Environmental Product Declaration

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

Elektrostatik - HOMOGENEOUS PVC FLOOR COVERING

from

Fatra, a.s.

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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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
E-mail:	info@environdec.com

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): PCR 2019:14 Construction products (version 1.2.5)
PCR review was conducted by: The Technical Committee of the International EPD® System. Chair of the PCR review is Martin Erlandsson. The review panel may be contacted via info@environdec.com.
Life Cycle Assessment (LCA)
LCA accountability: LCA accountability: LCA Studio s.r.o. prof. Ing. Vladimír Kočí, Ph.D., MBA, Ing. et Ing. Tatiana Trecáková, Ph.D., Ing. Eliška Purkarová, Ph.D. Šárecká 1962/5, 16000 Prague 6, Czech Republic www.lcastudio.cz LCA Studio
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Hüdai Kara, PhD., Metsims Sustainability Consulting, United Kingdom www.metsims.com metsims Sustainability Consulting 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: Fatra, a.s., třída Tomáše Bati 1541, 763 61 Napajedla, Czech Republic
Registration No./VAT No. 27465021/CZ27465021
The company is recorded in the Companies Register kept by the Regional Court in Brno, Section B, File 4598.

Contact: Ing. Pavla Kašíková, +420 577 502 183

Description of the organisation:
Fatra, a.s. is one of the world most significant plastic processing companies (PVC, PE, and PET). More than 75% of the production is exported. Fatra operates modern plastic processing technologies in its production plants in Napajedla and Chropyně in Czech Republic.
Fatra, a.s. company offers top products and specialized customer-tailored solutions that include not only the production but also development activities and consulting services.
Product range: vinyl floor coverings, waterproofing membranes, foils and sheets from PE/EVAC/PET, PVC granulate, extruded profiles, technical and special PVC-P foils, BO PET films, injection-moulded products (floor tiles, crate), re-granulate, toys and welded products.
Fatra a.s. sells its products to 50 countries worldwide. Materials processed include PVC-P, PVC-U, LDPE, LLDPE, HDPE, EVA, PP, PET, and ABS.

Product-related or management system-related certifications:
Bureau Veritas
Environmental protection has long been a major focus of our attention. We have a certified quality system according to ČSN EN ISO 9001:2016 and an environmental management system according to ČSN EN ISO 14001:2016.

Responsible Care
We are guided by the principles of the Responsible Care programme, in which, as a member of the Chemical Industry Association of the Czech Republic, we undertake to manage our activities in such a way as to ensure a high level of sustainable development by responsibly improving the safety of our facilities, product transportation, human health and environmental protection.

Name and location of production site(s):
Fatra, a.s., - Napajedla plant, třída Tomáše Bati 1541, 763 61 Napajedla, Czech Republic

Product information

Product name: Elektrostatik - HOMOGENEOUS PVC FLOOR COVERING

Product identification: Homogeneous PVC floor covering

Product description:

Elektrostatik (thickness 1,7 mm) **–** is homogeneous PVC floor covering in the form of tiles. The floor covering is electrostatically conductive and has the ability to dissipate the electrostatic charge generated on their surface during operation. The flooring is intended primarily for applications in areas with a requirement for an electrostatically conductive floor design, e.g., areas with a risk of explosion, laboratories, rooms with computer technology, for the production of double floors, in the healthcare sector, X-ray workplaces, operating rooms, preparation rooms.

UN CPC code: 369 Other plastics products

Geographical scope: Global, Europe

LCA information

Functional unit / declared unit: 1 m^2 of Elektrostatik-Homogeneous PVC floor covering

Time representativeness: Site specific data from producer are based on 1 year average for process data (reference year 2021). Time scope less than 10-years were applied for background data. Time scope less than 2-years were applied for specific data

Database(s) and LCA software used: LCA for Experts (former Gabi), LCA for Experts and EcoInvent database

Description of system boundaries:

The system boundary is Cradle to gate with modules C1–C4 and module D according to EN 15804 + A2. It covers the production of raw materials, all relevant transport down to factory gate, manufacturing by Fatra, a.s. Czech Republic, transport of deconstructed materials, waste processing and disposal and recycling of used industrial doors. The review framework comprises the following details:

- Raw materials acquisition and transport,
- Further processing of raw materials,
- Production operations,
- Energy and water consumption,
- Waste management,
- Packaging of the final product for delivery,
- Transport and waste processing,
- Waste incineration with energy recovery, production of recyclable materials and waste disposal.

System diagram:

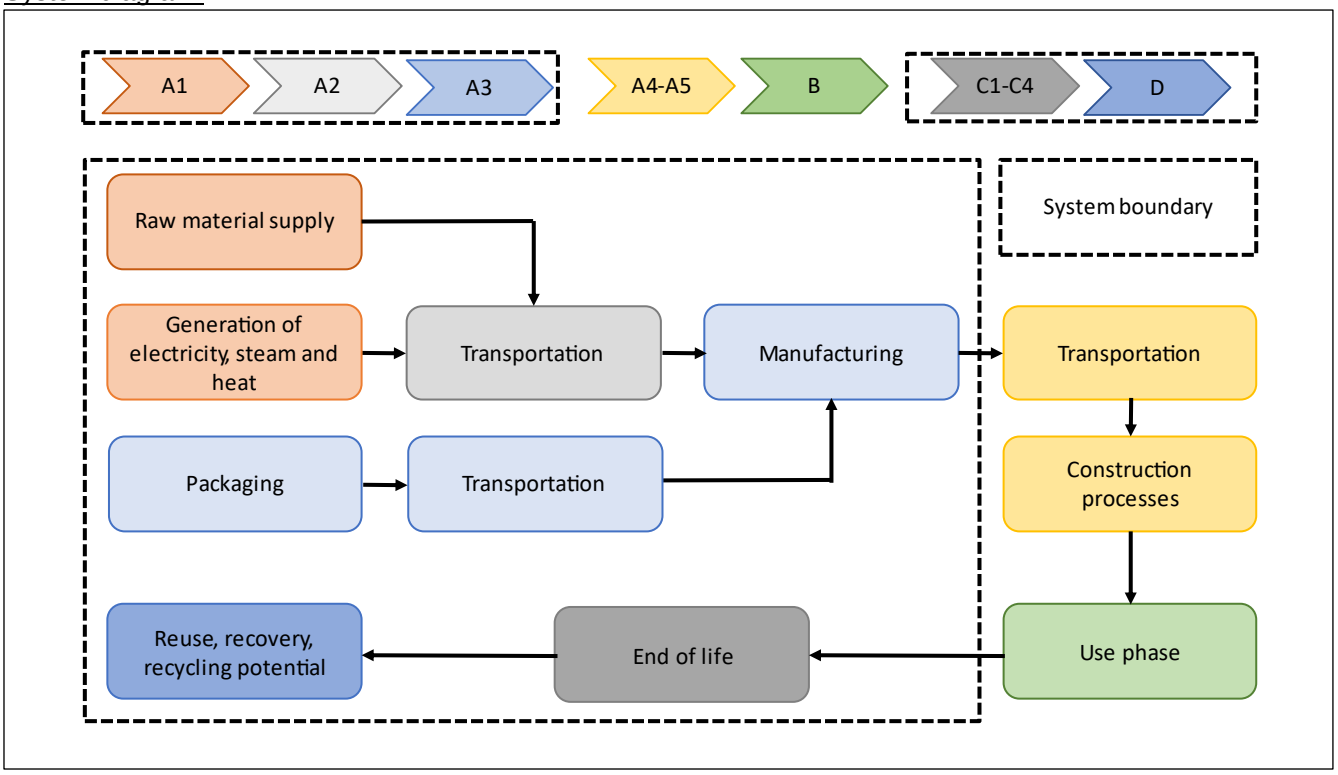

Figure 1 System boundary of the LCA study conducted on Fatra Elektrostatik - homogeneous floor covering

More information: More information can be found on the website https://www.fatra.cz/.
Cut off rules: The cut-off criterion was chosen based on the used PCR. According to the used PCR, more than 95 % of flows were included.
Allocations: As a general allocation rule the production of 1 m^2 of product was chosen. Common inputs (electricity, natural gas), material inputs, transport and common outputs (waste generated, emissions) are allocated to this product, i.e., to declared unit of this product.
Information about declared modules:
Module A1 covers the production of materials for Fatra, a.s. and also it includes fuels and energy carriers (electricity, thermal energy). This consists of the production of input materials (PVC, additives etc.).
Module A2 covers the transport of material into the site of production Fatra, a.s.
Module A3 covers on-site operated processes dealing with Elektrostatik - homogeneous floor covering production and packaging. Treatment and disposal of waste generated from the manufacturing processes is also included in this module.
Module C1 does not cover estimated energy for deconstruction related to the mass of deconstructed material. In this case, it is assumed that energy spent for the deconstruction of 1 m^2 of Elektrostatik - homogeneous floor covering is negligible.
Module C2 covers the transport of material into landfill plant and waste-to-energy plant.
Module C3 covers processes of waste processing in waste-to-energy plant.
Module C4 covers processes of waste disposal in landfill plant.
Module D covers loads and benefits from energy recovery of materials from waste-to-energy plant.
Electricity mix: DB process of Czech residual grid mix is used for production process in Fatra. The used dataset has impact of 0,55 kg CO_2 eq./kWh for GWP-GHG indicator.

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	ND	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO	CZE	NR	NR	NR	NR	NR	NR	NR	NR	NR	GLO	GLO	GLO	GLO	GLO
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	NR					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	NR					-	-	-	-	-	-	-	-	-	-	-	-

Content information (per 1 m²)

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
PVC	1.436	0	0
Other materials (plasticiser, filler, reinforcement, pigments, stabilizers, flame retardants etc.)	0.974	0	0*
TOTAL	2.410	0	0*
Packaging materials	**Weight, kg**	**Weight Fraction**	**Weight biogenic carbon, kg C/kg**
PP	1.42E-03	0.04723	0
PE	8.56E-04	0.02853	0
Paper	5.21E-02	1.73727	0*
TOTAL	5.44E-02	1.81303	0*

*Biogenic content is below 5%, thus according to PCR does not have to be declared.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
No substances from the SVHC list to report.			

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per 1 m² of Elektrostatik-Homogeneous PVC floor covering							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	8.56E+00	0.00E+00	1.98E-02	4.23E+00	1.88E-02	-1.33E+00
GWP-biogenic	kg CO_2 eq.	-2.74E-01	0.00E+00	-2.77E-04	2.75E-01	-2.15E-04	-1.65E-03
GWP-luluc	kg CO_2 eq.	6.48E-02	0.00E+00	1.81E-04	3.22E-04	1.50E-05	-6.41E-05
GWP-total	kg CO_2 eq.	8.35E+00	0.00E+00	1.97E-02	4.23E+00	1.86E-02	-1.33E+00
ODP	kg CFC 11 eq.	1.65E-08	0.00E+00	1.71E-15	3.01E-12	3.07E-14	-6.36E-12
AP	mol H^+ eq.	1.85E-02	0.00E+00	2.66E-05	9.38E-04	5.48E-05	-1.35E-03
EP-freshwater	kg P eq.	6.59E-05	0.00E+00	7.13E-08	8.82E-07	3.51E-06	-3.32E-07
EP-marine	kg N eq.	5.00E-03	0.00E+00	9.57E-06	3.05E-04	1.25E-05	-4.33E-04
EP-terrestrial	mol N eq.	4.35E-02	0.00E+00	1.14E-04	4.04E-03	1.38E-04	-4.70E-03
POCP	kg NMVOC eq.	1.74E-02	0.00E+00	2.32E-05	8.68E-04	3.99E-05	-1.25E-03
ADP-minerals&metals*	kg Sb eq.	5.95E-07	0.00E+00	1.26E-09	2.65E-08	4.83E-10	-8.35E-08
ADP-fossil*	MJ	1.62E+02	0.00E+00	2.66E-01	6.71E+00	2.73E-01	-2.49E+01
WDP*	m^3	3.79E+00	0.00E+00	2.26E-04	4.16E-01	-2.58E-04	-4.85E-02
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

Results per 1 m² of Elektrostatik-Homogeneous PVC floor covering							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	8.62E+00	0.00E+00	2.00E-02	4.23E+00	1.88E-02	-1.33E+00
Particulate matter	Disease incidences	1.84E-07	0.00E+00	2.09E-10	2.10E-08	5.31E-10	-1.19E-08
Ionising radiation, human health	kBq U235 eq.	4.24E-01	0.00E+00	4.98E-05	2.26E-02	4.77E-04	-3.31E-01
Ecotoxicity, freshwater	CTUe	7.80E+01	0.00E+00	1.86E-01	4.39E+00	2.60E-01	-4.27E+00
Human toxicity, cancer	CTUh	4.94E-09	0.00E+00	3.78E-12	1.84E-10	1.19E-11	-1.63E-10
Human toxicity, non-cancer	CTUh	4.41E-07	0.00E+00	2.00E-10	1.75E-08	9.93E-10	-7.59E-09
Land Use	Pt	3.78E-12	0.00E+00	1.11E-01	1.43E+00	2.36E-02	-1.27E+00

Resource use indicators

Results per 1 m² of Elektrostatik-Homogeneous PVC floor covering							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.94E+01	0.00E+00	1.88E-02	1.57E+00	2.46E-02	-1.99E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.94E+01	0.00E+00	1.88E-02	1.57E+00	2.46E-02	-1.99E+00
PENRE	MJ	1.62E+02	0.00E+00	2.67E-01	6.71E+00	2.73E-01	-2.49E+01
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.62E+02	0.00E+00	2.67E-01	6.71E+00	2.73E-01	-2.49E+01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	3.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	4.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	1.04E-01	0.00E+00	2.08E-05	1.05E-02	2.69E-06	-3.02E-03
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						

[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 CO_2 is set to zero.

Waste indicators

Results per 1 m² of Elektrostatik-Homogeneous PVC floor covering							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	8.48E-05	0.00E+00	9.87E-13	2.29E-11	2.30E-11	-2.97E-09
Non-hazardous waste disposed	kg	8.29E-01	0.00E+00	3.84E-05	1.79E+00	2.64E-01	-5.93E-03
Radioactive waste disposed	kg	4.43E-03	0.00E+00	3.45E-07	1.86E-04	3.23E-06	-2.26E-03

Output flow indicators

Results per 1 m² of Elektrostatik-Homogeneous PVC floor covering							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	7.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	2.15E+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	-5.59E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-10.10E+00

Additional environmental information

Fatra is equipped with state-of-the-art production facility and continuously extends and innovates its assortment for various industry fields. Applying the latest scientific and technical knowledge with focus on the quality, ecology. In the development of new products, Fatra, a.s. collaborates with universities and research centres.

Conversion factor

If it is necessary to calculate the results to mass in kg, conversion factor is 2.41.

Differences versus previous versions

In previous version of study different sets of indicators were used and only A1-A3 module were assessed. Updated generic process data for production of input materials were used. The updated PCR methodology was used.

In the revised version, biogenic carbon was balanced. Furthermore, information on the used energy mix was added. The specific data value was changed to <90%.

References

General Programme Instructions of the International EPD® System. Version 4.0.
Product Category Rules (PCR) document for Construction Products (PCR 2019:14 Version 1.2.5, 2022-06-22)
ISO 14020:2000 Environmental labels and declarations — General principles, 2000-09
ISO 14025: EN ISO 14025:2006-11: Environmental labels and declarations - Type III environmental declarations — Principles and procedures
ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework, 2006-07
ISO 14044:2006 Environmental management — Life cycle assessment — Requirements and guidelines, 2006-07
EN 15804+A2:2019 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products, 2019
Ecoinvent: Ecoinvent Centre, www.Eco-invent.org
Sphera: LCA for Experts software, 2023, Sphera solutions.

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