ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

HAC-C Anchor Channels, Mounting Channels and T-Bolts
Hilti AG

EPD HUB, HUB-4724
Published on 18.12.2025, last updated on 18.12.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Hilti AG
Address	Feldkircherstrasse 100, FL-9494, Schaan, LI
Contact details	sustainability@hilti.com
Website	www.hilti.group

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Jessa Valencia, Hilti AG
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen as an authorized verifier for EPD Hub

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	HAC-C Anchor Channels, Mounting Channels and T-Bolts
Additional labels	see appendix
Product reference	2405335, 2405357, 2405401, 2405412
Place(s) of raw material origin	China
Place of production	Hilti Plant 8 (Zhanjiang, China)
Place(s) of installation and use	Globally
Period for data	Calendar year 2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	+/- 29%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	8,31

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of HAC-C-T-P, HMC incl t-bolts
Declared unit mass	1 kg
Mass of packaging	0,14 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	6,52
GWP-total, A1-A3 ($kgCO_2e$)	6,37
Secondary material, inputs (%)	58,2
Secondary material, outputs (%)	84
Total energy use, A1-A3 (kWh)	24,1
Net freshwater use, A1-A3 (m^3)	0,04

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 33,000 team members in over 120 countries the company stands for direct customer relationships, quality and innovation. 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

Hilti high-performance cast-in anchor channels for fastening curtain wall facades, fixtures in tunnels, MEP installations, and fixtures in elevator shafts. The anchor channels with t-bolts are a system consisting of C-shaped channel profile (carbon steel or stainless steel) with at least two metal anchors non-detachably fixed to the channel back and t-bolts. The anchor channel is embedded surface-flush in the concrete. The fixture is fastened to the anchor channel by t-bolts, hexagon nuts and washers. The channel systems have been assessed following European assessment guideline EAD 330008-04-0601. The assessment has been done for shear, tensile, parallel shear loads as well as seismic, fire and fatigue loads. The results are documented under ETA-17/0336 issued by approval body DIBt, Germany.

Further information can be found at: www.hilti.group

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	93,48	China
Minerals	-	-
Fossil materials	6,52	China
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,000106

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of HAC-C-T-P, HMC incl t-bolts
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

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	ND	ND	ND	ND	ND	ND	ND	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 = ND. 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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

The carbon steel and stainless steel channels are manufactured in China and transported by lorry to Hilti's production facility in Zhanjiang. At the Hilti site, the raw channels undergo cutting, riveting, and coating processes. The anchor is produced in China and transported to the plant by lorry. The endcaps and foam filler are also produced in China and delivered via lorry. The T-bolt is supplied as a finished component including nut and washer. Following this, all components are assembled and packaged automatically within the Zhanjiang facility. Faulty parts and steel waste from production are considered in module A3, while negligible packaging waste is not considered. The manufacturing process requires electricity for powering the production equipment. Minor auxiliary materials, such as lubricants and cleaning agents, are also negligible. For distribution to customers through Hilti logistics centers, the anchor channels are packed in cardboard sales and export boxes and transported on wooden pallets.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

The transportation is calculated based on the distance traveled by lorry/ ship from the manufacturing facility to the Hilti distribution centers all over the world. The stated distances are weighted mean values based on 2024 sales figures. Vehicle capacity utilization volume factors may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Transportation does not cause losses as product is packaged properly. Environmental impacts from installation into the building include generation of waste packaging materials (A5) and release of biogenic

carbon dioxide from wood pallets/cardboard boxes. Energy for anchor channel installation is negligible.

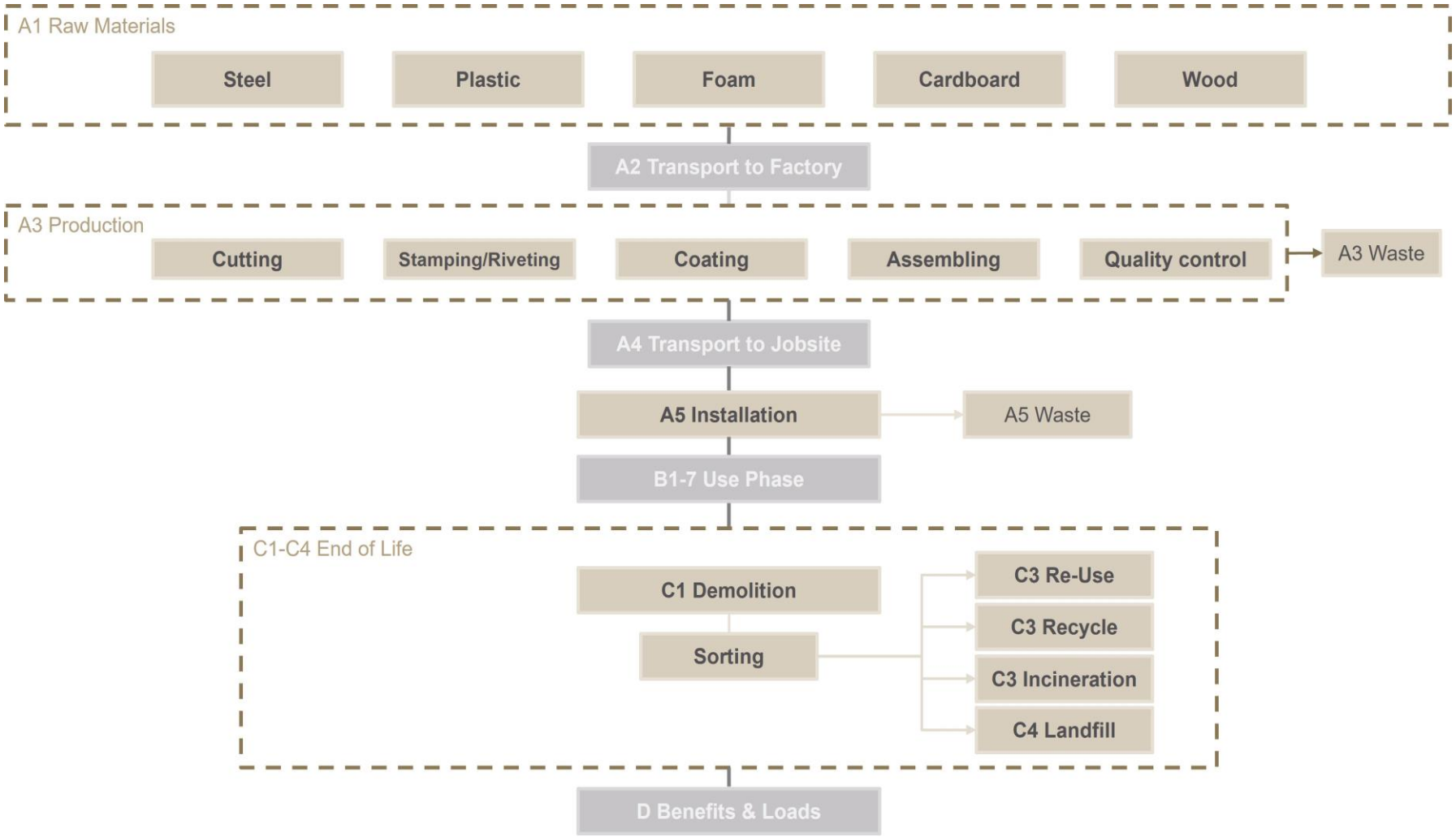
PRODUCT USE AND MAINTENANCE (B1-B7)

The use phase is not relevant for the life cycle emissions of this product and is, therefore, not accounted for in the assessment.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At end of life, the product will be dismantled together with the building and separated via magnet. Based on worldsteel.org studies, a recycling share of 85% is assumed and 15% are assumed to be deposited. Distances for waste treatment are assumed to be 50km in general. Demolition energy is assumed to be negligible. Module D benefits are considered for the product and packaging.

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.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

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 material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	+/- 29%

The averaging of the products is calculated based on the representative items in the product family: Carbon steel anchor channel HAC-C-T 40/22 with T-bolt HBC-T-40/22 and Stainless steel anchor channel HAC-C-T 40/22 with T-bolt HBC-T-40/22. The HAC-C products in this portfolio covers the same applications and are similar in material constitution and have therefore been summarized in this EPD. The whole portfolio range is available in the Appendix.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	5,97E+00	5,42E-01	-1,39E-01	6,37E+00	2,56E-01	2,59E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,27E-02	4,51E-02	9,37E-04	-1,45E+00
GWP – fossil	kg CO_2e	5,87E+00	5,42E-01	1,14E-01	6,52E+00	2,56E-01	5,40E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,27E-02	4,52E-02	9,36E-04	-1,45E+00
GWP – biogenic	kg CO_2e	9,63E-02	1,06E-04	-2,53E-01	-1,57E-01	4,77E-05	2,54E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,32E-06	-4,19E-05	-2,98E-07	-4,03E-03
GWP – LULUC	kg CO_2e	5,62E-03	2,64E-04	2,51E-04	6,13E-03	1,28E-04	4,76E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,89E-05	2,36E-05	5,35E-07	-1,82E-04
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	8,37E-08	7,91E-09	9,48E-10	9,26E-08	3,72E-09	8,85E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,97E-10	2,65E-10	2,71E-11	-4,78E-09
Acidification potential	mol H^+e	2,86E-02	7,92E-03	6,02E-04	3,71E-02	4,67E-03	2,43E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,42E-04	2,32E-04	6,64E-06	-5,75E-03
EP-freshwater[2)]	kg Pe	1,94E-03	3,13E-05	3,66E-05	2,01E-03	1,31E-05	1,42E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,32E-06	1,23E-05	7,70E-08	-6,20E-04
EP-marine	kg Ne	5,64E-03	2,05E-03	1,54E-04	7,85E-03	1,19E-03	4,21E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,61E-05	5,34E-05	2,53E-06	-1,27E-03
EP-terrestrial	mol Ne	5,84E-02	2,27E-02	1,65E-03	8,28E-02	1,32E-02	8,96E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,01E-04	5,94E-04	2,76E-05	-1,40E-02
POCP ("smog")[3)]	kg NMVOCe	1,89E-02	6,69E-03	5,69E-04	2,62E-02	3,77E-03	3,48E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,98E-04	1,75E-04	9,90E-06	-4,74E-03
ADP-minerals & metals[4)]	kg Sbe	9,01E-05	1,09E-06	7,18E-07	9,19E-05	4,49E-07	2,09E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,40E-07	1,35E-06	1,49E-09	-1,39E-05
ADP-fossil resources	MJ	6,54E+01	7,33E+00	1,35E+00	7,41E+01	3,38E+00	8,29E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,98E-01	2,60E-01	2,30E-02	-1,32E+01
Water use[5)]	m^3e depr.	1,72E+00	3,01E-02	4,39E-02	1,79E+00	1,29E-02	5,57E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,78E-03	6,30E-03	6,63E-05	-2,42E-01

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, EF 3.1

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	4,75E-07	3,78E-08	1,37E-08	5,27E-07	1,53E-08	5,81E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,39E-09	3,10E-09	1,51E-10	-9,61E-08
Ionizing radiation[6)]	kBq U235e	3,05E-01	5,18E-03	3,53E-03	3,14E-01	2,19E-03	1,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,85E-04	2,17E-03	1,44E-05	5,32E-02
Ecotoxicity (freshwater)	CTUe	2,27E+01	8,44E-01	5,54E-01	2,41E+01	3,57E-01	2,85E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,46E-02	2,00E-01	1,93E-03	-3,54E+00
Human toxicity, cancer	CTUh	6,55E-09	1,00E-10	4,03E-10	7,06E-09	4,91E-11	1,61E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,25E-12	1,92E-11	1,73E-13	-2,32E-10
Human tox. non-cancer	CTUh	9,95E-08	3,59E-09	1,10E-09	1,04E-07	1,47E-09	7,55E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,75E-10	1,23E-09	3,97E-12	-1,14E-08
SQP[7)]	-	2,71E+01	4,73E+00	3,24E+01	6,43E+01	1,75E+00	1,24E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,58E-01	4,97E-01	4,52E-02	-4,19E+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	1,09E+01	8,32E-02	2,25E+00	1,33E+01	3,55E-02	-1,86E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,21E-03	4,77E-02	2,22E-04	-8,90E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,22E+00	2,22E+00	0,00E+00	-2,22E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,22E-02
Total use of renew. PER	MJ	1,09E+01	8,32E-02	4,48E+00	1,55E+01	3,55E-02	-4,08E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,21E-03	4,77E-02	2,22E-04	-8,57E-01
Non-re. PER as energy	MJ	6,50E+01	7,33E+00	1,18E+00	7,35E+01	3,38E+00	8,29E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,98E-01	-1,40E-01	2,30E-02	-1,32E+01
Non-re. PER as material	MJ	3,78E-01	0,00E+00	1,39E-01	5,17E-01	0,00E+00	-1,45E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,78E-01	-1,93E-01	2,00E-03
Total use of non-re. PER	MJ	6,53E+01	7,33E+00	1,32E+00	7,40E+01	3,38E+00	-6,25E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,98E-01	-3,19E-01	-1,70E-01	-1,32E+01
Secondary materials	kg	5,82E-01	3,27E-03	1,29E-02	5,98E-01	1,53E-03	4,11E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,69E-04	3,15E-04	5,78E-06	7,94E-01
Renew. secondary fuels	MJ	2,07E-03	2,72E-05	5,83E-02	6,04E-02	1,05E-05	9,53E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,42E-06	1,46E-05	1,20E-07	-1,22E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	3,92E-02	8,56E-04	9,47E-04	4,10E-02	3,57E-04	-3,51E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,93E-05	1,65E-04	2,39E-05	-3,21E-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	3,63E+00	1,14E-02	2,75E-02	3,67E+00	5,07E-03	2,09E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,04E-03	2,12E-03	2,54E-05	-4,76E-01
Non-hazardous waste	kg	1,85E+01	1,91E-01	2,07E-01	1,89E+01	8,20E-02	4,93E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-02	7,23E-02	5,80E-04	-3,72E+00
Radioactive waste	kg	7,53E-05	1,27E-06	8,67E-07	7,74E-05	5,36E-07	4,04E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,19E-07	5,56E-07	3,52E-09	1,38E-05

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	ND	ND	ND	ND	ND	ND	ND	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	3,75E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,40E-01	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	ND	ND	ND	ND	ND	ND	ND	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	7,00E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,31E-01	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	2,90E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,50E-02	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	4,10E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,60E-02	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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	5,94E+00	5,39E-01	1,14E-01	6,59E+00	2,55E-01	1,14E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,24E-02	4,51E-02	9,28E-04	-1,44E+00
Ozone depletion Pot.	kg CFC_{-11}e	6,45E-08	6,29E-09	8,08E-10	7,16E-08	2,96E-09	7,08E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,77E-10	2,19E-10	2,15E-11	-5,28E-09
Acidification	kg SO_2e	2,36E-02	6,28E-03	4,76E-04	3,03E-02	3,71E-03	1,84E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,09E-04	1,86E-04	4,91E-06	-4,63E-03
Eutrophication	kg PO_4^3e	4,37E-03	7,97E-04	1,60E-03	6,77E-03	4,46E-04	8,10E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,65E-05	2,78E-05	1,56E-06	-8,51E-04
POCP (“smog”)	kg C_2H_4e	1,76E-03	3,43E-04	5,79E-05	2,17E-03	1,95E-04	2,86E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,75E-06	1,10E-05	4,65E-07	-7,26E-04
ADP-elements	kg Sbe	8,96E-05	1,06E-06	7,09E-07	9,14E-05	4,40E-07	2,06E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,37E-07	1,34E-06	1,46E-09	-1,39E-05
ADP-fossil	MJ	6,06E+01	7,25E+00	1,29E+00	6,92E+01	3,35E+00	8,02E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,91E-01	2,22E-01	2,28E-02	-1,42E+01

ADDITIONAL INDICATOR – GWP-GHG

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	5,87E+00	5,42E-01	1,14E-01	6,53E+00	2,56E-01	5,40E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,27E-02	4,52E-02	9,37E-04	-1,45E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity production, wind, 1-3MW turbine, onshore, China, Ecoinvent, 0.0001 kgCO2e/kwh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 901,5 km
2. Market for transport, freight, sea, container ship, 12560 km

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.017 kg
2. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.0 kg
3. Exported Energy: Electricity, Ecoinvent, 0.0 MJ
4. Exported Energy: Electricity, Ecoinvent, 2.9E-4 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.0 MJ
6. Exported Energy: Thermal, Ecoinvent, 4.1E-4 MJ
7. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.098 kg
8. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0015 kg
9. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 1.4E-4 kg
10. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 1.6E-4 kg
11. Treatment of metal scrap, mixed, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.019 kg
12. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.0046 kg

End of life scenario documentation - C1-C4 (Data source)

1. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.84 kg
2. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.15 kg
3. Treatment of waste plastic, mixture, municipal incineration, Ecoinvent, 0.011 kg
4. Exported Energy: Electricity, Ecoinvent, 0.055 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.076 MJ

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Sarah Curpen as an authorized verifier for EPD Hub Limited 18.12.2025

APPENDIX

PRODUCT PORTFOLIO INCLUDED IN SCOPE

The following list of products are included in the scope of this declaration, as represented by Anchor channel HAC-C-T 40/22 1050 F (item number 2405335) with T-bolt HBC-T-40/22 M12x60 8.8F (item number 2405401) and Anchor channel HAC-C-T 40/22 1050 A4 (item number 2405357) with T-bolt HBC-T-40/22 M12x60 A4-70 (item number 2405412).

Item Number	Name	Weight [kg]
2405169	HAC-C-T 29/20 150 F	0.43
2405300	HAC-C-T 29/20 200 F	0.53
2405301	HAC-C-T 29/20 250 F	0.64
2405302	HAC-C-T 29/20 300 F	0.80
2405303	HAC-C-T 29/20 350 F	0.91
2405304	HAC-C-T 29/20 400 F	1.02
2405305	HAC-C-T 29/20 450 F	1.13
2405306	HAC-C-T 29/20 550 F	1.39
2405307	HAC-C-T 29/20 850 F	2.10
2405308	HAC-C-T 29/20 1050 F	2.58
2405309	HAC-C-T 29/20 1250 F	3.06
2405310	HAC-C-T 29/20 1450 F	3.55
2405311	HAC-C-T 29/20 1850 F	4.52
2405312	HAC-C-T 29/20 2050 F	5.00
2405313	HAC-C-T 29/20 2250 F	5.48
2405314	HAC-C-T 29/20 3050 F	7.42
2405315	HAC-C-T 29/20 6070 F	14.73
2405316	HAC-C-T 29/20 150 A4	0.41
2405317	HAC-C-T 29/20 200 A4	0.52
2405318	HAC-C-T 29/20 250 A4	0.62
2405319	HAC-C-T 29/20 300 A4	0.77
2405320	HAC-C-T 29/20 350 A4	0.88
2405321	HAC-C-T 29/20 400 A4	0.98
2405322	HAC-C-T 29/20 450 A4	1.09
2405323	HAC-C-T 29/20 550 A4	1.34
2405324	HAC-C-T 29/20 1050 A4	2.49
2405325	HAC-C-T 29/20 6070 A4	14.21
2405326	HAC-C-T 40/22 150 F	0.53
2405327	HAC-C-T 40/22 200 F	0.66
2405328	HAC-C-T 40/22 250 F	0.79
2405329	HAC-C-T 40/22 300 F	0.92
2405330	HAC-C-T 40/22 350 F	1.12
2405331	HAC-C-T 40/22 400 F	1.24
2405332	HAC-C-T 40/22 450 F	1.37
2405333	HAC-C-T 40/22 550 F	1.63
2405334	HAC-C-T 40/22 800 F	2.34
2405335	HAC-C-T 40/22 1050 F	3.06
2405336	HAC-C-T 40/22 1300 F	3.77
2405337	HAC-C-T 40/22 1550 F	4.48
2405338	HAC-C-T 40/22 1800 F	5.20
2405339	HAC-C-T 40/22 2050 F	5.91
2405340	HAC-C-T 40/22 2300 F	6.62
2405341	HAC-C-T 40/22 3050 F	8.76
2405342	HAC-C-T 40/22 6070 F	17.38
2405343	HAC-C-T 40L 250 F	0.82
2405344	HAC-C-T 40L 300 F	0.95
2405345	HAC-C-T 40L 350 F	1.16

Item Number	Name	Weight [kg]
2405346	HAC-C-T 40L 400 F	1.29
2405347	HAC-C-T 40L 450 F	1.42
2405348	HAC-C-T 40L 550 F	1.68
2405349	HAC-C-T 40/22 150 A4	0.53
2405350	HAC-C-T 40/22 200 A4	0.66
2405351	HAC-C-T 40/22 250 A4	0.80
2405352	HAC-C-T 40/22 300 A4	0.93
2405353	HAC-C-T 40/22 350 A4	1.13
2405354	HAC-C-T 40/22 400 A4	1.26
2405355	HAC-C-T 40/22 450 A4	1.39
2405356	HAC-C-T 40/22 550 A4	1.65
2405357	HAC-C-T 40/22 1050 A4	3.10
2405358	HAC-C-T 40/22 6070 A4	17.67
2452532	HAC-C-T 50/30 100 F	0.60
2451912	HAC-C-T 50/30 150 F	0.81
2451922	HAC-C-T 50/30 200 F	1.00
2451913	HAC-C-T 50/30 250 F	1.19
2452540	HAC-C-T 50/30 300 F	1.46
2452533	HAC-C-T 50/30 350 F	1.63
2452541	HAC-C-T 50/30 400 F	1.81
2452534	HAC-C-T 50/30 450 F	2.00
2451923	HAC-C-T 50/30 550 F	2.46
2452542	HAC-C-T 50/30 800 F	3.40
2451924	HAC-C-T 50/30 1050 F	4.60
2452535	HAC-C-T 50/30 1300 F	5.46
2452536	HAC-C-T 50/30 1550 F	6.49
2451916	HAC-C-T 50/30 1800 F	7.52
2452551	HAC-C-T 50/30 2050 F	8.55

Item Number	Name	Weight [kg]
2452546	HAC-C-T 50/30 2300 F	9.58
2451927	HAC-C-T 50/30 2550 F	10.60
2451928	HAC-C-T 50/30 2800 F	11.63
2451929	HAC-C-T 50/30 3050 F	12.66
2452547	HAC-C-T 50/30 6070 F	25.17
2451917	HAC-C-T 50/30 100 A4	0.60
2452560	HAC-C-T 50/30 150 A4	0.79
2452548	HAC-C-T 50/30 200 A4	0.97
2452552	HAC-C-T 50/30 250 A4	1.16
2452561	HAC-C-T 50/30 300 A4	1.42
2452553	HAC-C-T 50/30 350 A4	1.63
2451918	HAC-C-T 50/30 400 A4	1.81
2452549	HAC-C-T 50/30 450 A4	2.00
2452570	HAC-C-T 50/30 550 A4	2.37
2451919	HAC-C-T 50/30 800 A4	3.40
2452562	HAC-C-T 50/30 1050 A4	4.43
2452554	HAC-C-T 50/30 1300 A4	5.46
2452580	HAC-C-T 50/30 1550 A4	6.49
2452581	HAC-C-T 50/30 1800 A4	7.52
2451925	HAC-C-T 50/30 2050 A4	8.55
2452543	HAC-C-T 50/30 2300 A4	9.58
2451926	HAC-C-T 50/30 2550 A4	10.60
2452537	HAC-C-T 50/30 3050 A4	12.66
2452538	HAC-C-T 50/30 6070 A4	25.17
2452539	HAC-C-T 50L 250 F	1.22
2451914	HAC-C-T 50L 300 F	1.41
2452550	HAC-C-T 50L 350 F	1.72
2451915	HAC-C-T 50L 400 F	1.90

Item Number	Name	Weight [kg]
2452544	HAC-C-T 50L 450 F	2.00
2452545	HAC-C-T 50L 550 F	2.37
2405359	HAC-C-T 53/34 150 F	1.21
2405360	HAC-C-T 53/34 200 F	1.49
2405361	HAC-C-T 53/34 250 F	1.78
2405362	HAC-C-T 53/34 300 F	2.06
2405363	HAC-C-T 53/34 350 F	2.52
2405364	HAC-C-T 53/34 400 F	2.81
2405365	HAC-C-T 53/34 450 F	3.09
2405366	HAC-C-T 53/34 550 F	3.66
2405367	HAC-C-T 53/34 800 F	5.25
2405368	HAC-C-T 53/34 1050 F	6.85
2405369	HAC-C-T 53/34 1300 F	8.45
2405370	HAC-C-T 53/34 1550 F	10.05
2454553	HAC-C-T 53/34 1800 F	11.64
2405372	HAC-C-T 53/34 2050 F	13.24
2405373	HAC-C-T 53/34 2300 F	14.84
2405374	HAC-C-T 53/34 3050 F	19.63
2405375	HAC-C-T 53/34 6070 F	38.91
2405376	HAC-C-T 53/34 150 A4	1.17
2405377	HAC-C-T 53/34 200 A4	1.45
2405378	HAC-C-T 53/34 250 A4	1.73
2405379	HAC-C-T 53/34 300 A4	2.01
2405380	HAC-C-T 53/34 350 A4	2.45
2405381	HAC-C-T 53/34 400 A4	2.73
2405382	HAC-C-T 53/34 450 A4	3.01
2405383	HAC-C-T 53/34 550 A4	3.57
2405384	HAC-C-T 53/34 1050 A4	6.68

Item Number	Name	Weight [kg]
2405385	HAC-C-T 53/34 6070 A4	37.98
2168307	HAC-C 28/15 100 F	0.14
2168308	HAC-C 28/15 150 F	0.20
2168309	HAC-C 28/15 200 F	0.25
2168410	HAC-C 28/15 250 F	0.30
2168411	HAC-C 28/15 300 F	0.36
2168412	HAC-C 28/15 350 F	0.45
2168413	HAC-C 28/15 400 F	0.51
2168414	HAC-C 28/15 450 F	0.57
2168415	HAC-C 28/15 550 F	0.65
2168416	HAC-C 28/15 850 F	1.06
2168417	HAC-C 28/15 1050 F	1.31
2168420	HAC-C 28/15 3050 F	3.78
2168421	HAC-C 28/15 6070 F	7.50
2168422	HAC-C 28/15 100 A4	0.14
2168423	HAC-C 28/15 150 A4	0.19
2168424	HAC-C 28/15 200 A4	0.25
2168425	HAC-C 28/15 250 A4	0.31
2168426	HAC-C 28/15 300 A4	0.38
2168427	HAC-C 28/15 350 A4	0.43
2168428	HAC-C 28/15 400 A4	0.49
2168429	HAC-C 28/15 450 A4	0.54
2168430	HAC-C 28/15 550 A4	0.67
2168431	HAC-C 28/15 850 A4	1.02
2168432	HAC-C 28/15 1050 A4	1.25
2168433	HAC-C 28/15 3050 A4	3.63
2168434	HAC-C 28/15 6070 A4	7.20
2168435	HAC-C 38/17 100 F	0.25

Item Number	Name	Weight [kg]
2168436	HAC-C 38/17 150 F	0.34
2168437	HAC-C 38/17 200 F	0.42
2168438	HAC-C 38/17 250 F	0.50
2168439	HAC-C 38/17 300 F	0.62
2168440	HAC-C 38/17 350 F	0.72
2168441	HAC-C 38/17 400 F	0.83
2168442	HAC-C 38/17 450 F	0.92
2168443	HAC-C 38/17 550 F	1.13
2168444	HAC-C 38/17 850 F	1.71
2168445	HAC-C 38/17 1050 F	2.10
2168448	HAC-C 38/17 3050 F	5.90
2168449	HAC-C 38/17 6070 F	12.00
2168450	HAC-C 38/17 100 A4	0.24
2168451	HAC-C 38/17 150 A4	0.33
2168452	HAC-C 38/17 200 A4	0.42
2168453	HAC-C 38/17 250 A4	0.50
2168454	HAC-C 38/17 300 A4	0.62
2168455	HAC-C 38/17 350 A4	0.71
2168456	HAC-C 38/17 400 A4	0.80
2168457	HAC-C 38/17 450 A4	0.88
2168458	HAC-C 38/17 550 A4	1.09
2168459	HAC-C 38/17 850 A4	1.64
2168460	HAC-C 38/17 1050 A4	2.02
2168461	HAC-C 38/17 3050 A4	5.81
2168462	HAC-C 38/17 6070 A4	11.53
2168469	HAC-C 40/22 150 F	0.44
2168470	HAC-C 40/22 200 F	0.56
2168471	HAC-C 40/22 250 F	0.72

Item Number	Name	Weight [kg]
2168472	HAC-C 40/22 300 F	0.86
2168473	HAC-C 40/22 350 F	0.90
2168474	HAC-C 40/22 400 F	1.09
2168475	HAC-C 40/22 450 F	1.21
2168476	HAC-C 40/22 550 F	1.47
2168477	HAC-C 40/22 800 F	2.10
2168478	HAC-C 40/22 1050 F	2.75
2168479	HAC-C 40/22 1300 F	3.40
2168480	HAC-C 40/22 1550 F	4.17
2168481	HAC-C 40/22 1800 F	5.00
2168482	HAC-C 40/22 2050 F	5.33
2168483	HAC-C 40/22 2300 F	5.98
2168484	HAC-C 40/22 2550 F	6.90
2168485	HAC-C 40/22 3050 F	7.92
2168486	HAC-C 40/22 6070 F	17.00
2170263	HAC-C 40/22 150 A4	0.42
2170264	HAC-C 40/22 200 A4	0.54
2170265	HAC-C 40/22 250 A4	0.66
2170266	HAC-C 40/22 300 A4	0.78
2170267	HAC-C 40/22 350 A4	0.93
2170268	HAC-C 40/22 400 A4	1.05
2170269	HAC-C 40/22 450 A4	1.16
2170360	HAC-C 40/22 550 A4	1.44
2170361	HAC-C 40/22 800 A4	2.02
2170362	HAC-C 40/22 1050 A4	2.77
2170363	HAC-C 40/22 1300 A4	3.27
2170364	HAC-C 40/22 1550 A4	3.89
2170365	HAC-C 40/22 1800 A4	4.51

Item Number	Name	Weight [kg]
2170366	HAC-C 40/22 2050 A4	5.13
2170367	HAC-C 40/22 2300 A4	5.76
2170368	HAC-C 40/22 2550 A4	6.38
2170369	HAC-C 40/22 3050 A4	7.62
2170370	HAC-C 40/22 6070 A4	15.50
2168490	HAC-C 40/25 150 F	0.40
2168491	HAC-C 40/25 200 F	0.50
2168492	HAC-C 40/25 250 F	0.61
2168493	HAC-C 40/25 300 F	0.70
2168494	HAC-C 40/25 350 F	0.82
2168495	HAC-C 40/25 400 F	0.97
2168496	HAC-C 40/25 450 F	1.08
2168497	HAC-C 40/25 550 F	1.29
2168498	HAC-C 40/25 800 F	1.87
2168499	HAC-C 40/25 1050 F	2.44
2168506	HAC-C 40/25 3050 F	7.10
2168507	HAC-C 40/25 6070 F	13.99
2170359	HAC-C 40/25 150 A4	0.38
2170380	HAC-C 40/25 200 A4	0.48
2170381	HAC-C 40/25 250 A4	0.59
2170382	HAC-C 40/25 300 A4	0.69
2170383	HAC-C 40/25 350 A4	0.83
2170384	HAC-C 40/25 400 A4	0.93
2170385	HAC-C 40/25 450 A4	1.03
2170386	HAC-C 40/25 550 A4	1.28
2170387	HAC-C 40/25 800 A4	1.79
2168505	HAC-C 40/25 1050 A4	2.34
2170388	HAC-C 40/25 3050 A4	6.80

Item Number	Name	Weight [kg]
2170389	HAC-C 40/25 6070 A4	13.20
2168283	HAC-C 49/30 150 F	0.61
2168284	HAC-C 49/30 200 F	0.77
2168285	HAC-C 49/30 250 F	0.93
2168286	HAC-C 49/30 300 F	1.09
2168287	HAC-C 49/30 350 F	1.31
2168288	HAC-C 49/30 400 F	1.47
2168289	HAC-C 49/30 450 F	1.63
2168510	HAC-C 49/30 550 F	1.95
2168511	HAC-C 49/30 800 F	2.81
2168512	HAC-C 49/30 1050 F	3.67
2168519	HAC-C 49/30 3050 F	10.50
2168520	HAC-C 49/30 6070 F	20.95
2170301	HAC-C 49/30 150 A4	0.59
2170302	HAC-C 49/30 200 A4	0.74
2170303	HAC-C 49/30 250 A4	0.89
2170304	HAC-C 49/30 300 A4	1.04
2170305	HAC-C 49/30 350 A4	1.26
2170306	HAC-C 49/30 400 A4	1.41
2170307	HAC-C 49/30 450 A4	1.56
2170308	HAC-C 49/30 550 A4	1.87
2170309	HAC-C 49/30 800 A4	2.70
2168518	HAC-C 49/30 1050 A4	3.52
2170390	HAC-C 49/30 3050 A4	10.14
2170391	HAC-C 49/30 6070 A4	20.50
2168521	HAC-C 50/30 150 F	0.73
2168522	HAC-C 50/30 200 F	0.89
2168523	HAC-C 50/30 250 F	1.09

Item Number	Name	Weight [kg]
2168524	HAC-C 50/30 300 F	1.28
2168525	HAC-C 50/30 350 F	1.58
2168526	HAC-C 50/30 400 F	1.78
2168527	HAC-C 50/30 450 F	1.91
2168528	HAC-C 50/30 550 F	2.30
2168529	HAC-C 50/30 800 F	3.32
2168530	HAC-C 50/30 1050 F	4.60
2168531	HAC-C 50/30 1300 F	5.36
2168532	HAC-C 50/30 1550 F	6.37
2168533	HAC-C 50/30 1800 F	7.80
2168534	HAC-C 50/30 2050 F	8.60
2168535	HAC-C 50/30 2300 F	10.00
2168536	HAC-C 50/30 2550 F	11.00
2168537	HAC-C 50/30 3050 F	12.49
2168538	HAC-C 50/30 6070 F	24.81
2170392	HAC-C 50/30 150 A4	0.67
2170393	HAC-C 50/30 200 A4	0.85
2170394	HAC-C 50/30 250 A4	1.04
2170395	HAC-C 50/30 300 A4	1.22
2170396	HAC-C 50/30 350 A4	1.46
2170397	HAC-C 50/30 400 A4	1.65
2170398	HAC-C 50/30 450 A4	1.83
2170399	HAC-C 50/30 550 A4	2.19
2170400	HAC-C 50/30 800 A4	3.17
2170401	HAC-C 50/30 1050 A4	4.14
2170402	HAC-C 50/30 1300 A4	5.12
2170403	HAC-C 50/30 1550 A4	6.09
2170404	HAC-C 50/30 1800 A4	7.07

Item Number	Name	Weight [kg]
2170405	HAC-C 50/30 2050 A4	8.04
2170406	HAC-C 50/30 2300 A4	9.02
2170407	HAC-C 50/30 2550 A4	9.99
2170408	HAC-C 50/30 3050 A4	11.94
2170409	HAC-C 50/30 6070 A4	23.71
2168539	HAC-C 52/34 150 F	1.10
2168540	HAC-C 52/34 200 F	1.38
2168541	HAC-C 52/34 250 F	1.67
2168542	HAC-C 52/34 300 F	1.95
2168543	HAC-C 52/34 350 F	2.30
2168544	HAC-C 52/34 400 F	2.64
2168545	HAC-C 52/34 450 F	2.92
2168546	HAC-C 52/34 550 F	3.48
2168547	HAC-C 52/34 800 F	5.20
2168548	HAC-C 52/34 1050 F	6.55
2168549	HAC-C 52/34 1300 F	8.09
2168550	HAC-C 52/34 1550 F	9.62
2168551	HAC-C 52/34 1800 F	11.16
2168552	HAC-C 52/34 2050 F	12.69
2168553	HAC-C 52/34 2300 F	14.23
2168554	HAC-C 52/34 2550 F	15.76
2168555	HAC-C 52/34 3050 F	18.83
2168556	HAC-C 52/34 6070 F	39.00
2170253	HAC-C 52/34 150 A4	1.06
2170254	HAC-C 52/34 200 A4	1.34
2170255	HAC-C 52/34 250 A4	1.61
2170256	HAC-C 52/34 300 A4	1.88
2170257	HAC-C 52/34 350 A4	2.28

Item Number	Name	Weight [kg]
2170258	HAC-C 52/34 400 A4	2.55
2170259	HAC-C 52/34 450 A4	2.82
2170410	HAC-C 52/34 550 A4	3.37
2170411	HAC-C 52/34 800 A4	4.85
2170412	HAC-C 52/34 1050 A4	6.34
2170413	HAC-C 52/34 1300 A4	7.82
2170414	HAC-C 52/34 1550 A4	9.31
2170415	HAC-C 52/34 1800 A4	10.79
2170416	HAC-C 52/34 2050 A4	12.28
2170417	HAC-C 52/34 2300 A4	13.77
2170418	HAC-C 52/34 2550 A4	15.25
2170419	HAC-C 52/34 3050 A4	18.22
2170420	HAC-C 52/34 6070 A4	36.50
2168294	HAC-C 54/33 150 F	0.99
2168295	HAC-C 54/33 200 F	1.24
2168296	HAC-C 54/33 250 F	1.48
2168297	HAC-C 54/33 300 F	1.72
2168298	HAC-C 54/33 350 F	2.10
2168299	HAC-C 54/33 400 F	2.34
2168560	HAC-C 54/33 450 F	2.59
2168561	HAC-C 54/33 550 F	3.07
2168562	HAC-C 54/33 800 F	4.42
2168563	HAC-C 54/33 1050 F	5.77
2168564	HAC-C 54/33 3050 F	16.57
2168565	HAC-C 54/33 6070 F	33.00
2170430	HAC-C 54/33 150 A4	0.95
2170431	HAC-C 54/33 200 A4	1.19
2170432	HAC-C 54/33 250 A4	1.42

Item Number	Name	Weight [kg]
2170433	HAC-C 54/33 300 A4	1.66
2170434	HAC-C 54/33 350 A4	2.01
2170435	HAC-C 54/33 400 A4	2.25
2170436	HAC-C 54/33 450 A4	2.48
2170437	HAC-C 54/33 550 A4	2.95
2170438	HAC-C 54/33 800 A4	4.25
2168517	HAC-C 54/33 1050 A4	5.55
2170439	HAC-C 54/33 3050 A4	15.93
2170440	HAC-C 54/33 6070 A4	32.00
2169039	HAC-C-40/22-W 3050	7.02
2169040	HAC-C-40/22-W 6070	13.96
2169041	HAC-C-50/30-W 3050	10.98
2169042	HAC-C-50/30-W 6070	21.85
2169043	HAC-C-52/34-W 3050	16.17
2169044	HAC-C-52/34-W 6070	32.17
2201040	HAC-C-I 50/30 350 F	1.72
2201041	HAC-C-I 52/34 350 F	2.92
2277349	HAC-C-P 40/22 150 F	0.52
2277350	HAC-C-P 40/22 200 F	0.65
2277351	HAC-C-P 40/22 250 F	0.77
2277352	HAC-C-P 40/22 300 F	0.90
2277353	HAC-C-P 40/22 350 F	1.08
2277354	HAC-C-P 40/22 400 F	1.24
2277355	HAC-C-P 40/22 450 F	1.37
2277356	HAC-C-P 40/22 550 F	1.60
2277357	HAC-C-P 40/22 800 F	2.44
2277358	HAC-C-P 40/22 1050 F	3.11
2277359	HAC-C-P 40/22 1300 F	3.73

Item Number	Name	Weight [kg]
2277360	HAC-C-P 40/22 1550 F	4.40
2364722	HAC-C-P 40/22 1800 F	5.04
2277361	HAC-C-P 40/22 2050 F	5.78
2364723	HAC-C-P 40/22 2300 F	6.46
2277362	HAC-C-P 40/22 3050 F	8.70
2277363	HAC-C-P 40/22 6070 F	18.35
2277364	HAC-C-P 40/22 150 A4	0.50
2277365	HAC-C-P 40/22 200 A4	0.63
2277366	HAC-C-P 40/22 250 A4	0.75
2277367	HAC-C-P 40/22 300 A4	0.86
2277368	HAC-C-P 40/22 350 A4	1.06
2277369	HAC-C-P 40/22 400 A4	1.19
2277370	HAC-C-P 40/22 450 A4	1.32
2277371	HAC-C-P 40/22 550 A4	1.52
2277372	HAC-C-P 40/22 1050 A4	3.00
2277373	HAC-C-P 40/22 6070 A4	16.55
2308282	HAC-C-P 40L 250 F	0.78
2308283	HAC-C-P 40L 300 F	0.93
2308284	HAC-C-P 40L 350 F	1.12
2308285	HAC-C-P 40L 400 F	1.24
2308286	HAC-C-P 40L 450 F	1.37
2308287	HAC-C-P 40L 550 F	1.63
2277374	HAC-C-P 50/30 150 F	0.86
2277375	HAC-C-P 50/30 200 F	1.07
2277376	HAC-C-P 50/30 250 F	1.27
2277377	HAC-C-P 50/30 300 F	1.36
2277378	HAC-C-P 50/30 350 F	1.62
2277379	HAC-C-P 50/30 450 F	2.21

Item Number	Name	Weight [kg]
2277380	HAC-C-P 50/30 550 F	2.64
2277381	HAC-C-P 50/30 800 F	3.69
2277382	HAC-C-P 50/30 1050 F	4.86
2277383	HAC-C-P 50/30 3050 F	13.89
2277384	HAC-C-P 50/30 6070 F	27.44
2277385	HAC-C-P 50/30 150 A4	0.80
2277386	HAC-C-P 50/30 200 A4	0.99
2277387	HAC-C-P 50/30 250 A4	1.18
2277388	HAC-C-P 50/30 300 A4	1.38
2277389	HAC-C-P 50/30 350 A4	1.59
2277390	HAC-C-P 50/30 450 A4	2.06
2277391	HAC-C-P 50/30 550 A4	2.35
2277392	HAC-C-P 50/30 1050 A4	4.63
2277118	HAC-C-P 50/30 6070 A4	26.20
2308288	HAC-C-P 50L 250 F	1.27
2308289	HAC-C-P 50L 300 F	1.34
2308290	HAC-C-P 50L 350 F	1.74
2308291	HAC-C-P 50L 450 F	2.21
2308292	HAC-C-P 50L 550 F	2.64
2326157	HMC-T 29/20 3050 F	6.08
2326158	HMC-T 29/20 6070 F	12.09
2326155	HMC-T 29/20 3050 B	5.73
2326156	HMC-T 29/20 6070 B	11.41
2326141	HMC 40/22 3050 F	8.08
2326142	HMC 40/22 6070 F	15.50
2326055	HMC 40/22 300 B	0.75
2326056	HMC 40/22 550 B	1.38
2326057	HMC 40/22 1050 B	2.64

Item Number	Name	Weight [kg]
2326058	HMC 40/22 1300 B	3.25
2326059	HMC 40/22 1550 B	3.87
2326130	HMC 40/22 1800 B	4.50
2326131	HMC 40/22 3050 B	7.62
2326132	HMC 40/22 6070 B	14.40
2326145	HMC 40/22 3050 A4	7.69
2326146	HMC 40/22 6070 A4	15.30
2326143	HMC 50/30 3050 F	12.80
2326144	HMC 50/30 6070 F	24.50
2326133	HMC 50/30 300 B	1.20
2326134	HMC 50/30 550 B	2.19
2326135	HMC 50/30 1050 B	4.20
2326136	HMC 50/30 1300 B	5.15
2326137	HMC 50/30 1550 B	6.14
2326138	HMC 50/30 1800 B	7.13
2326139	HMC 50/30 3050 B	12.07
2326140	HMC 50/30 6070 B	24.03
2326147	HMC 50/30 3050 A4	12.17
2326148	HMC 50/30 6070 A4	24.22
2326151	HMC 52/34 3050 F	18.43
2326152	HMC 52/34 6070 F	36.68
2326149	HMC 52/34 3050 B	15.50
2326150	HMC 52/34 6070 B	33.00
2326153	HMC 52/34 3050 A4	17.55
2326154	HMC 52/34 6070 A4	34.93
2170595	HBC-T 29/20 M12x40 8.8F	0.07
2170596	HBC-T 29/20 M12x60 8.8F	0.09
2170597	HBC-T 29/20 M12x80 8.8F	0.10

Item Number	Name	Weight [kg]
2405386	HBC-T-29/20 M10x40 8.8F	0.06
2405387	HBC-T-29/20 M10x60 8.8F	0.07
2405388	HBC-T-29/20 M10x80 8.8F	0.08
2405389	HBC-T-29/20 M12x40 8.8F	0.07
2405390	HBC-T-29/20 M12x60 8.8F	0.09
2405391	HBC-T-29/20 M12x80 8.8F	0.10
2405392	HBC-T-29/20 M10x40 A4-70	0.06
2405393	HBC-T-29/20 M10x60 A4-70	0.07
2405394	HBC-T-29/20 M10x80 A4-70	0.08
2405395	HBC-T-29/20 M12x40 A4-70	0.07
2405396	HBC-T-29/20 M12x60 A4-70	0.09
2405397	HBC-T-29/20 M12x80 A4-70	0.10
2405398	HBC-T-40/22 M10x40 8.8F	0.08
2405399	HBC-T-40/22 M10x60 8.8F	0.09
2405400	HBC-T-40/22 M10x80 8.8F	0.10
2405401	HBC-T-40/22 M12x60 8.8F	0.11
2405402	HBC-T-40/22 M12x80 8.8F	0.12
2405403	HBC-T-40/22 M12x100 8.8F	0.13
2405404	HBC-T-40/22 M12x125 8.8F	0.16
2405405	HBC-T-40/22 M16x60 8.8F	0.17
2405406	HBC-T-40/22 M16x80 8.8F	0.20
2405407	HBC-T-40/22 M16x100 8.8F	0.22
2405408	HBC-T-40/22 M16x125 8.8F	0.26
2405409	HBC-T-40/22 M10x40 A4-70	0.08
2405410	HBC-T-40/22 M10x60 A4-70	0.09
2405411	HBC-T-40/22 M10x80 A4-70	0.10
2405412	HBC-T-40/22 M12x60 A4-70	0.11
2405413	HBC-T-40/22 M12x80 A4-70	0.12

Item Number	Name	Weight [kg]
2405414	HBC-T-40/22 M12x100 A4-70	0.13
2405415	HBC-T-40/22 M12x125 A4-70	0.16
2405416	HBC-T-40/22 M16x60 A4-70	0.17
2405417	HBC-T-40/22 M16x80 A4-70	0.20
2405418	HBC-T-40/22 M16x100 A4-70	0.22
2405419	HBC-T-40/22 M16x125 A4-70	0.26
2405420	HBC-T-50/30 M16x60 8.8F	0.23
2405421	HBC-T-50/30 M16x80 8.8F	0.26
2405422	HBC-T-50/30 M16x100 8.8F	0.28
2405423	HBC-T-50/30 M16x125 8.8F	0.32
2405424	HBC-T-50/30 M20x60 8.8F	0.31
2405425	HBC-T-50/30 M20x80 8.8F	0.35
2405426	HBC-T-50/30 M20x100 8.8F	0.39
2405427	HBC-T-50/30 M20x125 8.8F	0.45
2405428	HBC-T-50/30 M16x60 A4-70	0.23
2405429	HBC-T-50/30 M16x80 A4-70	0.26
2405430	HBC-T-50/30 M16x100 A4-70	0.28
2405431	HBC-T-50/30 M16x125 A4-70	0.32
2405432	HBC-T-50/30 M20x60 A4-70	0.31
2405433	HBC-T-50/30 M20x80 A4-70	0.35
2405434	HBC-T-50/30 M20x100 A4-70	0.39
2405168	HBC-T-50/30 M20x125 A4-70	0.45
2170173	HBC-28/15 M10x30 8.8F	0.03
2170174	HBC-28/15 M10x40 8.8F	0.04
2170175	HBC-28/15 M10x60 8.8F	0.05
2170176	HBC-28/15 M12x40 8.8F	0.05
2170177	HBC-28/15 M12x60 8.8F	0.07
2170178	HBC-28/15 M12x80 8.8F	0.08

Item Number	Name	Weight [kg]
2170179	HBC-28/15 M10x30 A4-70	0.03
2170590	HBC-28/15 M10x40 A4-70	0.04
2170591	HBC-28/15 M10x60 A4-70	0.05
2170592	HBC-28/15 M12x40 A4-70	0.06
2170593	HBC-28/15 M12x60 A4-70	0.06
2170594	HBC-28/15 M12x80 A4-70	0.07
2168616	HBC-38/17 M10x30 8.8F	0.04
2168617	HBC-38/17 M10x40 8.8F	0.05
2168618	HBC-38/17 M10x60 8.8F	0.06
2168619	HBC-38/17 M12x40 8.8F	0.07
2168780	HBC-38/17 M12x60 8.8F	0.08
2168781	HBC-38/17 M12x80 8.8F	0.09
2168782	HBC-38/17 M16x50 8.8F	0.12
2168783	HBC-38/17 M16x80 8.8F	0.16
2168784	HBC-38/17 M10x40 A4-70	0.05
2168785	HBC-38/17 M10x50 A4-70	0.06
2168786	HBC-38/17 M10x60 A4-70	0.06
2168787	HBC-38/17 M12x40 A4-70	0.07
2168788	HBC-38/17 M12x50 A4-70	0.07
2168789	HBC-38/17 M12x60 A4-70	0.08
2168790	HBC-38/17 M16x50 A4-70	0.13
2168791	HBC-38/17 M16x60 A4-70	0.14
2168792	HBC-38/17 M16x80 A4-70	0.16
2169073	HBC-40/22 M12x40 8.8F	0.08
2169074	HBC-40/22 M12x60 8.8F	0.09
2169075	HBC-40/22 M12x80 8.8F	0.10
2169076	HBC-40/22 M16x50 8.8F	0.14
2169077	HBC-40/22 M16x60 8.8F	0.15

Item Number	Name	Weight [kg]
2169078	HBC-40/22 M16x80 8.8F	0.18
2169079	HBC-40/22 M16x100 8.8F	0.20
2169080	HBC-40/22 M12x40 A4-70	0.08
2169081	HBC-40/22 M12x60 A4-70	0.10
2169082	HBC-40/22 M12x80 A4-70	0.11
2169083	HBC-40/22 M16x50 A4-70	0.14
2169084	HBC-40/22 M16x60 A4-70	0.16
2169085	HBC-40/22 M16x80 A4-70	0.18
2169086	HBC-40/22 M16x100 A4-70	0.20
2169142	HBC-40/22-N M16x50 8.8F	0.14
2169143	HBC-40/22-N M16x60 8.8F	0.15
2169144	HBC-40/22-N M16x80 8.8F	0.18
2168741	HBC-50/30 M12x50 8.8F	0.10
2168742	HBC-50/30 M12x60 8.8F	0.11
2168743	HBC-50/30 M12x80 8.8F	0.15
2168744	HBC-50/30 M12x100 8.8F	0.14
2168745	HBC-50/30 M16x50 8.8F	0.17
2168746	HBC-50/30 M16x60 8.8F	0.19
2168747	HBC-50/30 M16x80 8.8F	0.21
2168748	HBC-50/30 M16x100 8.8F	0.23
2168749	HBC-50/30 M16x125 8.8F	0.26
2168800	HBC-50/30 M20x60 8.8F	0.26
2168801	HBC-50/30 M20x80 8.8F	0.29
2168802	HBC-50/30 M20x100 8.8F	0.34
2168803	HBC-50/30 M20x125 8.8F	0.39
2168804	HBC-50/30 M12x50 A4-70	0.11
2168805	HBC-50/30 M12x60 A4-70	0.12
2168806	HBC-50/30 M12x80 A4-70	0.13

Item Number	Name	Weight [kg]
2168807	HBC-50/30 M12x100 A4-70	0.14
2168808	HBC-50/30 M16x50 A4-70	0.18
2168809	HBC-50/30 M16x60 A4-70	0.19
2168810	HBC-50/30 M16x80 A4-70	0.21
2168811	HBC-50/30 M16x100 A4-70	0.23
2168812	HBC-50/30 M16x125 A4-70	0.26
2168813	HBC-50/30 M20x60 A4-70	0.26
2168814	HBC-50/30 M20x80 A4-70	0.30
2168815	HBC-50/30 M20x100 A4-70	0.34
2168816	HBC-50/30 M20x125 A4-70	0.39
2168515	HBC-50/30-N M20x60 8.8F	0.26
2168516	HBC-50/30-N M20x80 8.8F	0.29
2169148	HBC-50/30-N M16x50 8.8F	0.16
2169149	HBC-50/30-N M16x60 8.8F	0.18
2169160	HBC-50/30-N M16x80 8.8F	0.20