00
NHWD	kg	9.30E+00	7.25E-03	8.44E-02	9.39E+00	3.70E-04	1.37E-03	0.00E+00	1.01E+00	0.00E+00
RWD	kg	2.01E-05	1.20E-07	2.13E-07	2.04E-05	5.90E-09	2.81E-08	0.00E+00	4.60E-08	0.00E+00

ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

Abbreviation	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
CRU	kg	2.79E-01	0.00E+00	0.00E+00	2.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	2.34E-02	1.14E-03	4.47E-04	2.50E-02	2.66E-05	9.08E-05	0.00E+00	1.14E-04	0.00E+00
MER	kg	0.00E+00								
EET	MJ	3.97E-03	4.28E-05	6.71E-05	4.08E-03	1.25E-06	2.07E-05	0.00E+00	2.28E-05	0.00E+00
EEE	MJ	7.45E-03	5.18E-05	1.02E-04	7.60E-03	2.62E-06	1.16E-05	0.00E+00	4.07E-05	0.00E+00

5.3 INFORMATION ON BIOGENIC CARBON CONTENT PER KILOGRAM

No biogenic carbon content is considered in the Geocell



LCA results – information on biogenic carbon content at the factory gate: 1 kg TECWEB and G1 geocells (EN 15804+A2)

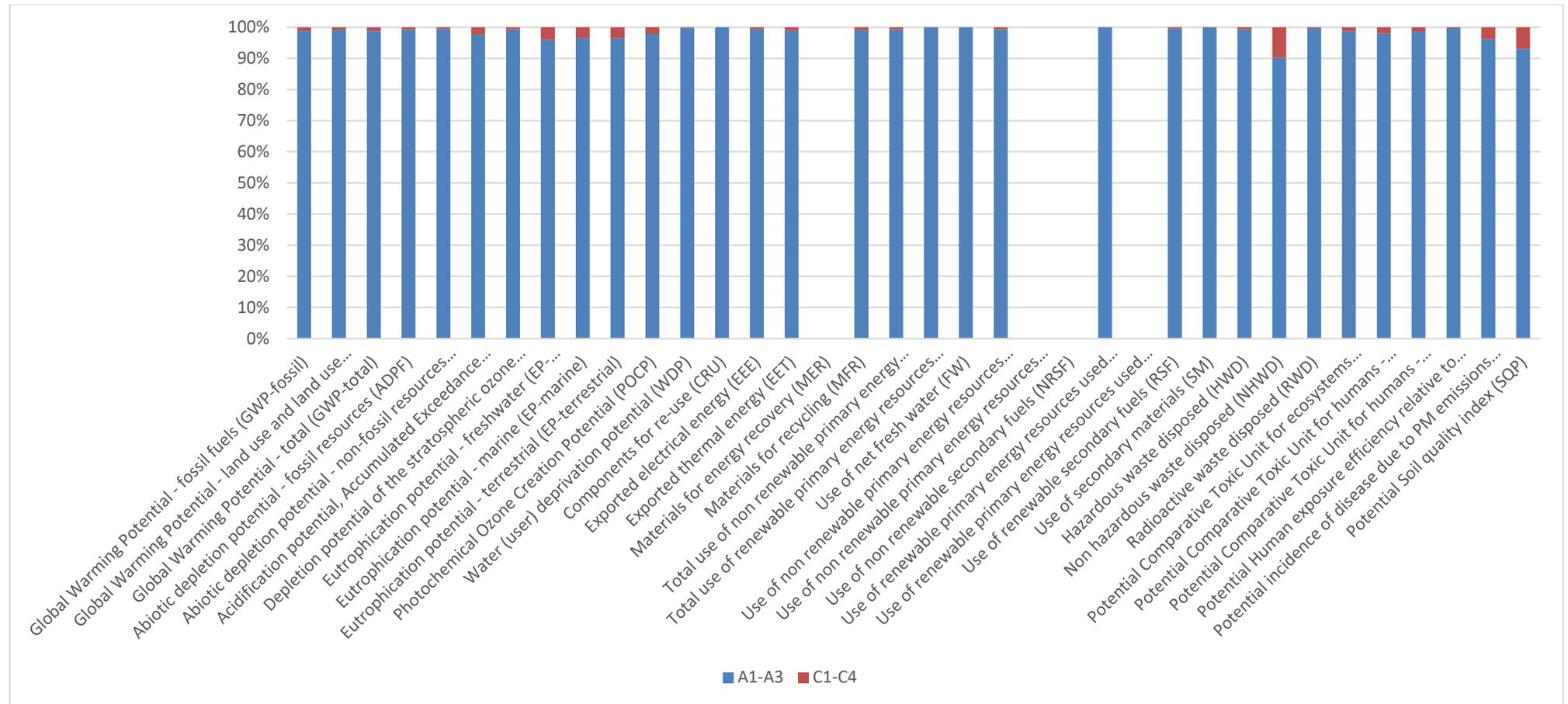
Parameter	Unit	Value
biogenic carbon content in product	kg C	0
biogenic carbon content in accompanying packaging	kg C	0
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg CO ₂		

UPTAKE OF BIOGENIC CARBON DIOXIDE

No uptake of biogenic carbon is considered in the Geocell.

6 Interpretation of results

6.1 CONTRIBUTION ANALYSIS



The cradle-to-gate phases (A1–A3) represent the predominant share of impact across most categories, with contributions ranging from a minimum of 90.2% (Non Hazardous Waste Disposal) up to 100% (Use of net fresh water).

7 References

LCA Geocell Report

Life Cycle Assessment of TECWEB and G1 Geocell Products. Ecoamet E.I.R.L. Prepared to TDM Geosintéticos.

ISO 14040

ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

ISO 14044

ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14044:2006

ISO 14025

ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804+A2

EN 15804+A2: 2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

Kiwa-EE GPI R.2.0

Kiwa-Ecobility Experts, General Programme Instructions “Product Level”, Program EE 1201 (27.02.2025)

Kiwa-EE GPI R.2.0 Annex B1

Kiwa-Ecobility Experts, General Programme Instructions “Product Level” – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, Program EE 1203 (27.02.2025)

Kiwa-EE PCR B

Kiwa-Ecobility Experts, PCR B Product Category Rules for Geosynthetic Products (21.07.2023)

Background database

ecoinvent version 3.11



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