

Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Carpet flooring Tandus

PA6 solution Dyed Modular Carpet

from

Tarkett Asia Pacific (Shanghai) Management Co.,Ltd.



Programme:

The International EPD® System, www.environdec.com

Programme operator:

EPD International AB

EPD registration number:

S-P-13468

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Valid until:

2029-07-29

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
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): <i>PCR 2019:14, Construction Products, Version 1.3.3 and UN CPC code(s) 27230, valid until: 2024.12.20 And c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810), Version 2019-12-20, valid until:2024-12-20</i>
PCR review was conducted by: <i>The Technical Committee of the International EPD® System lead by IVL Swedish Environmental Research Institute and Secretariat of the International EPD System. The review panel may be contacted via info@environdec.com</i>
Life Cycle Assessment (LCA)
LCA accountability: <i>Bourgenot Doralyce, Tarkett Asia Pacific (Shanghai) Management Co.,Ltd.</i>
Third-party verification
Third-party verifier: <Pin Tian, Bureau Veritas Certification Sweden AB> In case of accredited certification bodies: Accredited by:< Bureau Veritas Certification Sweden AB, accredited by SWEDEC with accreditation number 1236>
Approved by: The International EPD® System
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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Tarkett Asia Pacific (Shanghai) Management Co.,Ltd.

Contact: eline.deng@tarkett.com

Description of the organisation:

With more than 140 years of history, Tarkett is a worldwide leader of innovative and sustainable flooring and sports surface solutions.

Flooring covers the world. In every space conceived and built by men and women, around the planet, wherever we live, flooring provides inspiration, comfort and safety, protecting health and wellbeing, and helping people lead better, happier lives.

A world leader in integrated flooring and sports surface solutions, Tarkett has been providing unique flooring experiences each day for over 130 years in homes, schools, workplaces, hospitals, retail stores, hotels, and wherever sports are played.

Tarkett's drive for flooring industry leadership through sustainable, profitable growth is based on key success factors that create value for all our stakeholders.

Tarkett's intent is to be a unique "Flooring Solution Provider" delivering to its customers:

- A wide offer of diversified products, allowing for truly integrated flooring solutions
- A breadth of expertise and technical support to customize solutions to complex spaces and specific usages
- Advanced and innovative design to imagine and create products that improve people's wellbeing, health and living environments
- Long-term commitment to corporate social responsibility and environmental protection
- A global presence with strong local structures to adapt products and services to customers' habits and consumer trends.

A global leader in innovative and sustainable solutions for flooring and sports surface solutions with one of the broadest product portfolios:

- Vinyl
- Carpet
- Laminate
- Wood
- Linoleum
- Artificial turf
- Tracks
- Rubber & accessories

Tarkett Vision

Being the global leader in innovative flooring and sports surface solutions that generate value for customers in a sustainable way.

Tarkett is committed to offer the ultimate customer experience, designing flooring and sports surfaces solutions for the well-being of people and respecting the environment.

Serving a wide range of segments with a breadth of products, we are dedicated to delivering excellence and generating value in innovation and sustainable ways.

Product-related or management system-related certifications: ISO9001, ISO 14001, ISO 45001

Name and location of production site(s): Zhejiang Dongfang Xingyue Carpet Industry Co., Ltd., No. 48 Gushan Avenue, Industrial Functional Zone, Gushan Town, Yongkang City, Jinhua City, Zhejiang Province

Product information

Product name: Carpet flooring Tandus, PA6 solution Dyed Modular Carpet

Product identification: Fiber Bonded Tile with PVC backing, Yarn type: 100% Nylon

Product description: Tile Dimensions: 50cm × 50cm and 25cm × 100cm

Pile Weight: 520g/m² (average)

Total Weight: 4750g/m² (average)

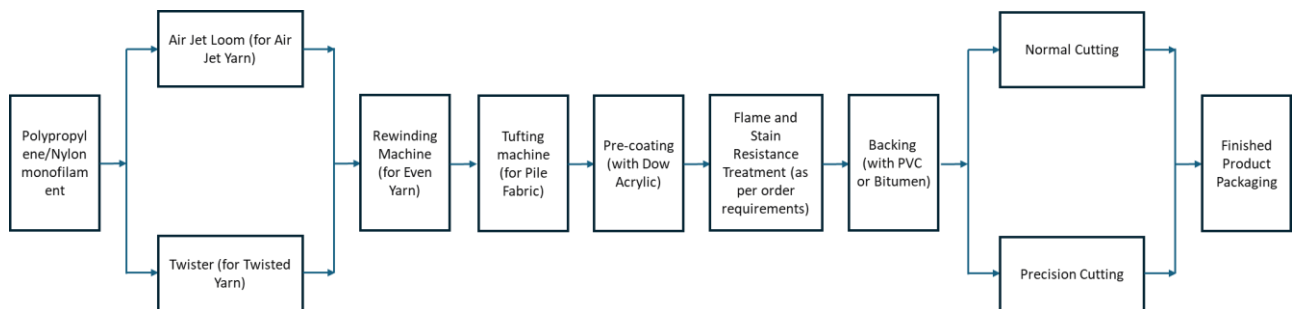
Total Thickness: 6.5 (average)

The service lifetime recommended by Tarkett is 10 years

UN CPC code: 27230 - Carpets and other textile flooring, tufted.

Geographical scope: Production, use and end-of-life in China

Brief Introduction to the Manufacturing Process:



LCA information

Functional unit / declared unit: 1m² of floor covering with a reference service life (RSL) of 10 years for specified characteristics application and use areas according to ISO 1307 and EN ISO 10874.

Reference service life: 10 years

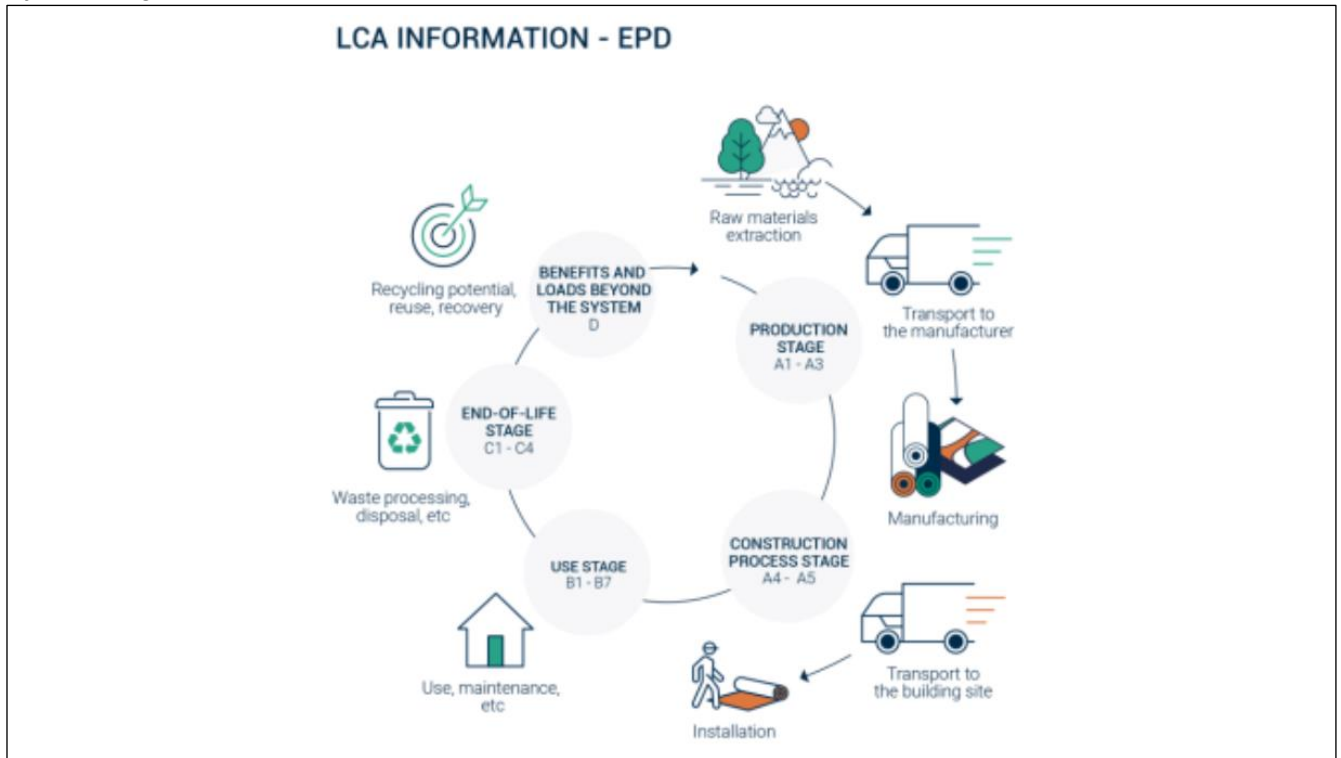
Time representativeness: 2023

Database(s) and LCA software used: Ecoinvent 3.9.1, Simapro 9.5.0.0

Description of system boundaries:

Cradle to grave, including modules A1-A3 production stage, A4 transport, A5 construction installation, B2 Maintenance, C2 transport, C3 Waste processing, C4 Disposal, D Reuse-Recovery-Recycling-potential. Modules including B1 Use, B3 Repair, B4 Replacement, B5 Refurbishment, B6 Operational energy use, B7 Operational water use, C1 De-construction demolition, are not detected.

System diagram:



More information: https://professionalscn.tarkett.cn//zh_CN/category-roa_C01018-fangkuaiditan

Data collection period:

From 2023.1.1 to 2023.12.31

Assumptions:

Production

Exhaust emissions

According to the results of third-party environmental monitoring reports, calculate based on 290 days (12hours per day) of operation.

The emissions factor of electricity is residual electricity mix, in the LCI data is that Electricity, medium voltage (CN) market group for electricity, medium voltage / Cut-off, S, version:1.3.0.0, last edited: 6/27/2023. The value of climate impact is 0.95 kg CO₂ eq./kWh.

Products Transport

Assuming based on the product's sales area. Preliminary statistics indicate that 80% of the products are sold domestically, specifically in the Jiangsu, Zhejiang, and Shanghai regions, while the remaining 20% are sold to Southeast Asia. According to map inquiries, the average transportation distance for the Jiangsu, Zhejiang, and Shanghai region is 500 km. The transportation to the Southeast Asia region is divided into three parts, with an average transportation distance of 370 km (factory to port land transport) + 4129.77km (sea transport) + 150 km (port to customer land transport). For road transportation, calculations are made based on trucks with a carrying capacity of 16-32 tons.

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

Use Stage

Reference Service Life (RSL)

For this product, the stated RSL is 10 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.

Use, repair, replacement, refurbishment, operational energy use and operational water use

The product does not consume energy or water during its use, and no waste is produced during the process, resulting in no emissions during its use. The product cannot be repaired or refurbished and is typically replaced directly after damage. The reported target lifespan of the product is long, capable of reaching the recommended 10-year usage period, and no replacement is needed during this time.

Cleaning and maintenance

The maintenance step concerns the cleaning of the floor. Based on the experience of previous customers, 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/m ²
Water consumption	5.70E-02	L/year/m ²
Detergent consumption	3.00E-03	L/year/m ²

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

De-construction demolition

The product can be directly removed when it is end-of-life, without using tools, and it will not generate energy consumption or emissions.

Waste processing

For the purpose of this LCA, it has been assumed that The processing capacity is considered to be 97% of the total amount (3% will be abandoned during installation), and based on the general urban situation, it is assumed that the waste treatment facilities are 50km away.

Resource recovery stage

Reuse-Recovery-Recycling-potential

Waste from the product is treated by incineration, and the heat recovered is used for power generation. According to the BOM for the target product, which includes materials such as nylon 6, polyvinyl chloride (PVC), ethylene-vinyl acetate (EVA), and ethylene copolymers, the calorific value provided by the combustion of carbon and hydrogen elements during burning is calculated based on their proportion. This value is then translated into electricity.

Cut-off rules:

LCI data shall according to EN 15804 include a minimum of 95% of total inflows (mass and energy) per module (e.g. A1-A3, A4-A5, B1-B5, B6-B7, C1-C4 and module D). In addition, this PCR applies the expanded cut-off rule of ISO 21930, which says that at least 95% of the environmental impact per module shall be included as well. Plausibility assessments and expert judgement can be used to demonstrate compliance with these criteria.

It is exclusion of infrastructure/capital goods in this report.

If less than 100% of the inflows or environmental impact are accounted for, proxy data (e.g., conservative estimates) or extrapolation should be used to achieve 100% completeness, as this is better than data gaps. Inflows not included in the LCA shall be documented in the EPD.

Allocation rules:

Allocation is made according to the proportion of the target product's output to the total output of the entire factory. During the calculation process, the consumption of energy/resources and the generation of waste, etc., are all apportioned based on this principle.

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

	Product stage			Construction process stage		Use stage							End of life stage				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	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	X	ND	ND	ND	ND	ND	0	X	0	X	X
Geography	Production, use and end-of-life in China																China
Specific data used	0%	100%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Nylon6	0.51	0%	0
Polyethylene terephthalate	0.097	0%	0
Fiberglass	0.043	0%	0
Calcium carbonate	2.30	0%	0
Calcium oxide	0.036	0%	0
DOTP	0.52	0%	0
PVC PR440	0.35	0%	0
PVC PSM-31	0.40	0%	0
Ethylene Vinyl Acetate Copolymer	0.23	0%	0
Aluminum hydroxide	0.27	0%	0
Total	4.75	0%	0
Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Stretch Wrap	0.005	0.11%	0
Cartons	0.163	3.43%	0.386
TOTAL	0.168	3.54%	0.386

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
Not relevant			
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Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804, based on EF 3.1

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	1.20E+01	4.91E-01	8.76E-02	ND	3.21E+00	ND	ND	ND	ND	ND	ND	4.34E-02	ND	2.48E+00	-3.50E+00
GWP-biogenic	kg CO ₂ eq.	1.43E-02	1.51E-04	-3.67E+00	ND	-2.95E-02	ND	ND	ND	ND	ND	ND	1.53E-05	ND	3.67E+00	2.00E-02
GWP-luluc	kg CO ₂ eq.	1.59E-02	2.68E-04	2.93E-06	ND	3.83E-02	ND	ND	ND	ND	ND	ND	2.29E-05	ND	0.00E+00	-1.38E-03
GWP-total	kg CO ₂ eq.	1.21E+01	4.91E-01	1.95E-01	ND	3.22E+00	ND	ND	ND	ND	ND	ND	4.34E-02	ND	6.15E+00	-3.48E+00
ODP	kg CFC 11 eq.	6.26E-06	7.72E-09	1.74E-10	ND	2.12E-08	ND	ND	ND	ND	ND	ND	6.84E-10	ND	0.00E+00	-6.30E-09
AP	mol H ⁺ eq.	5.33E-02	2.30E-03	5.32E-05	ND	1.58E-02	ND	ND	ND	ND	ND	ND	1.07E-04	ND	1.84E-02	-1.85E-02
EP-freshwater	kg P eq.	2.03E-03	3.82E-05	5.60E-06	ND	1.44E-03	ND	ND	ND	ND	ND	ND	3.55E-06	ND	2.04E-04	-6.32E-04
EP-marine	kg N eq.	1.11E-02	5.69E-04	2.76E-05	ND	3.45E-03	ND	ND	ND	ND	ND	ND	2.62E-05	ND	8.26E-03	-3.94E-03
EP-terrestrial	mol N eq.	1.14E-01	6.08E-03	2.46E-04	ND	3.22E-02	ND	ND	ND	ND	ND	ND	2.69E-04	ND	9.05E-02	-4.19E-02
POCP	kg NMVOC eq.	4.33E-02	2.38E-03	8.33E-05	ND	9.60E-03	ND	ND	ND	ND	ND	ND	1.43E-04	ND	3.47E-02	-1.11E-02
ADP-minerals&metals*	kg Sb eq.	1.10E-04	1.51E-06	1.02E-08	ND	3.61E-06	ND	ND	ND	ND	ND	ND	1.41E-07	ND	0.00E+00	-2.23E-06
ADP-fossil*	MJ	2.02E+02	6.84E+00	4.40E-02	ND	4.22E+01	ND	ND	ND	ND	ND	ND	6.12E-01	ND	0.00E+00	-3.40E+01
WDP*	m ³	3.00E+00	2.94E-02	5.65E-03	ND	6.75E-01	ND	ND	ND	ND	ND	ND	2.72E-03	ND	0.00E+00	-3.86E-01
Acronyms	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; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* 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.

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	1.19E+01	4.85E-01	8.76E-03	ND	3.20E+00	ND	ND	ND	ND	ND	ND	4.29E-02	ND	2.81E+00	-3.41E+00
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017																

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Resource use indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
PERT	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
PENRE	MJ	6.75E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	6.75E+00
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
PENRT	MJ	6.75E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	6.75E+00
SM	Kg	4.82E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	4.82E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
FW	m ³	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
Acronyms	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; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

Waste indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
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Hazardous waste disposed	kg	4.03E-04	4.35E-05	2.65E-07	ND	6.44E-05	ND	ND	ND	ND	ND	ND	3.95E-06	ND	0.00E+00	-1.75E-05
Non-hazardous waste disposed	kg	1.25E+00	3.15E-01	7.87E-03	ND	1.98E-01	ND	ND	ND	ND	ND	ND	3.02E-02	ND	0.00E+00	-2.58E-01
Radioactive waste disposed	kg	5.61E-04	1.35E-06	1.91E-08	ND	1.10E-04	ND	ND	ND	ND	ND	ND	1.25E-07	ND	0.00E+00	-3.60E-05

Output flow indicators

Indicator	Unit	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	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	2.09E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	6.01E+01
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Module C is included in this EPD, a disclaimer discouraging the use of the results of modules A1-A3 without considering the results of module C.

References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14. Version 1.3.3

c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810). Version 2019-12-20

