KRAFT PAINTS

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ENVIRONMENTAL PRODUCT DECLARATION

According to ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021

Haft™

Transparent waterbased acrylic primer

DRUCKFARBEN GROUP

Owner of the Declaration: **DRUCKFARBEN HELLAS S.A.**
Programme: The International EPD® System
www.environdec.com
Programme operator: EPD International AB

Registration number	S-P-07621
Issue date	23.12.2022
Valid to	22.12.2027
Revision Date	17.06.2024
Geographical scope	Europe

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KRAFTPAINTS.COM

Company Description

Druckfarben Group S.A.

- Produces inks for flexography and rotogravure printing.
- In the coatings and mortars division, decorative and architectural products and cementitious putties are commercialized under the KRAFT Paints brand.
- Energy saving / external thermal insulation products are commercialized under the BIOCLIMA brand.

DRUCKFARBEN Group comprises of a group of companies with worldwide activities catering to the ink, coating, and energy saving sectors.

More specifically, **DF Hellas S.A.** produces inks for flexography and rotogravure printing under the **DRUCKFARBEN** brand name using sub-brands for the various applications in the food packaging, plastic bags, cartons, and related products.

In the coatings division it commercializes its decorative and architectural paints products under the **KRAFT PAINTS** brand and in the energy saving/external thermal insulation products under the **BIOCLIMA®** brand. The Group has an important and increasing international presence in Eastern and Central Europe through subsidiaries in Bulgaria, Romania, Serbia, and through representatives in Malta, Turkey, Tunisia, Lebanon, Hungary, Slovenia, Croatia, Albania and Western and North Africa, Israel, and the Gulf countries. In West Africa, the company operates in Nigeria through its own subsidiary and the neighboring countries of the Economic Community of West African States (ECOWAS). The company's strategy includes expanding its export activities to new countries supported by a strong network of local partners.

DRUCKFARBEN holds a significant position in the area of architectural paints, varnishes and mortars related to construction activities under the **KRAFT PAINTS** brand. Also, under the **BIOCLIMA®** brand, the company offers a wide range of certified thermal insulation systems for energy upgrading and aesthetic renovation of new and existing buildings.

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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 1.2.3

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 panel may be contacted via the Secretariat info@environdec.com

Life cycle assessment (LCA)

LCA accountability: Dr. Frank Werner

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

[x] EPD verification by accredited certification body

Third-party verifier:

Business Quality Verification P.C

Approved certification body accountable for the third-party verification.

The certification body is accredited by:
Hellenic Accreditation System with accreditation number 1218.

Procedure for follow-up of data during EPD validity involves third-party verifier.

[x] Yes [ ] No

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Comparability:

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804+A2 and the building context, respectively the product-specific characteristics of performance, are taken into account.

Additional information:

“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.

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
Additional information can be obtained under: https://**kraftpaints.com**

Gontact person

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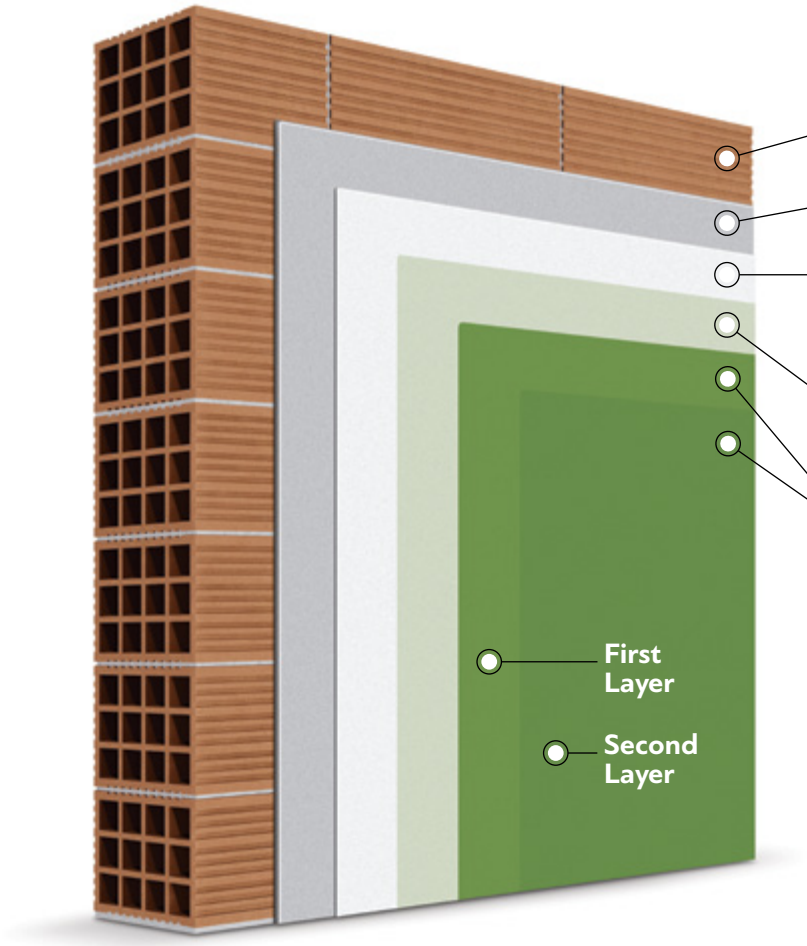
Specification of the products

The declared product is the transparent penetration acrylic primer used for indoor and outdoor application by DRUCKFARBEN HELLAS S.A. that is marketed under the brand KRAFT Paints.



UN CPC code: **35.11**

Geographical scope: **Europe**

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KRAFT Haft™:

Water borne transparent acrylic wall primer for internal and external use. It is applied to new suitably prepared alkaline surfaces such as plaster walls, cement boards or painted with a stable emulsion or acrylic paint.

It is almost odorless, reduces surface absorbance, enhances adhesion between surface and final product as well as increases the spreading rate and durability of the final coating.

TECHNICAL DATA

Density ISO 2811 @ 25°C	0.99 - 1.03 g/mL
Viscosity ASTM D 562-05 @ 25°C	93KU (±10)
pH	8.5 - 9.5
Coverage per coat	30-40 m^2/L*

* Depending on the application method and the surface absorption.

Haft™ Transparent waterbased acrylic primer

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Application of the product

Acrylic transparent wall primers such as Kraft Haft™ are broadly applied on buildings to support and enhance the performance of topcoats.

KRAFT Haft™

SURFACE PREPARATION

To ensure good adhesion, the surface must be dry, clean and free of dust, grease, residues, blistered paint etc.

- On new or already applied surfaces: apply one coat of KRAFT HAFT On surfaces that need filling: use KRAFT SPACHTEL or KRAFT PUTTY or other suitable repairing material of KRAFT.
- On contaminated with mold surfaces: Remove unstable residues, apply KRAFT MOLD BLOCKER.

After 24h and before priming remove the mold Allow new plaster or concrete to surfaces to cure a minimum of 30 days prior to primer application.

APPLICATION INSTRUCTIONS

- Before you start painting, dilute the primer by adding 300-400% by volume tap water and stir well.
- Appropriate application tools for this product are brush, roller and spray gun.
- Stir before reuse and during application.
- Apply one coat of KARFT HAFT for the best result.
- Then apply 2 coats of the proper topcoat.

Minimum recoat time is 4-6 hours.

- The surface drying time is 1-3 hours at 25°C and 50% relative humidity (drying times are longer in wet / cold conditions).
- Do not apply at temperatures below 10°C and above 35°C and above 65% relative humidity» Minimum recoat time: 3-5 hours.
- For shade and finish consistency, it is advisable to use containers of the same batch number.
- In case of different batch number it is recommended that they be mixed in a large container.

Composition of the product

The declared product consists of the following components:

		kg/kg	%
PRODUCT	Binders	0,507	48%
	Solvents	0,0128	1%
	Additives	0,0246	2%
	Water	0,455	43%
PACKAGING	Polypropylene (bucket)	0,045	4%
	Steel (handle)	0,005	0%
	Polyethylene (packaging foil)	negl.	
	Wooden pallet	0,003	0%

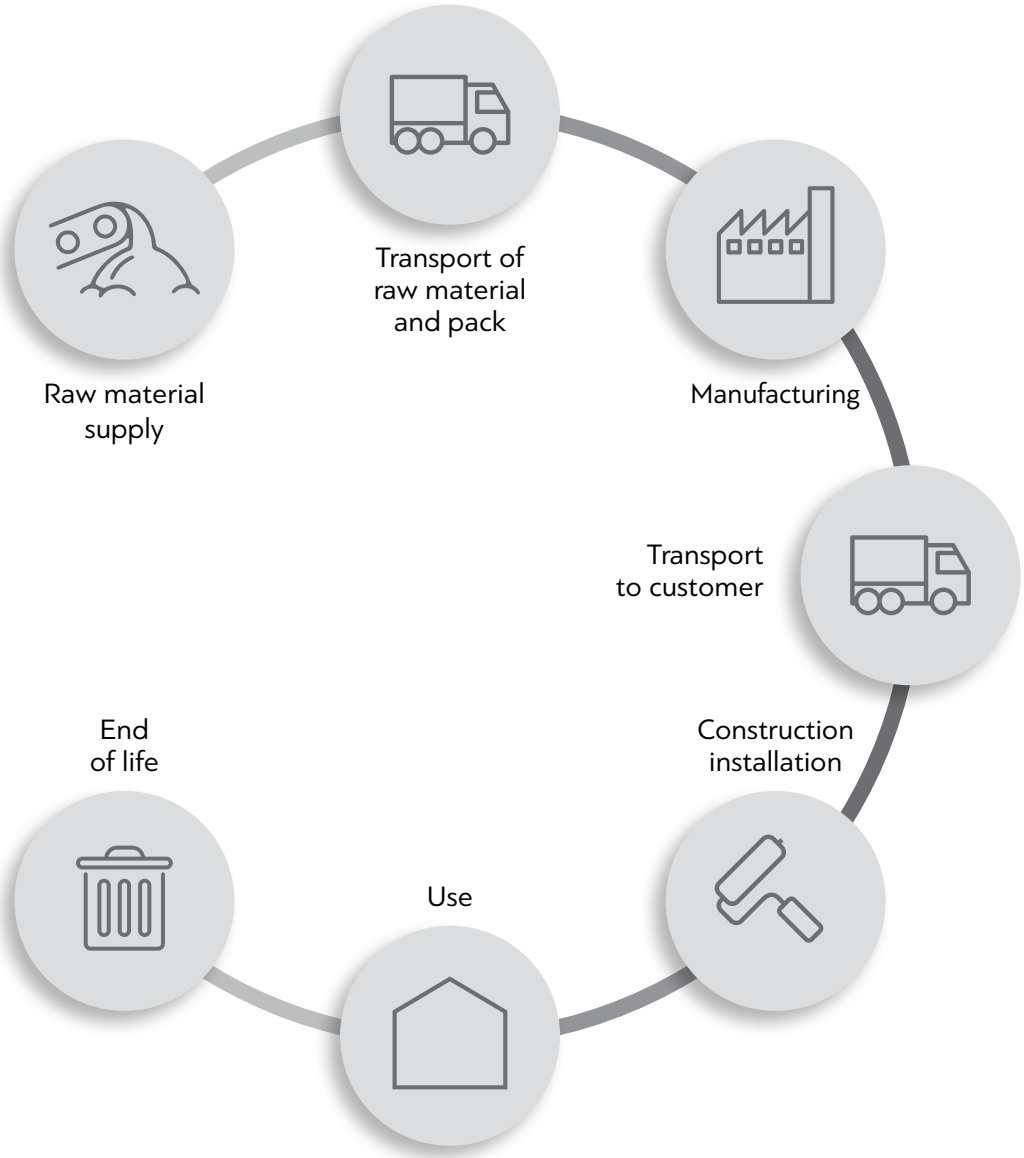
Content of substances of very high concern

The product does not contain any substances on the candidate list for substances of very high concern (SVHC) according to REACH (Annex XIV) (list accessed 22.9.2022).

Production Stages

1. Weight water and add auxiliary Raw Materials such as defoamer, thickener and pH regulator.
2. Mixing
3. Add the emulsion and rest of the additives included in the formulation.

LCA: Calculation rules



Declared unit: The declared unit is 1m² and the declared values represent Kraft Haft™, weighted based on the annual production volume in 2021.

Type of EPD: Cradle to gate with options, modules C1-C4, and module D (A1-A3, C, D, and additional modules A4 and A5).

Database used: The LCA was calculated in the latest version of the LCA software SimaPro (version 9.4).

Scenarios and additional technical information

The product does not contain significant quantities of biogenic carbon. The carbon content of multi-use pallets used for transport packaging and paper bats is disregarded.

Information describing the biogenic carbon content at the factory gate

Name	Value	Unit
Biogenic Carbon Content in product	0	kg C
Biogenic Carbon Content in accompanying packaging	0	kg C

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment.

Transport to the construction site (A4): Module A4 contains the average transport scenario from the production site to the construction site. An average transport distance of 300 km is assumed.

Parameter	Parameter unit expressed per functional/declared unit
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat etc.	Used dataset: Transport, freight, lorry >32 metric ton, EURO5 {RER}| transport, freight, lorry >32 metric ton, EURO5 | Cut-off, U
Distance	300 km
Capacity utilisation (including empty returns)	as in ecoinvent 3.8 database
Bulk density of transported products	Not applicable (transport weight of product and packaging), per m^2 as installed: 0.0064 kg/m^2 (packaging: 0.057 kg/m^2)
Volume capacity utilisation factor (factor: =1 or <1 or ≥ 1 for compressed or nested packaged products)	Not applicable

Installation in the building (A5)

The products are delivered to the construction site. There, water is added to dilute the primer and paint to make it ready for use.

Manual application is assumed, eventual further inputs (e.g., electricity consumption for the mixing), are disregarded.

No losses of paint during application are taken into account.

During installation, some VOC are emitted; emission levels are based on data reported in the technical datasheet (density per litre, VOC emissions/l).

The packaging material (plastic buckets and their steel handles, PE-foil and wooden pallets is assumed to be transported 50 km with a lorry 16-32 metric ton, EURO5 to a landfill.

For the multi-way pallets, a reuse rate of 20 times is taken into account in the disposal scenario.

Parameter	Parameter unit expressed per functional/declared unit
Ancillary materials for installation (specified by material);	Water is added (see below)
Water use	0,051 kg/m^2 : 0,0124 l/m^2
Other resource use	0 kg
Quantitative description of energy type (regional mix) and consumption during the installation process	0 kWh (manual installation)
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	kg
Output materials (specified by type) as result of waste processing at the building site e.g. of collection for recycling, for energy recovery, disposal (specified by route)	Polypropylene to landfill: 0,0131 kg/m^2 Polyethylene to landfill: 0,00145 kg/m^2 Wood to landfill: 0,0000767 kg/m^2
Direct emissions to ambient air, soil and water	VOC emissions during curing: 0,000029 kg/m^2

End-of-life (C1 - C4)

Wall paints are not removed from the wall material during de-construction. Thus, no environmental impacts are declared in module C1.

A landfilling scenario is assumed for Greece, similar to a disposal scenario for bricks or concrete. A default distance of 50 km is assumed between the de-construction site and the landfill. The amount to be landfilled is calculated as the area weight as applied minus the amount of diluting water and minus the water contained in the undiluted paint.

Processes	**Parameter unit expressed per functional / declared unit of components, products or materials (specified by type of material)**
Collection process specified by type	0,00351 kg collected separately
	0,00351 kg/m² collected with mixed construction waste
Recovery system specified by type	0 kg for re-use
	0 kg for recycling
	0 kg for energy recovery
Disposal specified by type	0,00351 kg/m² going to landfill
Assumptions for scenario development, (e.g. transportation)	see above

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Reuse, recovery and recycling potential (D)

Not relevant for the declared product

Results

DESCRIPTION OF THE SYSTEM BOUNDARY
(X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED)

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				RESOURCE RRECOVERY 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	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	**GR**			**South-East Europe**									**South-East Europe**				-
Specific data used	**> 90%**			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation products	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation sites	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-

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RESULTS OF THE LCA - ENVIRONMENTAL IMPACTS according to EN 15804+A2: 1m² of KRAFT Haft™

Core Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP total	kg CO_2 eq	1.64E-02	5.21E-04	1.73E-03	0	2.92E-05	0	1.85E-05	0
GWP fossil	kg CO_2 eq	1.64E-02	5.21E-04	1.70E-03	0	2.92E-05	0	1.85E-05	0
GWP biogenic	kg CO_2 eq	-2.60E-05	0.00E+00	2.60E-05	0	0.00E+00	0	0.00E+00	0
GWP luluc	kg CO_2 eq	4.19E-05	1.87E-07	9.96E-08	0	1.15E-08	0	1.75E-08	0
GWP-GHG	kg CO2 eq.	1.64E-02	5.21E-04	1.70E-03	0	2.92E-05	0	1.85E-05	0
ODP	kg CFC11 eq	2.62E-09	1.24E-10	4.97E-11	0	6.75E-12	0	7.48E-12	0
AP	mol H^+ eq	7.25E-05	2.17E-06	1.27E-06	0	1.18E-07	0	1.74E-07	0
EP freshwater	kg P eq	6.09E-07	3.56E-09	3.85E-09	0	2.04E-10	0	1.94E-10	0
EP-marine	kg N eq	1.30E-05	6.57E-07	7.08E-07	0	3.53E-08	0	6.01E-08	0
EP terrestrial	mol N eq	1.38E-04	7.25E-06	4.70E-06	0	3.90E-07	0	6.61E-07	0
POCP	kg NMVOC eq	5.36E-05	2.33E-06	3.07E-05	0	1.19E-07	0	1.92E-07	0
ADPE	kg Sb eq	1.46E-07	1.20E-09	6.41E-10	0	1.01E-10	0	4.21E-11	0
ADPF	MJ	4.31E-01	8.12E-03	3.98E-03	0	4.41E-04	0	5.16E-04	0
WDP	m^3 depriv.	1.07E-02	2.79E-05	4.52E-03	0	1.32E-06	0	2.32E-05	0
Caption	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non- fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential								

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1m² of KRAFT Haft™

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ (Hu)	2.07E-02	1.02E-04	2.15E-04	0	6.11E-06	0	4.31E-06	0
PERM	MJ (Hu)	2.78E-04	0	0	0	0	0	0	0
PERT	MJ (Hu)	2.10E-02	1.02E-04	2.15E-04	0	6.11E-06	0	4.31E-06	0
PENRE	MJ (Hu)	2.02E-01	8.13E-03	3.98E-03	0	4.41E-04	0	5.16E-04	0
PENRM	MJ (Hu)	2.29E-01	0	0	0	0	0	0	0
PENRT	MJ (Hu)	4.32E-01	8.13E-03	3.98E-03	0	4.41E-04	0	5.16E-04	0
SM	kg	8.86E-05	0	0	0	0	0	0	0
RSF	MJ (Hu)	0	0	0	0	0	0	0	0
NRSF	MJ (Hu)	0	0	0	0	0	0	0	0
FW	m^3	2.13E-04	8.51E-07	1.28E-06	0	4.62E-08	0	3.73E-08	0

Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA - WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1m² of KRAFT Haft™

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	3.47E-07	1.97E-08	5.71E-09	0	1.15E-09	0	7.80E-10	0
NHWD	kg	3.97E-03	7.62E-04	1.33E-02	0	2.28E-05	0	3.51E-03	0
RWD	kg	1.77E-06	1.18E-07	5.33E-08	0	6.39E-09	0	7.27E-09	0
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0

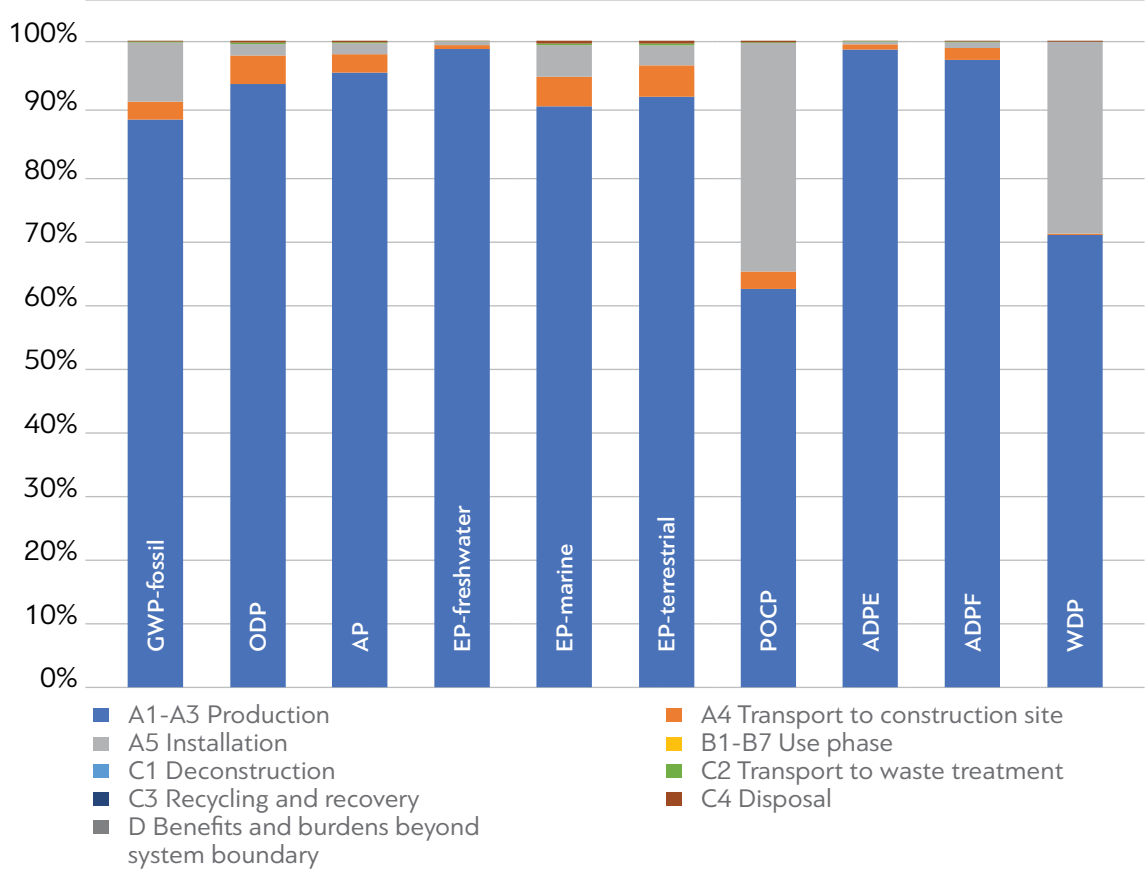
Caption	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

RESULTS OF THE LCA - additional impact categories according to EN 15804+A2-optional: 1m² of KRAFT Haft™

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Desease incidences	7.45E-10	6.12E-11	2.55E-11	0	2.51E-12	0	3.50E-12	0
IR	kBq U-235 eq	8.69E-04	3.52E-05	1.96E-05	0	1.91E-06	0	2.11E-06	0
ETP-fw	CTUe	2.12E-01	6.35E-03	3.67E-03	0	3.44E-04	0	3.26E-04	0
HTP-c	CTUh	1.34E-11	1.76E-13	2.41E-13	0	1.11E-14	0	8.27E-15	0
HTP-nc	CTUh	2.13E-10	6.94E-12	5.59E-12	0	3.61E-13	0	2.14E-13	0
SQP	-	8.15E-02	9.29E-03	8.15E-03	0	3.03E-04	0	1.08E-03	0

Caption	PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Relative contributions to the life cycle impacts



Disclaimer 1: for the indicator IR

This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2: for the indicators ADPE, ADPF, WDP, ETP-fw, HTP-c, HTP-nc, SQP

The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Revision Details: Addition of GWP-GHG indicators

References

EN 15804: 2012+A2: 2019: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

ISO 14025: 2006: Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO 15686-(several parts): Buildings and constructed assets - Service life planning.

ISO 14020:2000: Environmental labels and declarations - General principles.

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

ISO 14044:2006: Environmental management - Life cycle assessment - Requirements and guidelines.

Waste Framework Directive: COUNCIL REGULATION (EU) No 333/2011 of 31 March 2011 establishing criteria determining when certain types of scrap metal cease to be waste under Directive 2008/98/EC of the European Parliament and of the Council.

ECHA: The Candidate List of substances of very high concern, available via https://echa.europa.eu/nl/-/four-newsubstances-added-to-the-candidate-list.

EPD International: PCR 2019:14 Construction products and construction services, version 1.2.3., dated 2022-07-08. ww.environdec.com

EPD International: General Programme Instructions of the International EPD® System. Version 4.0., dated 2021-03-29. ww.environdec.com

Weidema et al. (2013): Weidema, B., C. Bauer, R. Hischier, C. Mutel, T. Nemecek, J. Reinhard, C.O. Vadenbo, G. Wernet (2013): Overview and methodology, Data quality guideline for the ecoinvent database version 3. ecoinvent report no. 1 (v3), St. Gallen, Schweiz.

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BUSINESS QUALITY VERIFICATION BQV

Business Quality Verification P.C.

DF DRUCKFARBEN GROUP

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