

Steel cores

Environmental Product Declaration

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

Programme: The International EPD® System

Programme operator: EPD International AB

Type of EPD: EPD of a single product from a manufacturer

EPD registration number: EPD-IES-0032071:001

EPD-owner: Heléns Rör AB

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An EPD may be updated or republished if conditions change.

To find the latest version of the EPD and to confirm its validity, see www.environdec.com

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GENERAL INFORMATION

PROGRAMME INFORMATION

Programme:	The International EPD [®] System EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden www.environdec.com
Website	www.environdec.com
E-mail	support@environdec.com

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, v 2.0.1, UN CPC 412
- PCR review was conducted by: Rob Rouwette (chair), Noa Meron (co-chair)
- The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com

THIRD-PARTY VERIFICATION

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

☒ **Individual EPD verification without a pre-verified LCA/EPD tool**

Third-party verifier:	Martin Erlandsson, CarbonZero
Approved by	International EPD [®] System
Procedure for follow-up of data during EPD validity involves a 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 published in different EPD programs, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterization factors); and be valid at the time of comparison.

For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT THE EPD OWNER

Owner of the EPD	Heléns Rör AB
Address	Olofsdalsvägen 32, 302 41 Halmstad
Contact	Per Bryngelsson
Address and contact information of the LCA practitioner commissioned by the EPD owner	Albin Claesson, WSP Sweden AB, Göteborg

COMPANY INFORMATION

Heléns stocks, processes and delivers Scandinavia's widest range of steel tube solutions. In close cooperation with our customers, we develop an optimal setup – from construction and production to logistic or business solutions – where tubes, bars and sections become a crucial ingredient for success.

Heléns, with its almost 300 employees, is a steel supplier and tube specialist with a warehouse that handles more than 100.000 tons of tubes every year. The head office is located in Halmstad, Sweden and sales offices in Västerås and Örnsköldsvik. Other operations are conducted through wholly owned subsidiaries in Denmark and Lithuania, and an associated company in Finland. Clients are mainly found within the construction, automotive, engineering, furniture and leisure and processing industries. In other words; Heléns' tubes, bars and sections are used in several thousand ways.

With respect for and awareness of the environmental footprint of the industry, we strive toward long-term sustainability in all that we do. Through the environmental management system ISO 14 001, we have excellent opportunities to improve the business. We are convinced that active environmental work gives both us and our partners lasting competitive advantages. Through our sustainability work, Heléns wants to contribute to a better environment today and tomorrow.

OUR OWNERS

Since the end of 2019, Heléns have been a part of Van Leeuwen Pipe and Tube Group, which is an international distribution company specializing in steel tubes, and pipe and tube applications. The family-owned company, with its head office in Zwijndrecht, the Netherlands, was founded in 1924 and is active in virtually all industrial sectors. The company's 2025 turnover amounted to € 1,233 million, and the group has more than forty branches spread throughout Europe, the Middle East, Asia, Australia, and North America.

CERTIFICATIONS

Product-related or management system-related certifications:

- ISO 14001-certificate
- ISO 9001-certificate
- ISO 45001-certificate

PRODUCT INFORMATION

Product name	Steel cores
Product identification	EN 10217
UN CPC code	412

PRODUCT DESCRIPTION

Threaded steel cores are hot rolled steel bars that are used as load-bearing elements in foundations. They are dimensioned to withstand axial compressive and tensile forces as well as possible bending stresses. Stocked in dimensions from 70mm to 230mm in steel grade S355J2H.

NAME AND LOCATION OF PRODUCTION SITE

Forshaga, Värmland, Sweden

NAME OF MANUFACTURER

Hardab AB

CONTENT DECLARATION

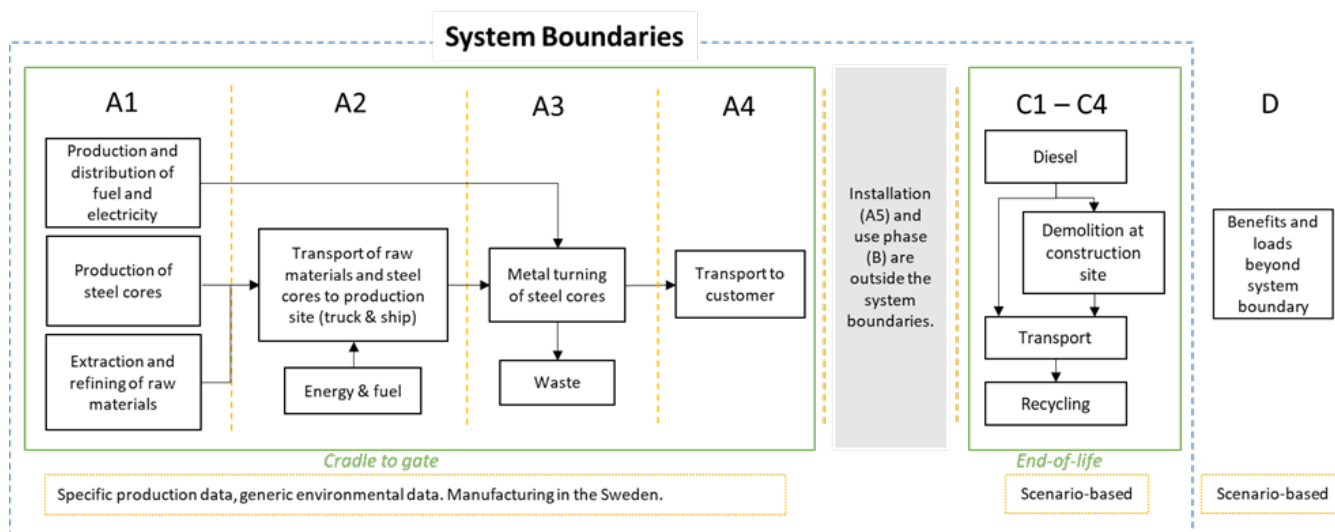
PRODUCT CONTENT	MASS, KG	POST CONSUMER RECYCLED MATERIAL, MASS-% OF PRODUCT	BIOGENIC MATERIAL, MASS-% OF PRODUCT	BIOGENIC MATERIAL, KG C/PRODUCT OR DECLARED UNIT
Steel cores	1000	88.8	0	0
TOTAL	1000	88.8	0	0

- The product is delivered without any packaging.
- The product does not contain any substances listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization" exceeding 0.1% of the weight of the product.

LCA INFORMATION

- **Declared unit:** 1 tonne (1000 KG) of Steel core
- **Time representativeness:** 2025
- **Geographical scope:** EU27
- **Database(s) and LCA software used:** Ecoinvent 3.11, SimaPro version 10.2.0.1
- **Description of system boundaries:** Cradle-to-gate with modules C1-C4 and module D

PROCESS FLOW DIAGRAM



MORE INFORMATION

- All major material and energy flows have been included in the model and impact assessment. The maximum cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) to the upstream and core module. No cut-offs exceeding this limit have been made.
- The climate impact of electricity purchased in the manufacturing process in A3 is 7.02 E-03 kg CO₂ eq/kWh. The electricity used is 100 % fossil free and calculated with country specific nuclear dataset from Ecoinvent.
- EN 15804 reference package based on EF 3.1 has been used. Infrastructure/capital goods have been excluded in this EPD.
- Data quality assessment: The EPD covers production of steel cores for Heléns Rör at a subcontractor in Forshaga during year 2025. The distribution and end-of-life stages of the EPD cover a Swedish scenario. The EPD uses specific data from steel suppliers and background data from Ecoinvent 3.11 and World steel. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, E2 is mostly "very good" and "good". No data assessed included "poor" or "very poor" data.
- The data collection period of primary data for this study is 2025. The total share of primary data contributing to the declared GWP-GHG results of modules A1-A3 is presented below.

PROCESS	SOURCE TYPE	SOURCE	REFERENCE YEAR	DATA CATEGORY	SHARE OF PRIMARY DATA*
Manufacturing of product	Collected data	EPD owner	2025	Primary data	0%
Generation of electricity used in manufacturing of product	Database	Ecoinvent v3.11	2025	Primary data	0%
Transport of steel to manufacturing site	Database	Ecoinvent v3.11	2025	Primary data	7%
Production of steel	EPD, LCA-calculations	Supplier	2021, 2023, 2024, 2025	Primary data, secondary data	56%
Other processes	Databases	Ecoinvent v3.11	2025	Secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					63%

* Share of primary data of GWP-GHG results for A1-A3

ADDITIONAL INFORMATION FOR MODULES C AND D

Model C and D are scenario-based calculations, below are the assumptions for each module described. In the end-of-life stage the water pipes are either left in the ground or excavated and transported for further waste treatment, including material recycling, incineration and landfill.

Assumption in Module C

- An end-of-life scenario has been developed based on the information provided by the company, representing a scenario based on technologies available.
- After the products expected service life, most steel cores are left in the ground. No recycling or reuse occurs when worn-out steel cores are left in the ground. In specific cases, the steel cores are extracted. There is no available data on the share that is collected, however, to avoid underestimating the amount, it has been assumed that 25 % is removed from the ground.
- In the table below the end-of-life scenario for the collected share of steel cores are presented.

MATERIAL	END-OF-LIFE ASSUMPTIONS FOR THE STEEL CORES
Steel	95% material recycling
	5% landfill

- **C1 – Deconstruction / Demolition:** It is assumed that the collected product is being excavated from the ground and then, that the fragmenting of steel products takes place on the demolition site to minimize transport. The collecting and fragmenting of the product is performed by machines powered by diesel.
- **C2 – Transport to waste processing:** The transport distance to waste processing facilities is assumed to be 50 km.

- **C3 – Waste processing:** In this module, the impact arises from the processing of demolition material, which in this case has already taken place in module C1 where the steel has been fragmented at the demolition site. No other processing is assumed to occur to prepare the steel for recycling.
- **C4 – Disposal:** 5 % of the steel is assumed to be disposed at landfill.

SUMMARY FOR END-OF-LIFE, C1-C4

END OF LIFE (C1-C4)	UNIT (PER DECLARED UNIT)	WEIGHT / DISTANCE
Collection processes specified by type	kg collected separately	250
	kg collected with mixed construction waste	0
Recovery system specified by type	kg for re-use	0
	kg for recycling	237.5
	kg for energy recovery	0
Disposal specified by type	kg product or material for final deposition	12.5
Assumptions for scenario development e.g. transportation	km	50

Assumption in Module D

- The steel in the collected share of the steel coils is material recycled and replaces primary steel in steel production. The amount of recycled steel being calculated in module D is 26.6 kg.

MODULES DECLARED, GEOGRAPHICAL SCOPE, SHARE OF PRIMARY DATA (IN GWP-GHG RESULTS) AND DATA VARIATION (IN GWP-GHG RESULTS)

	PRODUCT STAGE			DISTR./INSTALL. STAGE		USE STAGE							END-OF-LIFE STAGE				BEYOND PRODUCT LIFE CYCLE
	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	
Geography	EU 27	SE	SE	ND	ND	ND	ND	ND	ND	ND	ND	ND	SE	SE	SE	SE	
Share of primary data	63%			-		-	-	-	-	-	-	-	-	-	-	-	
Variation – products	0%			-		-	-	-	-	-	-	-	-	-	-	-	
Variation – sites	0%			-		-	-	-	-	-	-	-		-	-	-	

ENVIRONMENTAL PERFORMANCE

LCA RESULTS OF THE PRODUCT(S) MAIN ENVIRONMENTAL PERFORMANCE RESULTS

Mandatory impact category indicators according to EN 15804

- Results per functional or declared unit

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	9.74E+02	2.05E+01	6.88E-01	9.01E-01	0	3.28E-02	-5.37E+01
GWP-biogenic	kg CO ₂ eq.	1.43E+01	4.77E-03	1.22E-04	2.10E-04	0	9.02E-05	0
GWP-luluc	kg CO ₂ eq.	7.30E-01	3.35E-04	2.83E-05	1.47E-05	0	2.01E-06	-4.45E-03
GWP-total	kg CO ₂ eq.	9.88E+02	2.05E+01	6.88E-01	9.01E-01	0	3.29E-02	-5.38E+01
ODP	kg CFC 11 eq.	2.48E-05	4.82E-07	1.05E-08	2.12E-08	0	5.04E-10	-1.75E-07
AP	mol H ⁺ eq.	4.25E+00	2.61E-02	6.35E-03	1.15E-03	0	2.97E-04	-2.02E-01
EP-freshwater*	kg P eq.	3.23E-02	1.31E-05	6.48E-07	5.76E-07	0	3.16E-08	-3.06E-03
EP-marine	kg N eq.	9.65E-01	5.81E-03	3.00E-03	2.55E-04	0	1.40E-04	-4.16E-02
EP-terrestrial	mol N eq.	1.08E+01	6.30E-02	3.28E-02	2.77E-03	0	1.53E-03	-4.84E-01
POCP	kg NMVOC eq.	3.72E+00	5.13E-02	9.80E-03	2.25E-03	0	4.59E-04	-1.67E-01
ADP-minerals & metals*	kg Sb eq.	3.80E-03	5.53E-07	2.41E-08	2.43E-08	0	1.14E-09	-4.48E-04
ADP-fossil*	MJ	1.41E+04	2.82E+02	8.99E+00	1.24E+01	0	4.30E-01	-5.00E+02
WDP	m ³	3.62E+02	9.23E-02	6.72E-03	4.06E-03	0	3.23E-04	-6.30E+00
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 on these results are high or as there is limited experience with the indicator.

"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."

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

ADDITIONAL MANDATORY AND VOLUNTARY INDICATORS

- Results per unit declared

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	9.75E+02	2.05E+01	6.88E-01	9.01E-01	0	3.28E-02	-5,37E+01

RESOURCE USE INDICATORS

- Results per functional or declared unit

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	1.92E+03	7.03E-01	1.96E-02	3.09E-02	0	1.18E-02	-3.22E+01
PERM	MJ	0	0	0	0	0	0	0
PERT	MJ	2.61E+03	7.03E-01	1.96E-02	3.09E-02	0	1.18E-02	-3.22E+01
PENRE	MJ	1.30E+04	3.00E+02	9.56E+00	1.32E+01	0	4.57E-01	-5.34E+02
PENRM	MJ.	0	0	0	0	0	0	0
PENRT	MJ	1.45E+04	3.00E+02	9.56E+00	1.32E+01	0	4.57E-01	-5.34E+02
SM	kg	8.88E+02	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0
FW	m ³	2.29E+02	1.11E-05	9.81E-07	1.33E-06	0	1.19E-07	-1.25E-04
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 excl. 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 Energy stored as material in the packaging material is direct balanced out and not reported (<5%)							

For calculation of the primary energy indicators, Option A in PCR, Annex 3 has been used.

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.

WASTE INDICATORS

- Results per functional or declared unit

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0	0	0	0	0	0	0
Non-hazardous waste disposed	kg	0	0	0	0	0	0	0
Radioactive waste disposed	kg	0	0	0	0	0	0	0

OUTPUT FLOWS

- Results per functional or declared unit

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	2.38E+02	1.25E+01	0
Materials for energy recovery	kg	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0

ADDITIONAL LCA RESULTS OF THE PRODUCT(S)

- Other environmental performance results
- Results per functional or declared unit

INDICATOR	UNIT	A1-A3	A4	C1	C2	C3	C4	D
Particulate matter	Disease incidences	2.46E+03	1.30E+03	1.83E-07	7.07E-08	0	8.73E-09	-3.86E-06
Ionising radiation, human health**	kBq U235 eq.	9.43E-05	6.36E-05	7.47E-04	1.19E-03	0	6.02E-05	4.62E-01
Ecotoxicity, freshwater***	CTUe	5.46E-07	2.35E-07	2.58E-01	5.00E-01	0	1.24E-02	-3.42E+02
Human toxicity, cancer***	CTUh	6.74E-06	4.20E-06	3.67E-11	6.00E-11	0	1.84E-12	-1.92E-08
Human toxicity, non-cancer***	CTUh	4.12E+01	9.87E+00	6.76E-10	7.75E-09	0	3.59E-11	-2.79E-07
Land Use***	Pt	1.41E+03	5.35E+02	1.53E-02	1.58E-02	0	5.29E-01	-8.99E+01

** 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.

*** 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 experience with the indicator

ADDITIONAL ENVIRONMENTAL INFORMATION

SCENARIO END OF LIFE: 100% OF PRODUCTS LEFT IN GROUND

INDICATOR	UNIT	C1	C2	C3	C4
GWP-fossil	kg CO ₂ eq.	0	0	0	0
GWP-biogenic	kg CO ₂ eq.	0	0	0	0
GWP-luluc	kg CO ₂ eq.	0	0	0	0
GWP-total	kg CO ₂ eq.	0	0	0	0
ODP	kg CFC 11 eq.	0	0	0	0
AP	mol H ⁺ eq.	0	0	0	0
EP-freshwater	kg P eq.	0	0	0	0
EP-marine	kg N eq.	0	0	0	0
EP-terrestrial	mol N eq.	0	0	0	0
POCP	kg NMVOC eq.	0	0	0	0
ADP-minerals&metals*	kg Sb eq.	0	0	0	0
ADP-fossil*	MJ	0	0	0	0
WDP*	m ³	0	0	0	0
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				

*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 experience with the indicator.

SCENARIO END OF LIFE: 100 % OF PRODUCT IS COLLECTED AND RECYCLED

INDICATOR	UNIT	C1	C2	C3	C4
GWP-fossil	kg CO ₂ eq.	2.75E+00	3.60E+00	0	1.31E-01
GWP-biogenic	kg CO ₂ eq.	4.89E-04	8.38E-04	0	3.61E-04
GWP-luluc	kg CO ₂ eq.	1.13E-04	5.89E-05	0	8.05E-06
GWP-total	kg CO ₂ eq.	2.75E+00	3.60E+00	0	1.32E-01
ODP	kg CFC 11 eq.	4.19E-08	8.47E-08	0	2.02E-09
AP	mol H ⁺ eq.	2.54E-02	4.59E-03	0	1.19E-03
EP-freshwater	kg P eq.	2.59E-06	2.30E-06	0	1.26E-07
EP-marine	kg N eq.	1.20E-02	1.02E-03	0	5.60E-04
EP-terrestrial	mol N eq.	1.31E-01	1.11E-02	0	6.13E-03
POCP	kg NMVOC eq.	3.92E-02	9.02E-03	0	1.84E-03
ADP-minerals&metals*	kg Sb eq.	9.64E-08	9.72E-08	0	4.55E-09
ADP-fossil*	MJ	3.60E+01	4.96E+01	0	1.72E+00
WDP*	m ³	2.69E-02	1.62E-02	0	1.29E-03
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				

*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 experience with the indicator.

ABBREVIATIONS

GENERAL ABBREVIATIONS	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative

ENVIRONMENTAL IMPACT INDICATORS (EN 15804)	
GHG	Greenhouse gas
GWP	Global Warming Potential (kg CO ₂ eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO ₂ eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO ₂ eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO ₂ eq.)
GWP-total	Total Global Warming Potential (kg CO ₂ eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO ₂ eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H ⁺ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals & metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m ³)

RESOURCE USE INDICATORS	
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERM	Use of renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)

PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m³)

WASTE INDICATORS	
HW	Hazardous Waste (disposed) (kg)
NHW	Non-Hazardous Waste (disposed) (kg)
RW	Radioactive Waste (disposed) (kg)

OUTPUT FLOW INDICATORS	
CFR	Components for Reuse (kg)
MR	Material for Recycling (kg)
MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)

LIFECYCLE STAGES / MODULES	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential

OTHER RELEVANT TERMS	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram

m ³	Cubic Meter
NMVOG	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO ₂ eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO ₂ eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared

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VERSION HISTORY

Original Version of the EPD, 20YY-MM-DD