# Environmental Product Declaration





In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

# **DESSO Solid and DESSO Shape**

from

## **TARKETT**

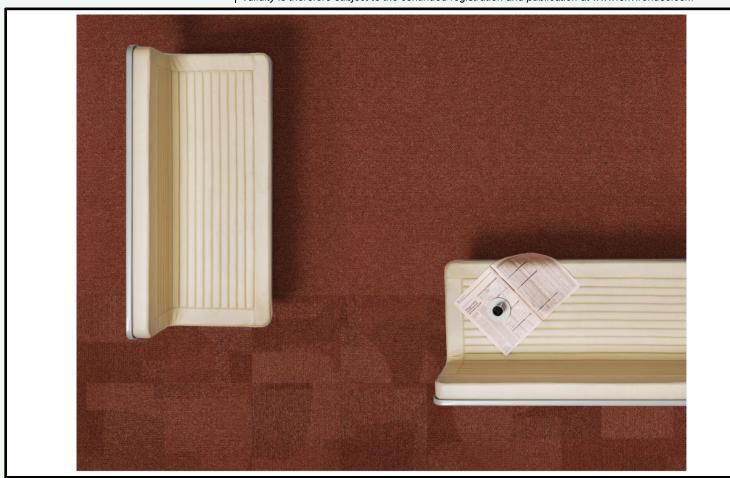


Programme: The International EPD® System, www.environdec.com

Programme operator: EPD International AB

EPD registration number: S-P-06377
Publication date: 2022-09-05
Valid until: 2027-07-26

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com





# **General information**

# **Programme information**

Programme:	The International EPD® System
	EPD International AB
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Address.	SE-100 31 Stockholm
	Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 version 1.11 and c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810)
PCR review was conducted by: The Technical Committee of the International EPD® System lead by Claudia A Peña. A full list of members available on www.environdec.com. The review panel may be contacted via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006:
$\square$ EPD process certification $\boxtimes$ EPD verification
Third party verifier: Damien Prunel from LCIE Bureau Veritas
Procedure for follow-up of data during EPD validity involves third party verifier:
⊠ Yes □ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.



#### **Company information**

Owner of the EPD: Tarkett

Contact: Sandy Bentmim (sandy.bentmim@tarkett.com)

**Description of the organisation:** 

With an international coverage and a wide range of products, Tarkett has over 130 years of experience in providing integrated solutions for floorings to professionals and end users. Many of the most important architectural firms in the world and building professionals have chosen Tarkett for the value of its products and for its consultation and service abilities. Therefore, Tarkett floorings and sport surfaces are present in several prestigious architectural reference points. Tarkett offers integrated solutions for floorings, able to meet the particular needs of customers. Our wide range of designs, colours and models provides an infinite series of possibilities, contributing to create a positive environment and a better quality of life for people.

Tarkett operates with the utmost respect for the environment towards the realization of eco-friendly products.

Tarkett's commitment to the environment is woven throughout its business. Cradle-to-Cradle principles are, in fact, the basis of the design and production of every solution. Particularly, the lifecycle analysis is used to continuously improve the production process, and so the products until their use stage, disposal and recycling. The development of products that can be reused within internal production cycles, or external ones in case of other individuals, has been an integral part of the business strategy aimed at sustainability for many years. The WCM (World Class Manufacturing) management system has been developed in 2009, and it includes the environmental pillar aimed to the elimination of losses and to the growth of process efficiency.

<u>Product-related or management system-related certifications:</u> ISO 14001, ISO 45001, WCM manufacturing site

Name and location of production site(s): Dendermonde (Belgium) and Waalwijk (Netherlands)

#### **Product information**

Product name: DESSO Solid, DESSO Shape

<u>Product identification:</u> Carpet tiles with a 100% recyclable DESSO EcoBase®¹ backing and a 100% regenerated solution dyed Nylon yarn (Econyl)

<u>Product description:</u> Loose-lay carpet tiles (EN 1307) with DESSO EcoBase® backing developed by Tarkett. The service lifetime recommended by Tarkett is 10 years.

UN CPC code: 2223Z

<sup>&</sup>lt;sup>1</sup> Assured by Lloyds Register



#### LCA information

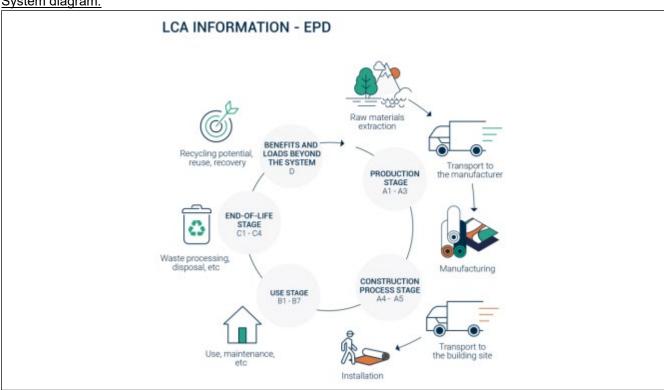
Functional unit / declared unit: 1m<sup>2</sup> of floor covering with a reference service life (RSL) of 1 year for specified characteristics application and use areas according to ISO 1307 and EN ISO 10874.

Reference service life: 1 year Time representativeness: 2021

Database(s) and LCA software used: Ecoinvent 3.6, Simapro 9.1

<u>Description of system boundaries:</u> Cradle to grave and module D (A + B + C + D)

#### System diagram:



More information: The products are classified in accordance with EN ISO 10874, (previously EN 685) and in reference to the FCSS (Floor Covering Standard Symbols) to be used in all professional areas which require class 33 or less.



# Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Pro	duct st	age	Constr prod sta				Us	se sta	ge		Er	nd of li	Resource recovery stage			
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling- potential
Module	<b>A</b> 1	A2	А3	A4	<b>A</b> 5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
Modules declared	Х	Х	Х	Х	Х	ND	X	ND	ND	ND	ND	ND	Х	х	Х	Х	Х
Geography					Europ	ean te	chnolo	gy and	proces	s cover	age						European
Specific data used	- 100% 1009			100%	100%	-	-	-	-	-	-	-	-	-	100° recy prod	_	100% for recycling process
Variation – products		<10%		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	N	lot releva	nt	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# **Content information**

Characteristics	Product Thickness [mm]	Product Weight [kg/m²]	Dimensional stability [%]
Solid	6.50E+00	4.20E+00	<0.2
Shape	6.00E+00	4.15E+00	<0.2

Chemical composition for above mentioned products are presented in the following table:

Product	Weigl	ht [%]	Post-consumer	Renewable		
components	Solid	Shape	material, weight-%	material, weight-%		
Non-woven (PET/PP)	3.4	3.5	0	0		
Yarn PA6 (100% recycled)	17.5	16.2	50 post-consumer (50 pre-consumer)	0		
SBR-compound	5.6	5.7	0	0		
Aluminium trihydrate	12.9	13.1	0	0		
Primary chalk	3.2	3.2	0	0		
Glass scrim	0.7	0.7	0	0		
EcoBase (w. recycled chalk)	56.7	57.6	80 (post-consumer)	0		
Packaging materials	Weig	ht, kg	Weight-% (vers	us the product)		
Cardboard box	1.09	E-01		3		
Wooden pallet	1.00	E-01	:	2		

#### **Material Health**

DESSO Solid and DESSO Shape are C2C-Silver certified.

Raw materials are assessed against 'Material Health' criteria as defined by the C2C product certification standard v3.1 and the C2C Material Health Assessment methodology (see <a href="www.c2ccertified.org">www.c2ccertified.org</a>).



#### Recycled content (third-party verified)

DESSO Solid contains 63.3% recycled content and DESSO Shape contains 62.5% recycled content. The products are delivered with the Cradle to Cradle® Gold-certified DESSO EcoBase® backing, which is 100% recyclable² and designed with 100% positively defined³ ingredients, including chalk upcycled from the Dutch drinking water industry, as the raw material in our DESSO EcoBase carpet backing.

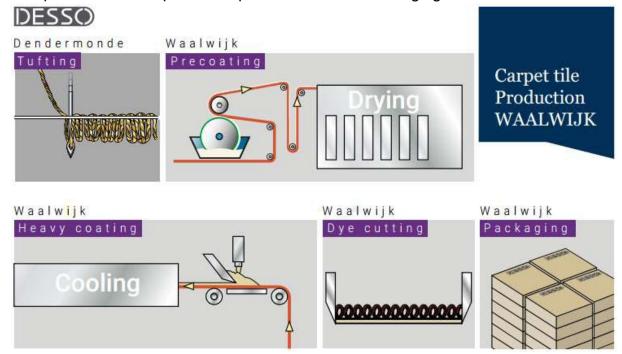
The products are made with ECONYL yarn which is a 100% regenerated nylon upcycled from post-consumer carpet yarn and discarded fishing nets.

Tarkett supports the Healthy Seas initiative. The initiative aims to remove waste, in particular fishing nets for the purpose of creating healthier seas and recycling marine litter into regenerated yarn, some of which is being used to produce PA6 yarn for our products.

# **Product manufacturing**

#### **Production process**

The production of carpet tiles is presented in the following figure:



#### Renewable energy

Our carpet tiles are produced with energy from 100% renewable sources. Electricity coming from our own solar panels or with Guarantees of Origin and certified climate neutral gas.

<sup>&</sup>lt;sup>2</sup> Assured by Lloyds Register

<sup>&</sup>lt;sup>3</sup> Positively defined means all ingredients have been assessed as either Green (optimal) or Yellow (tolerable) according to the Cradle to Cradle® assessment criteria. As described in Cradle® Certified Product Standard Version 3.1



#### **Production waste**

Waste type	Solid	Shape
Non-hazardous waste to incineration in the cement industry [kg/m²]	2.23E-01	2.23E-01
Non-hazardous wastewater to external treatment [kg/m²]	2.04E-02	2.04E-02

# **Delivery and installation**

#### **Delivery**

The average distribution distance between the factories and the installation site is presented in the following table. The distribution is made by truck.

	Solid	Shape
Average distance of delivery [km]	7.00E+02	7.00E+02

#### Installation

Carpet flooring do not use any electric tools for their installation. If a cut is necessary, it could be done with a manual tool.

#### Waste

During the installation approximately 3% of the flooring is lost as off-cuts. All flooring losses are sent to incineration.

#### **Packaging**

50% of the packaging materials goes to incineration and 50% goes to landfill except for wooden pallet which are recycled.

# **Use Stage**

#### Reference Service Life (RSL)

For this product, the stated RSL is 1 year. It should be noted, however, that the service life of a carpet flooring may vary depending on the amount and nature of floor traffic and the type and frequency of maintenance. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply. This RSL is applicable as long as the product use complies with that defined by ISO 14041 and ISO 10874 in accordance with the product's classification. The service lifetime recommended by Tarkett is 10 years.



#### Cleaning and maintenance

The maintenance step concerns the cleaning of the floor. Tarkett has provided the recommended maintenance routine for the product throughout the reference life. Water, detergent and electricity consumption of the cleaning machine are considered in the LCA study:

Common maintenance: 2 times / week
 Periodical maintenance: 2 times / year

Description	Amount	Unit
Electricity consumption	4.42E-01	kWh/year/m²
Water consumption	5.70E-02	L/year/m²
Detergent consumption	3.00E-03	L/year/m²

#### Prevention of structural damage

To avoid excessive wear, usage should be restricted to the stated areas of application as outlined by the norm ISO 10874.

## **End of Life**

Tarkett has implemented a take-back and recycling program called ReStart. Via Tarkett's Sales Network and with the help of logistic partners, post-use carpet tiles are collected and returned to Tarkett's carpet recycling centre in Waalwijk, the Netherlands. DESSO's EcoBase products have been designed with disassembly and recycling in mind, which allows for recovery of yarn and backing materials in a closed-cycle and without loss of quality. 100% of all materials in PA6 carpet tiles with EcoBase backing can be recycled.<sup>4</sup> The recycling process<sup>5</sup> is developed by Tarkett and unique in the market.

#### **Transport**

Carpets are recycled in the same factory where they are produced. So, the distance of transport between installation sites and recycling site is the same as for the module A4 (average delivery distance to customer).

	Solid	Shape
Transport distance to Tarkett's carpet recycling centre [km]	7.00E+02	7.00E+02

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<sup>&</sup>lt;sup>4</sup> 74% is recycled in a closed-loop and the remaining 26% as co-production in the cement industry, with small variances per collection

<sup>&</sup>lt;sup>5</sup> Recyclability has been verified by Lloyds Register.



#### Waste processing

Basically, the process separates yarn and EcoBase® backing and makes these main material streams available for the next carpet cycle, without loss of value and/or material properties (closed-loop recycling).

A small rest stream (mainly tuftcloth and SBR-compound) cannot be reused yet at the desired quality level. At this moment in time those streams will be considered as fuels and raw material (chalk and ATH) for the cement industry, until other outlets will be found.

# **Resource recovery**

Module D has been considered for this study in order to evaluate the possible environmental benefits obtainable through the re-use of secondary materials in other production cycles. Particularly, the module clearly describes the benefits and the environmental charges deriving from reusable products exiting from the system, such as secondary materials or secondary fuels.

Three outlets have been considered:

- Yarn
- DESSO EcoBase® backing
- Others compounds

PA6 yarn will be sent back to Tarkett's yarn supplier Aquafil for depolymerization and reuse in new carpet yarns. This post-use material stream can be used for 100% and without quality loss for the production of new carpet yarns.

DESSO EcoBase® backing is 100% recyclable in Tarkett's own production process. Post-use material can be directly recovered in Tarkett's production for the same purpose and avoids the production and use of primary material.

A small rest fraction is recycled in the cement industry. The chalk and ATH content substitutes primary chalk, which is a raw material for the production of cement. Organic residues substitute primary fuel for processing.

# Interpretation of results

The environmental impact of DESSO EcoBase products should be considered over the whole life cycle and beyond, including all module A-D. DESSO EcoBase consists of a novel recipe, specially designed to enable post-consumer recycling on a high level, which means, for the same purpose and without quality loss.

The new recipe was introduced in 2011. Because of the relatively long service life-time (10 years), the majority of current products are still in their first cycle, meaning that recycled content is still very minimal and not included in the calculations.



# **Environmental Information**

## Potential environmental impact

						Results	per function	al or declared	d unit - Solid (	End of Life ->	Recycling)						
Indicator	Unit	Total	A1-A3	A4	А5	B1	В2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
GWP-total	kg CO2 eq	1.03E+00	4.80E+00	1.16E-01	4.25E-01	0.00E+00	1.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-01	9.52E-02	7.71E-01	-5.47E+00
GWP-fossil	kg CO2 eq	6.58E+00	4.86E+00	1.16E-01	3.19E-01	0.00E+00	1.76E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-01	8.88E-02	7.71E-01	1.32E-01
GWP- biogenic	kg CO2 eq	-1.44E-01	-7.14E-02	4.64E-05	1.06E-01	0.00E+00	1.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	6.30E-03	6.34E-05	-1.86E-01
GWP- Luluc	kg CO2 eq	1.18E-02	6.02E-03	4.57E-05	1.89E-04	0.00E+00	6.50E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.57E-05	1.09E-04	6.55E-06	4.70E-03
AP	kg CFC11 eq	1.44E-06	1.42E-06	2.68E-08	4.53E-08	0.00E+00	8.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-08	4.49E-09	1.69E-09	-9.25E-08
ODP	mol H+ eq	2.16E-02	2.44E-02	4.65E-04	8.28E-04	0.00E+00	9.55E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-04	6.61E-04	1.78E-04	-6.39E-03
EP- freshwater	kg P eq	-3.10E-03	1.00E-03	7.49E-06	3.20E-05	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-06	4.53E-05	2.30E-06	-4.37E-03
EP-marine	kg N eq	9.69E-03	5.96E-03	1.39E-04	3.14E-04	0.00E+00	1.70E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-04	1.08E-04	1.00E-04	2.75E-03
EP-terrestrial	mol N eq	2.27E-02	3.27E-02	1.52E-03	1.33E-03	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.13E-03	8.54E-04	-1.78E-02
POCP	kg NMVOC eq	2.20E-02	1.76E-02	4.66E-04	6.54E-04	0.00E+00	3.96E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.76E-04	3.41E-04	2.07E-04	1.78E-03
ADP- minerals&met als*	kg Sb eq	2.50E-05	2.69E-05	4.05E-07	8.55E-07	0.00E+00	4.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-07	7.60E-06	5.48E-08	-1.16E-05
ADP-fossil*	MJ	8.58E+01	9.57E+01	1.75E+00	3.07E+00	0.00E+00	3.83E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.29E-01	1.44E-01	-2.12E+01
WDP	m3 depriv.	1.22E+01	5.54E+00	5.10E-03	1.75E-01	0.00E+00	4.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-03	4.21E-02	3.64E-02	6.32E+00
	GWP-fo	ssil = Global \	Varming Poten	tial fossil fuels	GWP-biogenic	= Global Warr	ning Potential b	iogenic; GWP-	luluc = Global \	Varming Potent	tial land use an	d land use cha	inge; ODP = De	pletion potentia	al of the stratos	spheric ozone	layer; AP =

GWP-fossil = Global Warming Potential fossil fuels, GWP-blogenic = Global Warming Potential biogenic; GWP-blogenic = Global Warming Potential, Cacumulated Exceedance; Potential = Eutrophication potential, Accumulated Exceedance; Potential = Eutrophication potential, Fraction of nutrients reaching freshwater end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; Potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources; ADP-fossil = Abioti

						Results	per function	al or declared	unit - Shape (	End of Life ->	Recycling)						
Indicator	Unit	Total	A1-A3	A4	<b>A</b> 5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq	1.21E+00	4.69E+00	1.16E-01	4.17E-01	0.00E+00	1.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-01	9.52E-02	7.71E-01	-5.17E+00
GWP-fossil	kg CO2 eq	6.26E+00	4.74E+00	1.16E-01	3.10E-01	0.00E+00	1.76E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-01	8.88E-02	7.71E-01	-5.35E-02
GWP- biogenic	kg CO2 eq	-1.17E-01	-6.11E-02	4.64E-05	1.06E-01	0.00E+00	1.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	6.30E-03	6.34E-05	-1.70E-01
GWP- Luluc	kg CO2 eq	1.09E-02	5.70E-03	4.57E-05	1.79E-04	0.00E+00	6.50E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.57E-05	1.09E-04	6.55E-06	4.21E-03
AP	kg CFC11 eq	1.43E-06	1.42E-06	2.68E-08	4.52E-08	0.00E+00	8.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-08	4.49E-09	1.69E-09	-9.60E-08
ODP	mol H+ eq	2.04E-02	2.37E-02	4.65E-04	8.05E-04	0.00E+00	9.55E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-04	6.61E-04	1.78E-04	-6.80E-03
EP- freshwater	kg P eq	-2.77E-03	9.97E-04	7.49E-06	3.19E-05	0.00E+00	1.74E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-06	4.53E-05	2.30E-06	-4.03E-03
EP-marine	kg N eq	9.02E-03	5.70E-03	1.39E-04	3.05E-04	0.00E+00	1.70E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-04	1.08E-04	1.00E-04	2.35E-03
EP-terrestrial	mol N eq	2.24E-02	3.25E-02	1.52E-03	1.32E-03	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.13E-03	8.54E-04	-1.80E-02
POCP	kg NMVOC eq	2.06E-02	1.71E-02	4.66E-04	6.35E-04	0.00E+00	3.96E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.76E-04	3.41E-04	2.07E-04	1.04E-03
ADP- minerals&me tals*	kg Sb eq	2.49E-05	2.68E-05	4.05E-07	8.52E-07	0.00E+00	4.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-07	7.60E-06	5.48E-08	-1.17E-05
ADP-fossil*	MJ	8.25E+01	9.44E+01	1.75E+00	3.03E+00	0.00E+00	3.83E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.29E-01	1.44E-01	-2.32E+01
WDP	m3 depriv.	1.12E+01	5.16E+00	5.10E-03	1.64E-01	0.00E+00	4.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-03	4.21E-02	3.64E-02	5.72E+00

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer, AF = Addification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, Facilion of nutrients reaching freshwater end compartment; EP-marrine = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-marrials Smetals = Abilotic depletion potential for non-fossil resources; ADP-fossil = Abilotic depletion potential, General of the State of S

<sup>\*</sup> Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.



#### **Use of resources**

						Results	per functiona	l or declared	unit - Solid (	End of Life ->	Recycling)						
Indicator	Unit	Total	A1-A3	A4	А5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
PERE	MJ, net CV	9.54E+01	3.87E+01	2.48E-02	1.17E+00	0.00E+00	6.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-02	1.44E+01	5.61E-03	4.05E+01
PERM	MJ, net CV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ, net CV	9.54E+01	3.87E+01	2.48E-02	1.17E+00	0.00E+00	6.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-02	1.44E+01	5.61E-03	4.05E+01
PENRE	MJ, net CV	-3.22E+01	9.53E+01	1.75E+00	3.07E+00	0.00E+00	3.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.28E-01	1.44E-01	-1.39E+02
PENRM	MJ, net CV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ, net CV	-3.22E+01	9.53E+01	1.75E+00	3.06E+00	0.00E+00	3.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.28E-01	1.44E-01	-1.39E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ, net CV	-1.10E-24	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.10E-24
NRSF	MJ, net CV	-1.30E-23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-23
FW	m3	2.38E-02	2.58E-02	6.65E-05	1.03E-03	0.00E+00	3.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.65E-05	6.23E-04	1.09E-03	-7.98E-03

PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of frenewable primary energy resources used as raw materials; PERM = Use of fenewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy resources used as raw materials; PERM = Use of non-renewable primary energy res

	Results per functional or declared unit - Shape (End of Life → Recycling)																
Indicator	Unit	Total	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
PERE	MJ, net CV	8.91E+01	3.61E+01	2.48E-02	1.09E+00	0.00E+00	6.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-02	1.44E+01	5.61E-03	3.69E+01
PERM	MJ, net CV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ, net CV	8.91E+01	3.61E+01	2.48E-02	1.09E+00	0.00E+00	6.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-02	1.44E+01	5.61E-03	3.69E+01
PENRE	MJ, net CV	-2.51E+01	9.41E+01	1.75E+00	3.03E+00	0.00E+00	3.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.28E-01	1.44E-01	-1.30E+02
PENRM	MJ, net CV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ, net CV	-2.51E+01	9.40E+01	1.75E+00	3.02E+00	0.00E+00	3.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+00	8.28E-01	1.44E-01	-1.30E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ, net CV	-1.01E-24	0.00E+00	-1.01E-24													
NRSF	MJ, net CV	-1.18E-23	0.00E+00	-1.18E-23													
FW	m3	2.38E-02	2.58E-02	6.65E-05	1.02E-03	0.00E+00	3.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.65E-05	6.23E-04	1.09E-03	-7.97E-03

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources. SM = Use of secondary material; PENRM = Use of non-renewable secondary fuels; PENRM = Use of



# Waste production and output flows

						Results	per functiona	l or declared	unit - Solid (	End of Life →	Recycling)						
Indicator	Unit	Total	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
Hazardous waste disposed	kg	2.26E-01	5.41E-01	1.27E-03	2.05E-02	0.00E+00	3.85E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-03	1.47E-02	1.84E-02	-3.76E-01
Non- hazardous waste disposed	kg	1.79E+00	1.56E+00	1.01E-01	1.91E-01	0.00E+00	5.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	2.16E-01	7.51E-03	-4.44E-01
Radioactive waste disposed	kg	-4.09E-03	2.42E-04	1.19E-05	8.45E-06	0.00E+00	2.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-05	2.25E-06	3.27E-07	-4.39E-03
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	-8.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.58E-02
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	МЈ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	МЈ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

						Results p	er functional	or declared	unit - Shape	(End of Life -	> Recycling)						
Indicator	Unit	Total	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.25E-01	5.42E-01	1.27E-03	2.04E-02	0.00E+00	3.85E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-03	1.47E-02	1.84E-02	-3.76E-01
Non- hazardous waste disposed	kg	1.71E+00	1.53E+00	1.01E-01	1.89E-01	0.00E+00	5.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	2.16E-01	7.51E-03	-4.85E-01
Radioactive waste disposed	kg	-3.72E-03	2.31E-04	1.19E-05	8.12E-06	0.00E+00	2.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-05	2.25E-06	3.27E-07	-4.01E-03
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	-7.83E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.83E-02
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

# Information on biogenic carbon content

Results per func							
DIOCENIIC CARRON CONTENT	I I m id	QUANTITY					
BIOGENIC CARBON CONTENT	Unit	Solid	Shape				
Biogenic carbon content in product	kg C	-2.88E-02	-2.62E-02				
Biogenic carbon content in packaging	kg C	1.09E-03					

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

# References

General Programme Instructions of the International EPD® System. Version 3.01. PCR 2019:14. Version 1.11 c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810).