ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Bidim Green
Geofabrics Australasia Pty Ltd

EPD HUB, HUB-3477
Published on 02.07.2025, last updated on 02.07.2025, valid until 01.07.2030
Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Geofabrics Australasia Pty Ltd
Address	83-93 Canterbury Road, Braeside Victoria , Australia 3195
Contact details	Geofabrics Australasia
Website	https://www.geofabrics.co/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Manufactured product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A5, and modules C1-C4, D
EPD author	Ross Mahon C6 ESG
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen, an authorized verifier acting for EPD Hub Limited.

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Bidim Green
Product reference	A14G, A19G, A24G, A29G, A34G, A39G, A44G, A49G, A64G,A74G, A84G, A94G
Place(s) of raw material origin	-
Place of production	79 Boronia St, North Albury, NSW, Australia 2640
Place(s) of installation and use	-
Period for data	01/2024 - 12/2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	GWP fossil was applied to all products consistently based on grams of weight vs declared unit of 1kg
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	23

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	4,33E+00
GWP-total, A1-A3 ($kgCO_2e$)	4,34E+00
Secondary material, inputs (%)	22,1
Secondary material, outputs (%)	3
Total energy use, A1-A3 (kWh)	16,3
Net freshwater use, A1-A3 (m^3)	-0,14

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Geofabrics are in the business of building key infrastructure across Australasia and beyond. We are focused on developing new and innovative products and providing our customers with world's best solutions to complete civil projects.In 2021 we acquired Plascorp® to become one of the largest private companies in Australian/New Zealand manufacturing. Geofabrics are experts in the area of geosynthetic engineering having been at the leading edge of developing new and innovative products for over 40 years. Geosynthetic engineering is the use of synthetic materials in civil engineering projects to achieve more cost effective, environmentally sound and safer construction outcomes. We manufacture and distribute geosynthetic products throughout Australia, New Zealand, and other international markets. We operate in various sectors with expertise in infrastructure including roads, rail, mining, coastal, waste, sports and recreation, renewables, water, defence, aviation and ports. Our product innovations include Bidim Green geotextiles and Megaflo Green socked slotted drain pipes, both made utilising recycled plastic material and Sorbseal hybrid geosynthetic clay liners with activated carbon for the containment of environmental contaminants. PLASCORPPlascorp® has been in the industry for over 60 years and is one of Australia's leading privately owned manufacturers of construction and industrial products including PVC pipe, mine ventilation, steel reinforcement, ducting and hose.With local manufacturing plants in Victoria, Western Australia and Queensland, Plascorp and Geofabrics share common business philosophies and history.

PRODUCT DESCRIPTION

Bidim® Green is a premium non-woven geotextile made with a combination of recycled PET and virgin plastic material, designed to provide an effective and economic solution for a multitude of engineering applications. For infrastructure development projects such as road, rail and mining, Bidim Green offers excellent filtration, separation and drainage properties. While in waste & containment, Bidim Green can assist with soil migration and protection of critical liquid and gas barrier materials in landfill lining and capping applications. Bidim Green provides:Excellent performance in filtration, separation, drainage and protection applicationsReduced need for quarried fill materials and reduced construction timesA strong three-dimensional structure with high elongation and equal biaxial strength properties in both directionsBidim Green is designed to meet the requirements of Australian & New Zealand road and rail authorities and is manufactured in Australia in a facility certified to ISO9001:2015 standards.
Further information can be found at https://www.geofabrics.co/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	100	-
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,00799

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
×	×	×	MND	×	MND	MND	MND	MND	MND	MND	MND	×	×	×	×	×		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

Bidim geotextile manufacturing process is performed at the Albury plant, NSW on a single continuous line. The process starts with material blending of PET polymers, primary and secondary, with a masterbatch. Then the polymer blend goes though extrusion and spinning into fibre. Fibers are needled into a non-woven geotextile. All product grades are manufactured on the same processing line, with processing parameters adjusted to suit the required production throughput. This process includes electricity (including compressed air generation), and natural gas as main energy sources. Consumables used are refrigerant and lubricant (both for chiller operation) and steel needles used in the needling machine. Waste outputs mainly consist of production scrap, needle waste, shrink-wrap packaging off-cuts and PVC core scrap.The manufacturing process involves the production of raw materials, transport of raw materials from the supplier sites to Geofabrics manufacturing site in Albury, NSW, Australia, and processing of raw materials into respective non-woven geotextile grades of Bidim product. There are three main raw materials which are supplied to Geofabrics:• Primary PET granulate• Secondary PET (recycled) granulate• PE- based masterbatchRaw material inputs, required for production of primary and secondary PET are the main inputs to supplier production processes. Granulate output is then bulk transported from supplier sites to Geofabrics Albury plant in NSW, Australia. Transport of all raw materials from supplier sites into Geofabrics Albury site in NSW, Australia was included in the study (inbound transport into Albury plant).Data collection included all the transport distances within Australia. Where raw materials were transported from overseas the estimate distances were used based on assuming cargo ship and truck transport were used.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Module A5 Installation is included in the scope of the study only as it relates to the treatment of packaging at the construction site.

Module A4 (Distribution) is not included in the scope of this study, therefore is not part of the system boundary and is not included in the model.

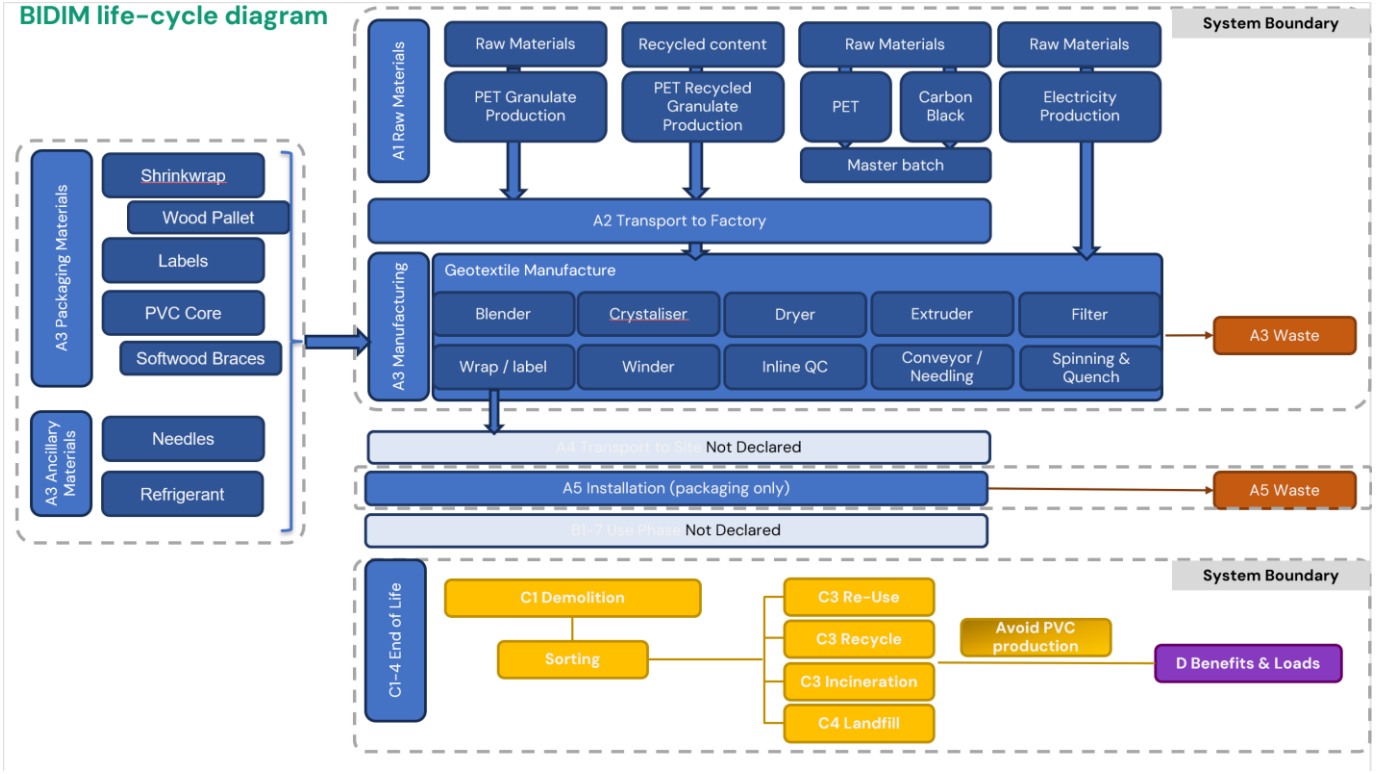
PRODUCT USE AND MAINTENANCE (B1-B7)

Modules B1-B7 (Use) is not included in the scope of this study, therefore is not part of the system boundary and is not included in the model.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life processes involve the deconstruction of the infrastructure, where non-woven geotextile product is used, 85% of bidim is left in situ (landfill, soil consolidation etc) the transport of non-woven geotextile product to a landfill, and the landfilling of the plastic waste. All waste is modelled as going straight to landfill at end-of-life.This approach does not provide any credits for module D. Deconstruction/ demolition (C1) The deconstruction or demolition of the infrastructure is modelled using mass allocation based on a 100-kW construction excavator. Fuel consumption is calculated at 0.172 g diesel per kg of Bidim non-woven geofabric that is removed from the ground. Transport (C2) Module C2 includes the transport of used non-woven geotextile product after deconstruction/demolition, by truck, to a landfill, where construction waste typically goes. The estimated transport distance by truck is 50 km. Waste processing (C3) As all waste is modelled as going straight to landfill at end-of-life, there is no processing involved. Therefore, waste processing impacts have been modelled as zero in this study. Disposal (C4) All waste is disposed of in landfill, modelled as plastic waste on landfill. There is no biogenic content in any of the non-woven geotextile grades. Transport to landfill is included. No credits for power or heat production are assigned. Module D starts at the “end of waste” when the non-woven geotextile product is no longer a product in its first life cycle and starts to be a potential input for its second life cycle. For nonwoven geotextile product, as it is 100% landfilled there are no credits for module D.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

A1-A3 All Process inputs have been included, although there has been some grouping where it is less than 1% ie grease has been grouped with mineral oil. For C1-C4 85% of Bidim is left in situ at the end of product life (ie landfill, soil stabilisation etc.) For the remaining 15% it has been assumed that it will be excavated and placed in landfill. This is conservative as the Bidim may also be left in situ or excavated and used as mixed landfill on the construction site.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	GWP fossil was applied to all products consistently based on grams of weight vs declared unit of 1kg

The product range of BIDIM are all manufactured from non-woven PET and vary in density from 120gsm (grams per sq meter) through to 860 gsm. Depending upon the customer requirements the level of recycled material can vary from 0% up to 30%. As the manufacturing process and materials are homogenous, the approach is representative of the Bidim range. Bidim Green always contains recycled product with % dependent upon availability and between 10% and 30%. Within the 12 month period the average was 15% recycled content.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	3,18E+00	1,27E-01	1,04E+00	4,34E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,57E-01	5,48E-03	8,85E-02	7,36E-03	-8,90E-02
GWP – fossil	kg CO_2e	3,16E+00	1,27E-01	1,04E+00	4,33E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,57E-01	5,47E-03	8,84E-02	6,84E-03	-8,89E-02
GWP – biogenic	kg CO_2e	1,26E-02	3,54E-06	-5,22E-04	1,21E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,22E-06	0,00E+00	5,20E-04	0,00E+00
GWP – LULUC	kg CO_2e	2,56E-03	6,38E-05	2,65E-04	2,89E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,30E-04	2,45E-06	8,35E-05	3,66E-06	-8,39E-05
Ozone depletion pot.	kg CFC_{-11}e	1,24E-05	1,84E-09	5,16E-08	1,24E-05	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,01E-09	8,07E-11	3,53E-08	1,83E-10	-3,54E-08
Acidification potential	mol H^+e	1,37E-02	2,39E-03	4,64E-03	2,07E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,19E-03	1,86E-05	4,27E-04	4,51E-05	-4,29E-04
EP-freshwater[2)]	kg Pe	7,29E-04	6,39E-06	1,39E-03	2,12E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,10E-05	4,26E-07	3,57E-06	9,06E-07	-3,59E-06
EP-marine	kg Ne	2,46E-03	6,08E-04	1,07E-03	4,14E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	4,60E-04	6,13E-06	7,67E-05	1,99E-05	-7,71E-05
EP-terrestrial	mol Ne	2,53E-02	6,74E-03	8,74E-03	4,08E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	5,01E-03	6,67E-05	8,24E-04	1,88E-04	-8,28E-04
POCP ("smog")[3)]	kg NMVOCe	1,29E-02	1,91E-03	2,54E-03	1,73E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,52E-03	2,75E-05	2,62E-04	6,72E-05	-2,64E-04
ADP-minerals & metals[4)]	kg Sbe	3,12E-04	2,19E-07	3,56E-06	3,16E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	9,66E-07	1,53E-08	2,03E-06	1,05E-08	-2,04E-06
ADP-fossil resources	MJ	6,52E+01	1,67E+00	1,28E+01	7,96E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,94E+00	7,94E-02	1,78E+00	1,56E-01	-1,79E+00
Water use[5)]	m^3e depr.	8,26E-01	6,24E-03	1,76E-01	1,01E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,41E-02	3,92E-04	6,44E-02	4,57E-04	-6,51E-02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,44E-07	7,29E-09	1,44E-08	1,66E-07	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	6,22E-09	5,46E-10	3,49E-09	1,02E-09	-3,52E-09
Ionizing radiation[6]	kBq U235e	1,45E-01	1,06E-03	8,46E-03	1,54E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,48E-03	6,90E-05	2,96E-03	9,90E-05	-2,98E-03
Ecotoxicity (freshwater)	CTUe	1,30E+01	1,75E-01	4,54E+00	1,77E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	3,09E-01	1,13E-02	1,76E+00	6,70E-01	-1,77E+00
Human toxicity, cancer	CTUh	8,40E-10	2,45E-11	2,19E-10	1,08E-09	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	4,32E-11	9,03E-13	4,63E-11	2,37E-12	-4,79E-11
Human tox. non-cancer	CTUh	3,44E-08	7,06E-10	9,16E-09	4,42E-08	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	3,75E-09	5,14E-11	1,41E-09	1,03E-10	-1,43E-09
SQP[7]	-	8,99E+00	7,99E-01	1,04E+00	1,08E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,20E+00	7,94E-02	1,18E-01	3,07E-01	-1,18E-01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8]	MJ	2,48E+00	1,73E-02	8,68E-01	3,36E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,03E-01	1,09E-03	1,00E-01	1,53E-03	-1,00E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,82E-03	3,82E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-3,82E-03	0,00E+00
Total use of renew. PER	MJ	2,48E+00	1,73E-02	8,72E-01	3,37E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,03E-01	1,09E-03	1,00E-01	-2,29E-03	-1,00E-01
Non-re. PER as energy	MJ	4,20E+01	1,67E+00	1,17E+01	5,53E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,94E+00	7,94E-02	1,16E+00	-6,06E-03	-1,17E+00
Non-re. PER as material	MJ	2,32E+01	0,00E+00	8,94E-01	2,41E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-6,21E-01	-1,96E+01	0,00E+00
Total use of non-re. PER	MJ	6,52E+01	1,67E+00	1,26E+01	7,95E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,94E+00	7,94E-02	5,36E-01	-1,96E+01	-1,17E+00
Secondary materials	kg	2,21E-01	7,58E-04	2,49E-03	2,24E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,81E-03	3,38E-05	4,38E-04	3,93E-05	-1,16E-03
Renew. secondary fuels	MJ	1,35E-04	4,98E-06	2,38E-04	3,78E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,51E-05	4,29E-07	0,00E+00	8,13E-07	0,00E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,79E-02	1,72E-04	-1,58E-01	-1,40E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	3,98E-04	1,17E-05	4,74E-04	1,32E-04	-4,89E-04

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,80E-01	2,49E-03	7,97E-02	2,62E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	8,02E-03	1,35E-04	6,26E-03	7,03E-04	-6,26E-03
Non-hazardous waste	kg	7,14E+00	4,00E-02	7,34E+01	8,06E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,18E-01	2,49E-03	1,49E-01	4,13E-02	-1,49E-01
Radioactive waste	kg	3,58E-05	2,60E-07	4,07E-06	4,01E-05	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	6,09E-07	1,69E-08	2,35E-06	2,42E-08	-2,37E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,00E-02	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	7,12E-04	7,12E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,06E-08
Materials for energy rec	kg	0,00E+00	0,00E+00	1,16E-04	1,16E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,03E-16
Exported energy	MJ	0,00E+00	0,00E+00	5,12E-04	5,12E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	5,12E-04	5,12E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	3,15E+00	1,26E-01	1,03E+00	4,31E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,56E-01	5,44E-03	8,43E-02	6,76E-03	-8,48E-02
Ozone depletion Pot.	kg CFC_{-11}e	8,27E-06	1,46E-09	7,54E-08	8,35E-06	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,61E-09	6,44E-11	5,54E-08	1,46E-10	-5,55E-08
Acidification	kg SO_2e	1,14E-02	1,90E-03	3,88E-03	1,72E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	8,74E-04	1,42E-05	3,59E-04	3,34E-05	-3,61E-04
Eutrophication	kg PO_4^3e	2,06E-02	2,27E-04	1,21E-03	2,21E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,10E-04	3,47E-06	1,26E-04	1,08E-05	-1,26E-04
POCP (“smog”)	kg C_2H_4e	9,42E-04	9,95E-05	2,06E-04	1,25E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	7,25E-05	1,27E-06	1,90E-05	3,22E-06	-1,91E-05
ADP-elements	kg Sbe	3,12E-04	2,15E-07	3,54E-06	3,16E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	9,52E-07	1,49E-08	2,03E-06	1,01E-08	-2,04E-06
ADP-fossil	MJ	6,29E+01	1,65E+00	1,27E+01	7,73E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,90E+00	7,83E-02	1,78E+00	1,54E-01	-1,79E+00

ENVIRONMENTAL IMPACTS – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	3,16E+00	1,27E-01	1,04E+00	4,33E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,57E-01	5,47E-03	8,85E-02	6,84E-03	-8,90E-02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	-
Electricity CO2e / kWh	-
District heating data source and quality	-
District heating CO2e / kWh	-

Following scenarios are not included within System Boundaries

Transport scenario documentation A4

Use stages scenario documentation - B2 Maintenance

Use stages scenario documentation - B3 Repair

Use stages scenario documentation - B4 Replacement

Use stages scenario documentation - B5 Refurbishment

Use stages scenario documentation - B6-B7 Use of energy and use of water

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	85% of product remains in situ at end of product life
Collection process – kg collected with mixed waste	15% of product collected with mixed waste / soil
Recovery process – kg for re-use	NA
Recovery process – kg for recycling	NA
Recovery process – kg for energy recovery	NA
Disposal (total) – kg for final deposition	-
Scenario assumptions e.g. transportation	-

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15802+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Sarah Curpen, an authorized verifier acting for EPD Hub Limited.

02.07.2025

Annex 1

Product Scaling Table Module A1-A3 GWP Kg CO2 / m2														
Impact Category		Unit	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3
Product Code			Declared Unit	A14	A19	A24	A29	A34	A39	A44	A49	A74	A84	A94
Product Weight		Kg/ m2	1	0.155	0.185	0.210	0.250	0.280	0.330	0.375	0.510	0.615	0.770	0.860
EN15804+A2, PEF	GWP-total		4.35	0.674	0.805	0.914	1.088	1.218	1.436	1.631	2.219	2.675	3.350	3.741
	GWP -fossil		4.33	0.671	0.801	0.909	1.083	1.212	1.429	1.624	2.208	2.663	3.334	3.724
	GWP -biogenic		0.01	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.005	0.006	0.008	0.009
	GWP -luluc		0	-	-	-	-	-	-	-	-	-	-	-