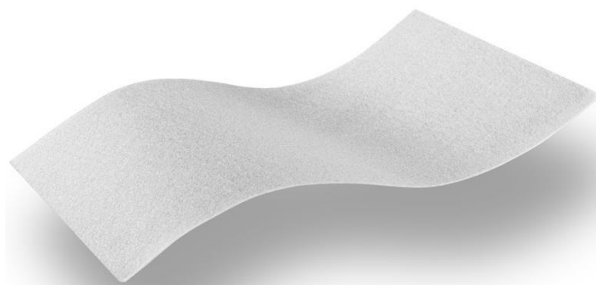




ENVIRONMENTAL PRODUCT DECLARATION

NON-WOVEN GEOTEXTILES



Programme: The International EPD® System
Programme Operator: EPD International AB

PCR 2019:14: "Construction products" version 1.11

Scope of geographical application: Globale

Geographical scope: Globale
Registration No.: S-P-08073
Registration date: 20/12/2022
Valid until: 12/19/2027
Publication date: 01/02/2023

In accordance with ISO 14025: 2006 and EN15804: 2012 + A2: 2019

"An EPD should provide updated information and could be updated if conditions change. The declared validity is therefore subject to continuous registration and publication on www.environdec.com."

1 INTRODUCTION

Type III Environmental Declarations contain verifiable and accurate information on the environmental performance of a product, quantified on the basis of a life cycle impact assessment. Their goal is to produce reliable information expressed on a common basis that allows a comparison of the environmental performance between products performing the same function. From this point of view of products, the Type III Environmental Declarations are conducted in compliance with the requirements and sustainability dictated by the voluntary standard UNIEN ISO 1425: 2010 and to ensure that the LCA studies are related for all products within the internal same category, it is required that precise rules and methodologies are respected. These rules are indicated by the PCR - Product Category Rules - which formulate clarifications regarding the performance of a life cycle analysis for a specific product category ensuring harmony and comparability of the results.

2 INFORMATION ABOUT THE COMPANY AND THE PRODUCT

2.1 THE COMPANY¹

Geo&Tex 2000 produces and distributes non woven geotextiles. The company was born in 2000; headquarter and productions sites are located in the North-east of Italy. Since the beginning Geo&Tex 2000 spa invested in innovative technologies and quality products becoming in a short time a leader of geotextiles market. Passion and ambition enable Geo&Tex 2000 to grow continuously in co-operation with customers and suppliers.

2.2 THE PRODUCT

The non-woven geotextiles taken into consideration differ² in two large families with respect to the sales market:

- GEO PP: is aimed at the market of civil engineering applications, building materials and do-it-yourself (gardening, landscaping, small residential works)
- TEX PP: is aimed at the market of industrial applications (geocomposites etc.)

GEO PP, depending on the target market or the certifications obtained, can be called

- o GEO PP AG (needle punched)
- o GEO PP HP o TC (needled and thermo-calendered)
- o GEO PP 1TC (thermo-calendered on one side)
- o GEO PP AG RVS (Austria, RVS certification)
- o GEO PP TC D (Germany, IVG certification)
- o GEO PP NG / 08 (Scandinavian countries, NorGeoSpec certification)

TEX PP can be:

- o TEX PP AG (needle punched)
- o TEX PP TC (needle-punched and thermo-calendered)
- o TEX PP 1TC (thermo-calendered on one side)

¹ EPD owner: GEO&TEX 2000 SPA; Registered office Via XXV Aprile, 3 36029 Valbrenta (VI); Production site and object of this EPD: Via Giusti 54/56 36029 Valbrenta (VI).

² Geo PP and TEX pp from the point of view of composition and production process are the same product.

Table 1: weight GEO PP and TEX PP

Weight (g/sm)			
65	195	330	1250
70	200	340	1500
75	210	350	1550
80	215	370	
85	220	385	
90	230	390	
100	235	400	
105	240	450	
110	250	500	
120	255	550	
130	260	560	
140	270	600	
145	280	650	
150	285	700	
155	290	800	
160	295	850	
165	300	900	
170	310	1000	
180	315	1050	
190	325	1200	

2.3 PRODUCT DESCRIPTION:

Non-woven geotextile, composed of polypropylene fibers, needle punched and / or thermo-bonded, absolutely free from resins or adhesives. UV resistant. It is compatible with the environment because it does not pollute and is not toxic and the composition of the product is visible below

Table 2: 1 kg content declaration (basic variant)

Product composition		%(kg/kg)
PRODUCT	PP	100%
Packaging composition		Kg/kg
PACKAGING	Cardboard	0,0149
	PVC	0,0194
	PE packing (bag + single fold)	0,0063

Table 3: Declaration of 1 kg content (worst case)

Product composition		%(kg/kg)
PRODUCT	Polypropylene	95-100%
	Polymeric hindered amine light stabilizer/UV stabilizer	<2%
	Lubricant	<1%
	Black pigment	<2%
Packaging composition		Kg/kg

The products have obtained the CE marking and are suitable for the following applications:

1. EN 13249 - roads
2. EN 13250 - railways
3. EN 13251 - earth constructions, foundations and retaining structures
4. EN 13252 - drainage systems
5. EN 13253 - erosion control
6. EN 13254 - reservoirs and dams
7. EN 13255 - canals
8. EN 13256 - tunnel
9. EN 13257 - landfills for solid waste(s)
10. EN 13258 - containment of liquid waste(s)

The main functions of non-woven geotextiles are filtration, separation, drainage, reinforcement and protection.

It is specified that products are manufactured at the factory owned by the company.

For the processing performed, the company does not rely on subcontractors for the products considered above..

3 LCA INFORMATION

3.1 THE DECLARED UNIT

The declared unit is equal to: 1 average kg of product (including packaging).

The average product is determined through the annual input and output values of all production in the reference year.

3.2 REFERENCE SERVICE LIFE

Not applicable.

3.3 TIME BOUNDARIES

The time boundaries include the period from January 2021 - December 2021, a time frame considered to be representative of the company's activities. These were chosen given the most complete availability of information relating to the analysis.

3.4 SYSTEMS BOUNDARIES

In accordance with the reference standard UNI EN 15804 and the PCR followed, the environmental impact assessment of the life cycle is of the type "from the cradle to the gate with modules C1-C4 and module D" (Figure 2, Table 2). Forms A4-A5 and B1-B7 were excluded. Two different end-of-life scenarios were envisaged for the product's end-of-life phase.

	PRODUCT STAGE			CONSTRUCTI ON PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Decostruction, demolition	Transport	Waste processing	Disposal	Reuse-recovery- recycling potential
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	IT	-	-	-	-	-	-	-	-	-	-	EU	EU	EU	EU
Specific data used	10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – product	Worst variant <-5% compared to the average product			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – site	not relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Figure 2: ND= Module not declared

Table 4

MODULE	INDICATOR	
<i>A1 – Raw material supply</i>	Raw material	UPSTREAM
	Electric / thermal energy consumption	
<i>A2 – Transport</i>	Raw material transport	
<i>A3 - Manufacturing</i>	Internal transport	CORE
	Material (packaging)	
	Transport of generated waste	
<i>C1 - De-construction demolition</i>	Treatment of generated waste	END OF LIFE
<i>C2 - Transport</i>	Consumption related to demolition	
<i>C3 - Waste processing</i>	Transport of waste	
<i>C4 - Disposal</i>	Waste treatment	

Two different scenarios related to modules C and D will be presented, one 100% recovery at the end of life (scenario 1) and the second 100% disposal at the end of life (scenario 2).

Scenario 1 (100% recovery at EoL):

- The impacts associated with demolition (C1) are assumed to be negligible;
- The product at the end of its life can be recovered. A transport distance to the recovery platform equal to (C2) 53.1 km is assumed.
- The product after demolition activities is recovered without the need for pre-treatments (C3).
- The product after the demolition activities is fully recovered (C4).

Scenario 2 (100% disposal at EoL):

- The impacts associated with demolition (C1) are assumed to be negligible;
- The product at the end of its life cannot be recovered. A transport distance to the recovery platform is assumed to be (C2) 53.1 km.
- The product after the demolition activities is not recovered (C3).
- The product after the demolition activities is completely disposed (C4).

3.5 SYSTEM DIAGRAM

The characteristic environmental performance indicators were investigated for each information module. In choosing the data to be used for the study, an attempt was made to privilege primary data that can be cataloged by the company. These data constitute the primary source of information for inventory analysis. The latter can be grouped according to environmental performance indicators, to which the results of environmental performance will subsequently be reported. On the basis of these indicators, the software model was developed and the inventory analysis was then developed according to macro consumption related to the declared unit that characterizes the study. The operational processes are attributable to the following:

1. The purchased fiber bales are opened on automated loaders that dose the different qualities.
2. The mixture is conveyed by a conveyor belt to an opening card, which roughly mixes the flakes. Through a pneumatic system, the fiber coming out of the card is destined to a fluffing column, equipped with toothed cylinders, which finely opens the fibers, compacts them and sends them through a conveyor bed at the inlet of the card. Here a system of garnished cylinders, rotating at high speed, “combs” the fibers, producing at the output two plies of fibers weighing a few grams per square meter. These plies enter a folding system that arranges them in multiple layers, depending on the weight per square meter of the finished product to be obtained, through the movement of a cart that transports the ply with the aid of a system of belts.
3. The mattress thus obtained is stretched by a series of toothed cylinders, and enters the first needling station, where a system of plates equipped with hundreds of thousands of needles, with an orthogonal movement to the mattress, interlace the fibers uniformly and random. This process is repeated in two other needling stations, at gradually higher speeds, on both the upper and lower faces.
4. The sheet thus formed enters a gamma ray system for on-line measurement of the weight and any distribution irregularities, and finally is sent to hot calendering, which determines the decrease in thickness, and partial fixing of the fibers. At this point the material is rolled up by an automatic cylinder system and eventually cut. Before rolling up, the cloth is deprived of the lateral selvages
5. Finally, the operators pack the finished product with polyethylene sheets. The packed roll is tied in bundles.

3.6 CUT-OFF RULES

No exclusion criteria were applied during the study.

3.7 DATABASE E SOFTWARE

The SimaPro calculation software (SimaPro 9) and the selected databases were used to process the inventory and calculate the eco-profiles: "ECOINVENT, EF DATABASE".

4 ENVIRONMENTAL PERFORMANCE

4.1 POTENTIAL ENVIRONMENTAL IMPACTS

Below are the results of the eco-profile obtained from the life cycle analysis of the products subject to the environmental declaration, along the impact categories in accordance with UNI EN 15804.

4.2 SCENARIO 1 (100% recovery at EoL)

Table 5: Breakdown of the results of the impact assessment by environmental performance indicators with reference to the unit declared along the information forms investigated

Impact category	UM	A1-A3	C1	C2	C3	C4	TOTAL	D
Climate change	kg CO ₂ eq	3,42E+00	0,00E+00	8,78E-03	1,70E-01	0,00E+00	3,60E+00	-2,36E+00
Climate change - Fossil	kg CO ₂ eq	3,45E+00	0,00E+00	8,75E-03	1,70E-01	0,00E+00	3,63E+00	-2,35E+00
Climate change - Biogenic	kg CO ₂ eq	-2,98E-02	0,00E+00	2,33E-05	-2,53E-04	0,00E+00	-3,01E-02	-7,21E-03
Climate change - Land use and LU change	kg CO ₂ eq	2,46E-03	0,00E+00	3,47E-06	1,06E-04	0,00E+00	2,57E-03	-1,10E-03
Ozone depletion	kg CFC11 eq	1,64E-07	0,00E+00	2,04E-09	2,03E-08	0,00E+00	1,86E-07	-4,43E-08
Acidification	mol H ⁺ eq	1,50E-02	0,00E+00	4,43E-05	6,70E-04	0,00E+00	1,57E-02	-9,42E-03
Eutrophication, freshwater***	kg P eq	7,60E-04	0,00E+00	5,68E-07	2,50E-05	0,00E+00	7,86E-04	-3,89E-04
Eutrophication, marine	kg N eq	3,68E-03	0,00E+00	1,53E-05	1,94E-04	0,00E+00	3,89E-03	-1,77E-03
Eutrophication, terrestrial	mol N eq	3,04E-02	0,00E+00	1,67E-04	2,03E-03	0,00E+00	3,26E-02	-1,88E-02
Photochemical ozone formation	kg NMVOC eq	7,97E-03	0,00E+00	4,07E-05	5,34E-04	0,00E+00	8,54E-03	-5,06E-03
Resource use, minerals and metals*	kg Sb eq	1,71E-05	0,00E+00	3,07E-08	6,90E-07	0,00E+00	1,78E-05	-1,39E-05
Resource use, fossils*	MJ	8,87E+01	0,00E+00	1,31E-01	2,65E+00	0,00E+00	9,14E+01	-7,21E+01
Water use*	m ³ depriv.	3,60E+00	0,00E+00	4,00E-04	4,92E-02	0,00E+00	3,65E+00	-9,40E-01
Particulate matter	disease inc.	1,32E-07	0,00E+00	6,30E-10	9,59E-09	0,00E+00	1,43E-07	-7,95E-08
Ionising radiation**	kBq U-235 eq	2,83E-01	0,00E+00	6,86E-04	1,24E-02	0,00E+00	2,96E-01	-5,98E-02
Ecotoxicity, freshwater*	CTUe	4,26E+01	0,00E+00	1,04E-01	1,87E+00	0,00E+00	4,46E+01	-2,38E+01
Human toxicity, non-cancer*	CTUh	3,18E-08	0,00E+00	1,09E-10	1,77E-09	0,00E+00	3,37E-08	-1,64E-08
Human toxicity, cancer*	CTUh	2,11E-09	0,00E+00	3,37E-12	1,79E-10	0,00E+00	2,30E-09	-6,39E-10
Land use*	pt	1,30E+01	0,00E+00	9,50E-02	1,68E+00	0,00E+00	1,48E+01	-3,50E+00

* The results of this environmental impact indicator must be used with caution as the uncertainties on these results are high or due to the limited experience with this indicator (see UNI EN 15804: 2019); ** This impact category is primarily concerned with the possible impact of low dose ionizing radiation on human nuclear fuel cycle. It does not take into account the effects of possible nuclear accidents, occupational exposure or disposal of radioactive waste in underground facilities. Potential ionizing radiation from soil, radon and some building materials is also not measured by this indicator; *** the results in kg PO₄ eq. it is obtained by multiplying the results in kg P eq. with a factor of 3.07

Table 6: The indicator includes all greenhouse gases included in the total GWP, but excludes the uptake and emissions of biogenic carbon dioxide and biogenic carbon stored in the product. This indicator is therefore equal to the GWP indicator originally defined in EN 15804: 2012 + A1: 2013

Potential environmental impacts – additional indicator (1 average kg of product)	UNIT	A1-A3	C1	C2	C3	C4	TOTAL	D
GWP - GHG	Kg CO ₂ eq	3,34E+00	0,00E+00	8,68E-03	1,67E-01	0,00E+00	3,52E+00	-2,26E+00

Table 7: Breakdown of the results of the use of resources with reference to the unit declared along the information forms

1 average kg of product								
PARAMETERS	UM	A1-A3	C1	C2	C3	C4	TOTAL	D
PERE	MJ	3,15E+00	0,00E+00	1,88E-03	0,00E+00	2,69E-01	3,42E+00	-7,59E-01
PERM	MJ	2,54E-01	0,00E+00	0,00E+00	0,00E+00	-2,54E-01	0,00E+00	-1,19E-01
PERT	MJ	3,40E+00	0,00E+00	1,88E-03	0,00E+00	1,53E-02	3,42E+00	-8,77E-01
PENRE	MJ	4,60E+01	0,00E+00	0,00E+00	0,00E+00	4,78E+01	9,39E+01	-7,21E+01
PENRM	MJ	4,73E+01	0,00E+00	0,00E+00	0,00E+00	-4,73E+01	0,00E+00	-2,55E+00
PENRT	MJ	9,34E+01	0,00E+00	0,00E+00	0,00E+00	4,81E-01	9,39E+01	-7,46E+01
SM	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	1,81E-01	1,80E-01	0,00E+00	1,39E-05	1,22E-03	3,62E-01	-2,00E-02

PERE = Use of renewable primary energy excluding primary renewable energy resources used as raw materials; PERM = Use of renewable energy resources as raw materials; PERT = Total use of primary renewable energy resources; PENRE = Use of non-renewable primary energy resources excluding primary non-renewable energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of fresh water

Table 8: Distribution of waste with reference to the unit declared along the information forms investigated

1 average kg of product								
PARAMETERS	UM	A1-A3	C1	C2	C3	C4	TOTAL	D
HWD	kg	2,66E-05	0,00E+00	3,48E-07	3,58E-06	0,00E+00	3,05E-05	-1,02E-05
NHWD	kg	3,28E-01	0,00E+00	6,86E-03	1,27E-01	0,00E+00	4,62E-01	-1,75E-01
RWD	kg	1,02E-04	0,00E+00	9,02E-07	1,01E-05	0,00E+00	1,13E-04	-2,59E-05

HWD = Hazardous waste disposed ; NHWD Non-hazardous waste disposed; RWD = Radioactive waste disposed

Table 9: Breakdown of input flows with reference to the declared unit along the information forms investigated

1 average kg of product								
PARAMETERS	UM	A1-A3	C1	C2	C3	C4	TOTAL	D
CRU	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+00	1,00E+0	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

CRU = Components for reuse; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Electricity exported; EET = Thermal energy exported

4.3 SCENARIO 2 (100% disposal at EoL)

Table 10: Breakdown of the results of the impact assessment by environmental performance indicators with reference to the unit declared along the information forms investigated

Impact category	UM	A1-A3	C1	C2	C3	C4	TOTAL	D
Climate change	kg CO ₂ eq	3,42E+00	0,00E+00	8,78E-03	0,00E+00	1,11E+00	4,54E+00	0,00E+00
Climate change - Fossil	kg CO ₂ eq	3,45E+00	0,00E+00	8,75E-03	0,00E+00	2,76E-01	3,74E+00	0,00E+00
Climate change - Biogenic	kg CO ₂ eq	-2,98E-02	0,00E+00	2,33E-05	0,00E+00	8,33E-01	8,03E-01	0,00E+00
Climate change - Land use and LU change	kg CO ₂ eq	2,46E-03	0,00E+00	3,47E-06	0,00E+00	2,20E-05	2,49E-03	0,00E+00
Ozone depletion	kg CFC11 eq	1,64E-07	0,00E+00	2,04E-09	0,00E+00	5,98E-09	1,72E-07	0,00E+00
Acidification	mol H ⁺ eq	1,50E-02	0,00E+00	4,43E-05	0,00E+00	3,13E-04	1,54E-02	0,00E+00
Eutrophication, freshwater***	kg P eq	7,60E-04	0,00E+00	5,68E-07	0,00E+00	2,66E-05	7,87E-04	0,00E+00
Eutrophication, marine	kg N eq	3,68E-03	0,00E+00	1,53E-05	0,00E+00	1,09E-03	4,79E-03	0,00E+00
Eutrophication, terrestrial	mol N eq	3,04E-02	0,00E+00	1,67E-04	0,00E+00	1,22E-03	3,17E-02	0,00E+00
Photochemical ozone formation	kg NMVOC eq	7,97E-03	0,00E+00	4,07E-05	0,00E+00	4,31E-04	8,44E-03	0,00E+00
Resource use, minerals and metals*	kg Sb eq	1,71E-05	0,00E+00	3,07E-08	0,00E+00	1,12E-07	1,73E-05	0,00E+00
Resource use, fossils*	MJ	8,87E+01	0,00E+00	1,31E-01	0,00E+00	4,61E-01	8,93E+01	0,00E+00
Water use*	m ³ depriv.	3,60E+00	0,00E+00	4,00E-04	0,00E+00	2,80E-02	3,63E+00	0,00E+00
Particulate matter	disease inc.	1,32E-07	0,00E+00	6,30E-10	0,00E+00	8,41E-09	1,42E-07	0,00E+00
Ionising radiation**	kBq U-235 eq	2,83E-01	0,00E+00	6,86E-04	0,00E+00	2,50E-03	2,86E-01	0,00E+00
Ecotoxicity, freshwater*	CTUe	4,26E+01	0,00E+00	1,04E-01	0,00E+00	2,75E+01	7,02E+01	0,00E+00
Human toxicity, non-cancer*	CTUh	3,18E-08	0,00E+00	1,09E-10	0,00E+00	4,37E-09	3,63E-08	0,00E+00
Human toxicity, cancer*	CTUh	2,11E-09	0,00E+00	3,37E-12	0,00E+00	3,23E-10	2,44E-09	0,00E+00
Land use*	Pt	1,30E+01	0,00E+00	9,50E-02	0,00E+00	5,69E-01	1,37E+01	0,00E+00

* The results of this environmental impact indicator must be used with caution as the uncertainties on these results are high or due to the limited experience with this indicator (see UNI EN 15804: 2019); ** This impact category is primarily concerned with the possible impact of low dose ionizing radiation on human nuclear fuel cycle. It does not take into account the effects of possible nuclear accidents, occupational exposure or disposal of radioactive waste in underground facilities. Potential ionizing radiation from soil, radon and some building materials is also not measured by this indicator; *** the results in kg PO₄ eq. it is obtained by multiplying the results in kg P eq. with a factor of 3.07

Table 11: The indicator includes all greenhouse gases included in the total GWP, but excludes the uptake and emissions of biogenic carbon dioxide and biogenic carbon stored in the product. This indicator is therefore equal to the GWP indicator originally defined in EN 15804: 2012 + A1: 2013

Potential environmental impacts – additional indicator (1 average kg of product)	UNITÀ	A1-A3	C1	C2	C3	C4	TOTAL	D
GWP - GHG	kg CO ₂ eq	3,34E+00	0,00E+00	8,68E-03	0,00E+00	5,91E-01	3,94E+00	0,00E+00

Table 12: Breakdown of the results of the use of resources with reference to the declared unit along the information forms investigated

1 average kg of product								
PARAMETRI	UNITÀ DI MISURA	A1-A3	C1	C2	C3	C4	TOTAL	D
PERE	MJ	3,15E+00	0,00E+00	1,88E-03	0,00E+00	2,69E-01	3,42E+00	0,00E+00
PERM	MJ	2,54E-01	0,00E+00	0,00E+00	0,00E+00	-2,54E-01	0,00E+00	0,00E+00
PERT	MJ	3,40E+00	0,00E+00	1,88E-03	0,00E+00	1,53E-02	3,42E+00	0,00E+00
PENRE	MJ	4,60E+01	0,00E+00	0,00E+00	0,00E+00	4,78E+01	9,39E+01	0,00E+00
PENRM	MJ	4,73E+01	0,00E+00	0,00E+00	0,00E+00	-4,73E+01	0,00E+00	0,00E+00
PENRT	MJ	9,34E+01	0,00E+00	0,00E+00	0,00E+00	4,81E-01	9,39E+01	0,00E+00
SM	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	1,81E-01	1,80E-01	0,00E+00	1,39E-05	0,00E+00	3,60E-01	0,00E+00

PERE = Use of renewable primary energy excluding primary renewable energy resources used as raw materials; PERM = Use of renewable energy resources as raw materials; PERT = Total use of primary renewable energy resources; PENRE = Use of non-renewable primary energy resources excluding primary non-renewable energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of fresh water

Table 13: Distribution of waste with reference to the unit declared along the information forms investigated

1 average kg of product								
PARAMETERI	UNITÀ	A1-A3	C1	C2	C3	C4	TOTAL	D
HWD	kg	2,66E-05	0,00E+00	3,48E-07	0,00E+00	1,47E-06	2,84E-05	0,00E+00
NHWD	kg	3,28E-01	0,00E+00	6,86E-03	0,00E+00	5,88E-01	9,23E-01	0,00E+00
RWD	kg	1,02E-04	0,00E+00	9,02E-07	0,00E+00	2,43E-06	1,05E-04	0,00E+00

HWD = Hazardous waste disposed of; NHWD = Non-hazardous waste disposed of; RWD = Radioactive waste disposed of

Table 14: Breakdown of input flows with reference to the declared unit along the information forms investigated

1 average kg of product								
PARAMETERI	UNITÀ	A1-A3	C1	C2	C3	C4	TOTAL	D
CRU	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
CRU	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

CRU = Components for reuse; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Electricity exported; EET = Thermal energy exported

4.4 BIOGENIC CARBON CONTENT IN THE PRODUCT AND ITS PACKAGING

Table 15: Biogenic carbon content in the product and its packaging

	C BIOGENIC	
	Product	Packaging
1 kg of product (valid for all scenarios)	Not significant	2,19E-02

Notes: 1 kg of biogenic carbon is equivalent to 44/12 kg CO₂

5 OTHER ENVIRONMENTAL INFORMATION

None of the substances present in the current version of the "Candidate List" European regulation 1907/2006 / EC (REACH Registration, Evaluation, Authorization and Restriction of Chemicals) is present in concentrations greater than 0.1% by weight in the articles marketed.

6 REFERENCES

PCR 2019: 14: "Construction products" version 1.11

UNI EN 15804 - Sustainability of buildings - Environmental product declarations - Development framework rules by product category.

UNI EN ISO 14025: 2010 - Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

UNI EN ISO 14040: 2006 - Environmental management - Life cycle assessment - Principles and reference framework.

UNI EN ISO 14044: 2018 - Environmental management - Life cycle assessment - Requirements and guidelines.

GENERAL PROGRAM INSTRUCTIONS FOR THE INTERNATIONAL EPD® SYSTEM VERSION 3.01 (2019-09-18)

EN 15804 + A2 Method

GEOTEX_Report LCA_V1_15_07_22

INFORMAZIONI SUL PROGRAMMA

PROGRAMME	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com
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The ISO standard ISO 21930 and the CEN standard EN 15804 serve as the main rules for the product category (PCR)
Product category rules (PCR): PCR 2019:14: "Construction products" version 1.11 SUB PCR: c-PCR-005 Thermal Insulation products (EN 16783)
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review committee can be contacted via www.environdec.com/contact.
EPD REGISTRATION NUMBER:: S-P-08073
PCR review was conducted by: The Technical Committee of the International EPD® System. Full list of TC members available at: www.environdec.com/TC
Independent third party verification of the declaration and data, according to ISO 1402 ☒ External ☐ Internal ☐ EPD process certification ☒ EPD verification
Third party verifier: < DNV Business Assurance Italy Srl >  DNV
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

The owner of the EPD has sole ownership 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.

EPD owner	GEO TEX2000 SPA		https://www.geotex2000.com/ Tel. 0424 98330
Supporto Tecnico	Documento sviluppato da QUALITYNET SRL Con la collaborazione di ECAMRICERT SRL	 <i>Esperti in Certificazioni</i>  	https://www.quality-net.it/ Tel. 049 9003612 https://ecamricert.com/ Tel. 0445 605838