ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Undercut Anchor HDA-PR/TR
Hilti AG

EPD HUB, EPD number HUB-3240
Published on 29.04.2025, last updated on 29.04.2025, valid until 28.04.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Hilti AG
Address	Feldkircherstrasse 100, 9494 Schaan, Liechtenstein
Contact Details	sustainability@hilti.com
Website	www.hilti.group

EPD STANDARDS, SCOPE AND VERIFICATION

Program Operator	EPD Hub, hub@epdhub.com
Reference Standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD Number	N/A
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD Author	Rhomberg Marielle
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD Verifier	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product Name	Undercut Anchor HDA-PR / HDA-TR
Additional labels	N/A
Product reference	339346
Place of Production	Germany, Hungary
Period for data	01/01/2023 – 31/12/2023
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	1 %

ENVIRONMENTAL DATA SUMMARY

Declared Unit	1 kg
Declared Unit Mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	1,05E+02
GWP-total, A1-A3 ($kgCO_2e$)	1,05E+02
Secondary Material, Inputs (%)	72,9
Secondary Material, Outputs (%)	0
Total Energy Use, A1-A3 (kWh)	501
Net Freshwater Use, A1-A3 (m^3)	0,72

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

The Hilti Group supplies the worldwide construction and energy industries with technologically leading products, systems, software and services. With about 34,000 team members in over 120 countries the company stands for direct customer relationships, quality and innovation. Hilti generated annual sales of more than CHF 6.5 billion in 2023. The headquarters of the Hilti Group have been located in Schaan, Liechtenstein, since its founding in 1941. The company is privately owned by the Martin Hilti Family Trust, which ensures its long-term continuity. The Hilti Group's purpose is making construction better, based on a passionate and inclusive global team and a caring and performance-oriented culture.

PRODUCT DESCRIPTION

HDA is a high-performance self-undercutting anchor used to resist static and seismic structural loads in the construction industry (commercial, industrial, energy, infrastructure, etc.). The HDA-PR/TR stainless steel are variants of the HDA family described further in this report. For the placing of the product on the market in the European Union European Free Trade Association EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a declaration of performance taking into consideration the following European Technical Approval ETA-99/0009 assessed based on EAD 330232-01-0601 Mechanical fasteners for use in concrete. For the application and use the respective national provisions apply. The Hilti HDA anchor is a self-undercutting anchor made of stainless steel which is installed using a system consisting of a stop-drill bit and setting tool.

Further information can be found at www.hilti.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	98,95	Hungary, Germany, China
Minerals		
Fossil materials	1,05	China, Germany
Bio-based materials		

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic Carbon Content in Product, kg	0
Biogenic Carbon Content in Packaging, kg	0,0468

FUNCTIONAL UNIT AND SERVICE LIFE

Declared Unit	1 kg
Mass per Declared Unit	1 kg
Functional Unit	1 kg stainless steel
Reference Service Life	50

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The stainless steel anchor bolt is produced by an external supplier in Germany and transported by lorry to Hilti's manufacturing site in Kecskemét, Hungary.

The bolt consists of a stainless steel rod and cone. The stainless steel pipe for the sleeve is sourced from an external supplier in Austria, processed, and transported by lorry to Kecskemét, Hungary. The stainless steel hard metal tip for the sleeve is sourced from Luxembourg, processed, and then transported to the Kecskemét plant by lorry. The plastic ring is manufactured in Germany and transported to Hungary. The plastic cap is sourced from Hungary. The stainless steel nut and washer are sourced as final products from China/Germany and transported to the Hungarian plant by lorry.

At Hilti's manufacturing site in Kecskemét, Hungary, the pipe is machined. The hard metal tip is then attached, and both the pipe and tip undergo carbide brazing. Following these processes, the anchor rod, sleeve, ring, and cap are assembled. The fully packaged anchor is then placed into the sales box, along with the nut and washer in the plastic bags. Sales boxes are further packed into export boxes. Both boxes are made of 68% recycled cardboard, and each box is labelled accordingly.

100% of the total steel is stainless steel, produced via electric arc furnace (EOF), with recycled material of 80%. Based on the most comprehensive market information and internal evaluations available, the recycled content is approximately 30% pre-consumer and 70% post-consumer material.

Steel Type	Weight	Recycled Material	Steel Source	Recycled Content	Pre-Consumer	Post-Consumer
Carbon	-	-	-	-	-	-
Stainless	100%	80%	EAF	80%	24%	56%

Notes:
Recycled Material refers to the % of recycled material in the steel type
Recycled Content refers to the % contribution of recycled material to the total product
Recycled Content = (% Weight) x (% Recycled Material)
Pre-/Post Consumer = (% Recycled Content) × (% Pre- or Post-Consumer Share, 30% or 70%)

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Anchors from the Kecskemét production site in Hungary are shipped via container to the HILTI logistics center in Nendeln, Liechtenstein, and then distributed to HILTI centers worldwide. Transportation follows either a lorry–sea freight–lorry route or lorry-only. Distances are weighted averages based on 2024 sales data, with minimal impact on final results. At installation, packaging waste consists of cardboard and pallets. It is assumed that 100% of cardboard is recycled, while 70% of wooden pallets are incinerated with energy recovery and 30% are recycled. Waste treatment distances average 50 km, and energy use during anchor installation is considered negligible.

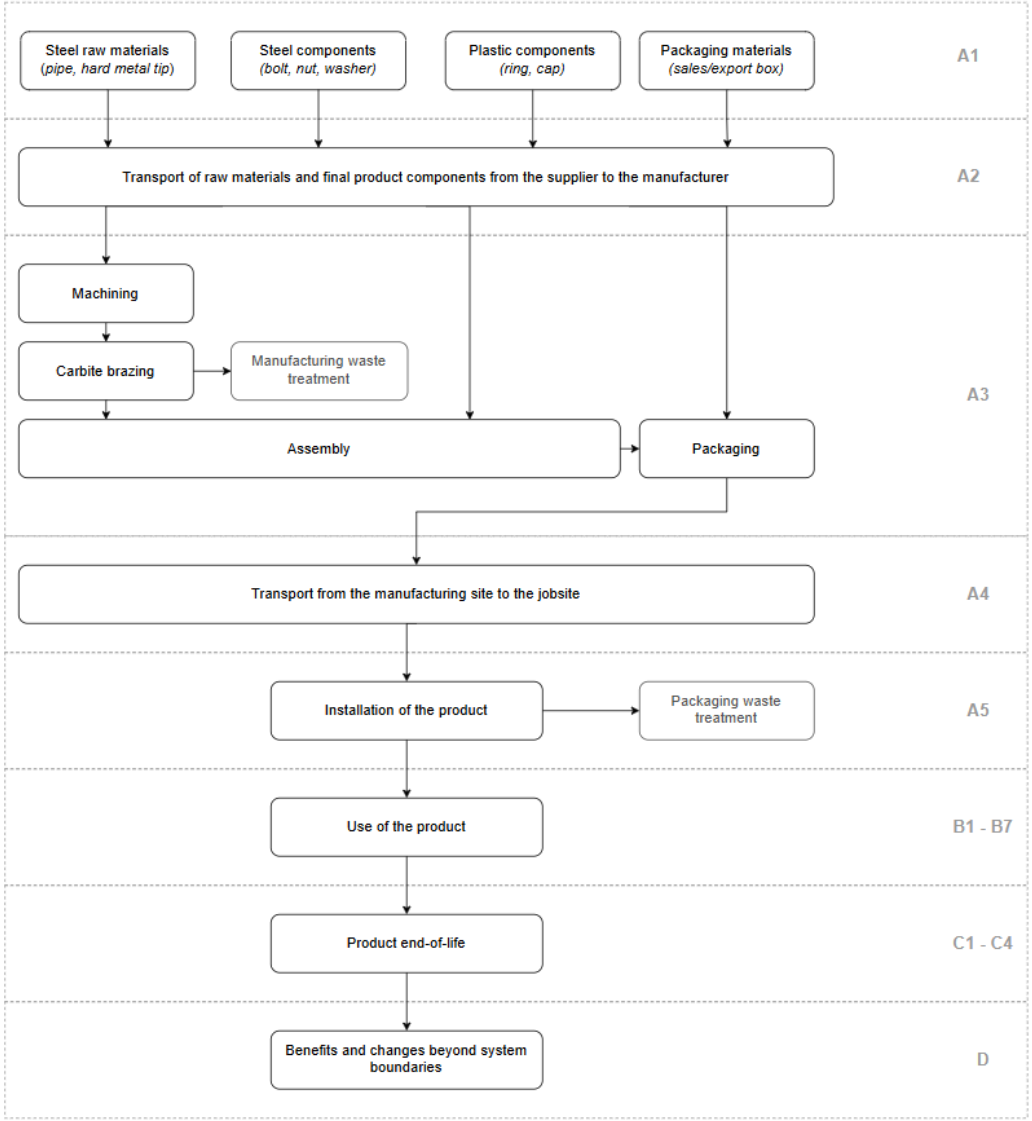
PRODUCT USE AND MAINTENANCE (B1-B7)

No emissions during lifecycle. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its lifecycle, the product will be dismantled along with the building and separated using magnets. Based on studies from worldsteel.org, an 85% recycling rate is assumed, with the remaining 15% expected to be landfilled. Waste treatment distances are generally assumed to be 50 km. Energy consumption for demolition is considered negligible. Module D includes benefits from recycling the product and packaging materials.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data Type	Allocation
Raw Materials	No allocation
Packaging Materials	Allocated by mass or volume
Ancillary Materials	Allocated by mass or volume
Manufacturing Energy and Waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of Average	Multiple products
Averaging Method	Representative product
Variation in GWP-fossil for A1-A3	1 %

The averaging of products is calculated based on a mid size product which is also the bestselling one, the smallest and the biggest version. All products are identical except length and diameter

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	8,56E+01	2,64E-01	1,95E+01	1,05E+02	0,00E+00	1,78E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,44E-02	2,21E-03	-2,25E-01
GWP – fossil	kg CO_2e	8,55E+01	2,63E-01	1,97E+01	1,05E+02	0,00E+00	2,70E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,43E-02	2,21E-03	-2,25E-01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-1,75E-01	-1,75E-01	0,00E+00	1,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO_2e	1,60E-01	9,69E-05	3,69E-03	1,64E-01	0,00E+00	3,52E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,86E-05	5,74E-07	-7,90E-04
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	5,63E-07	5,13E-09	4,92E-07	1,06E-06	0,00E+00	2,28E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,62E-10	3,14E-11	-7,37E-10
Acidification potential	mol H^+e	4,27E-01	1,35E-03	2,98E-02	4,59E-01	0,00E+00	1,66E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,60E-04	7,50E-06	-1,33E-03
EP-freshwater[2)]	kg Pe	3,58E-02	1,68E-05	7,04E-04	3,65E-02	0,00E+00	7,99E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,32E-05	8,61E-08	-2,68E-04
EP-marine	kg Ne	8,26E-02	4,04E-04	8,58E-03	9,16E-02	0,00E+00	7,66E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,78E-05	5,34E-06	-1,88E-04
EP-terrestrial	mol Ne	8,45E-01	4,42E-03	8,39E-02	9,33E-01	0,00E+00	6,16E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,52E-04	3,15E-05	-2,61E-03
POCP ("smog")[3)]	kg NMVOCe	2,51E-01	1,64E-03	5,41E-02	3,06E-01	0,00E+00	1,78E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,92E-04	1,17E-05	-1,02E-03
ADP-minerals & metals[4)]	kg Sbe	4,67E-04	8,16E-07	5,21E-05	5,20E-04	0,00E+00	1,76E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,43E-06	1,76E-09	-2,74E-07
ADP-fossil resources	MJ	1,08E+03	3,66E+00	5,42E+02	1,62E+03	0,00E+00	2,64E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,87E-01	2,60E-02	-2,83E+00
Water use[5)]	m^3e depr.	2,19E+01	1,75E-02	4,54E+00	2,65E+01	0,00E+00	1,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,54E-03	8,42E-05	-9,68E-02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	4,16E-06	1,97E-08	2,39E-07	4,42E-06	0,00E+00	5,59E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,63E-09	1,72E-10	-2,74E-08
Ionizing radiation[6)]	kBq U235e	1,09E+01	4,47E-03	1,27E+01	2,37E+01	0,00E+00	1,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,03E-03	1,85E-05	1,59E-02
Ecotoxicity (freshwater)	CTUe	2,34E+02	4,67E-01	1,82E+01	2,53E+02	0,00E+00	2,13E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,67E-01	2,48E-03	-2,02E+00
Human toxicity, cancer	CTUh	1,90E-07	4,57E-11	1,85E-09	1,92E-07	0,00E+00	4,05E-12	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,95E-11	2,04E-13	-2,95E-10
Human tox. non-cancer	CTUh	6,33E-07	2,21E-09	6,24E-08	6,97E-07	0,00E+00	1,87E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,24E-09	7,84E-12	-3,70E-09
SQP[7)]	-	1,94E+02	2,05E+00	2,26E+01	2,19E+02	0,00E+00	1,63E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,44E-01	5,24E-02	-4,29E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	1,47E+02	6,10E-02	3,04E+01	1,77E+02	0,00E+00	-1,76E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,46E-02	2,97E-04	-1,01E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,48E+00	1,48E+00	0,00E+00	-1,48E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,55E-01
Total use of renew. PER	MJ	1,47E+02	6,10E-02	3,18E+01	1,79E+02	0,00E+00	-3,24E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,46E-02	2,97E-04	-5,51E-02
Non-re. PER as energy	MJ	1,08E+03	3,66E+00	5,42E+02	1,62E+03	0,00E+00	2,64E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,87E-01	-3,85E-01	-2,83E+00
Non-re. PER as material	MJ	0,00E+00	0,00E+00	7,33E-02	7,33E-02	0,00E+00	-7,33E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,68E-03
Total use of non-re. PER	MJ	1,08E+03	3,66E+00	5,42E+02	1,62E+03	0,00E+00	-4,68E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,87E-01	-3,85E-01	-2,82E+00
Secondary materials	kg	7,29E-01	1,68E-03	6,51E-02	7,96E-01	0,00E+00	5,12E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,32E-04	6,91E-06	1,81E-01
Renew. secondary fuels	MJ	3,50E-03	2,00E-05	3,60E-02	3,95E-02	0,00E+00	2,41E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,51E-05	1,39E-07	6,13E-03
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	6,12E-01	4,77E-04	1,07E-01	7,20E-01	0,00E+00	1,62E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,25E-04	-2,27E-05	-1,93E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,42E+01	5,23E-03	2,89E-01	1,45E+01	0,00E+00	4,32E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,24E-03	2,97E-05	-6,84E-02
Non-hazardous waste	kg	1,76E+02	1,08E-01	4,92E+00	1,81E+02	0,00E+00	4,15E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,30E-02	6,13E-02	-2,80E+00
Radioactive waste	kg	2,67E-03	1,11E-06	3,03E-03	5,70E-03	0,00E+00	2,68E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,54E-07	4,48E-09	4,04E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	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	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,86E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-01	MND	MND	MND	MND	MND	MND	MND	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	6,01E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,39E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	8,52E+01	2,62E-01	1,96E+01	1,05E+02	0,00E+00	4,39E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,43E-02	2,14E-03	-2,16E-01
Ozone depletion Pot.	kg CFC_{-11}e	4,76E-07	4,08E-09	4,04E-07	8,84E-07	0,00E+00	1,89E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,17E-10	2,49E-11	-9,69E-10
Acidification	kg SO_2e	3,55E-01	1,05E-03	2,37E-02	3,79E-01	0,00E+00	1,25E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,09E-04	5,55E-06	-1,10E-03
Eutrophication	kg PO_4^3e	4,28E-02	1,99E-04	5,38E-03	4,84E-02	0,00E+00	4,41E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,98E-05	1,90E-06	-2,36E-04
POCP (“smog”)	kg C_2H_4e	1,97E-02	7,85E-05	2,59E-03	2,24E-02	0,00E+00	1,80E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,24E-05	7,05E-07	-2,10E-04
ADP-elements	kg Sbe	4,57E-04	7,97E-07	5,16E-05	5,10E-04	0,00E+00	1,72E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,43E-06	1,72E-09	-2,44E-07
ADP-fossil	MJ	9,04E+02	3,59E+00	3,10E+02	1,22E+03	0,00E+00	2,47E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,71E-01	2,58E-02	-3,13E+00

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8,56E+01	2,64E-01	1,97E+01	1,06E+02	0,00E+00	2,70E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,44E-02	2,21E-03	-2,25E-01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents, and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
29.04.2025

PORTFOLIO INCLUDED

The results above apply to the HDA-PR / HDA-TR portfolio:

Material	Designation
339346	HDA-PR M10x100/20
339347	HDA-PR M12x125/30
339348	HDA-PR M12x125/50
339349	HDA-PR M16x190/40
339350	HDA-PR M16x190/60
339351	HDA-TR M10x100/20
339352	HDA-TR M12x125/30
339353	HDA-TR M12x125/50
339354	HDA-TR M16x190/40
339355	HDA-TR M16x190/60