



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Grating Disc X-FCM (CN-F)

Hilti AG



EPD HUB, HUB-5582

Published on 01.03.2026, last updated on 01.03.2026, valid until 01.03.2031

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, 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 15804:2012+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	Siti Nur Syaza Abdul Rahman, Hilti AG
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Imane Uald Lamkaddam 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	Grating Disc X-FCM (CN-F)
Additional labels	-
Product reference	Refer appendix
Place(s) of raw material origin	China
Place of production	Zhejiang, China (city: commercially sensitive)
Place(s) of installation and use	Global
Period for data	Calendar year 2023
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	+/-0.34%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	5,95

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of Grating Disc X-FCM (CN-F)
Declared unit mass	1 kg
Mass of packaging	0,125 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,98
GWP-total, A1-A3 (kgCO ₂ e)	2,81
Secondary material, inputs (%)	21,2
Secondary material, outputs (%)	84,3
Total energy use, A1-A3 (kWh)	9,69
Net freshwater use, A1-A3 (m ³)	0,02

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. 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

The Hilti X-FCM (CN-F) Grating Fastener Disc is a mechanical fastening component designed to secure steel or fiberglass grating panels to supporting steel structures. Manufactured in galvanized carbon steel, the disc provides a durable, non-welded solution for industrial flooring systems. Its circular geometry distributes loads evenly across the grating surface, ensuring slip resistance and long-term stability. The product is part of Hilti's grating fastening system, which eliminates the need for welding, thereby reducing installation time, improving safety, and minimizing environmental impact during construction.

Application:

- Fastening grating to steel in mildly corrosive C3 environments, such as power plants, industrial facilities and mining
- For gratings exposed to standard loads such as walkways
- Fastening steel grating
- Fastening fiber-reinforced plastic (FRP) grating
- Grating fastener disc for use with M8 threaded studs

Approval according to ABS, BV, DNV GL, LR.

Corrosion protection: Duplex coating, equivalent to 45 µm hot-dip galvanized
 Environmental conditions: Dry indoor, Indoor environments with temporary condensation, Outdoor temporary applications, Outdoor, rural or urban environment with low pollution, Outdoor with moderate concentration of pollution.

Minimum thickness of base materials (steel): 1/4 in

Product class: Ultimate

Further information can be found at www.hilti.group

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	99,2	China
Minerals	-	-
Fossil materials	0,8	China
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0,04487

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of Grating Disc X-FCM (CN-F)
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

Not declared = ND.

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 X-FCM (CN-F) consist of 3 parts which are steel grating disc, screw and absorber ring, that made of carbon steel and plastic. The product is packaged in cardboard packaging that ready-use for easy fastening on steel. The raw materials are sourced within China (transport assumed to be 500 km by truck) prior to transport to Hilti's production facility which in East region of China, where the main manufacturing processes include stamping, cold forming, surface treatment, machining, assembly, quality control, and packaging. The finished product is packaged before being sent to the installation site.

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.

Transportation distance is defined according to the PCR. A sales-weighted average transport distance from the production plant in East China to a representative place of installation in each sales region is used for A4 (equating to 930 km by truck and 6,850 km by container ship for this product due to its global distribution). Vehicle capacity utilization volume factor is assumed to be 1 which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. To be conservative, empty returns are included in this study as implemented through an average load factor in the Ecoinvent transport datapoints. Transportation does not cause losses as products are packaged properly. Also, volume capacity utilization factor is assumed to be 1 for the nested packaged products. Disposal of the packaging, including some residual product within, is accounted for in A5. Emissions due to installation are assumed to be negligible as they are typically performed using simple manual tools which do no consume energy.

PRODUCT USE AND MAINTENANCE (B1-B7)

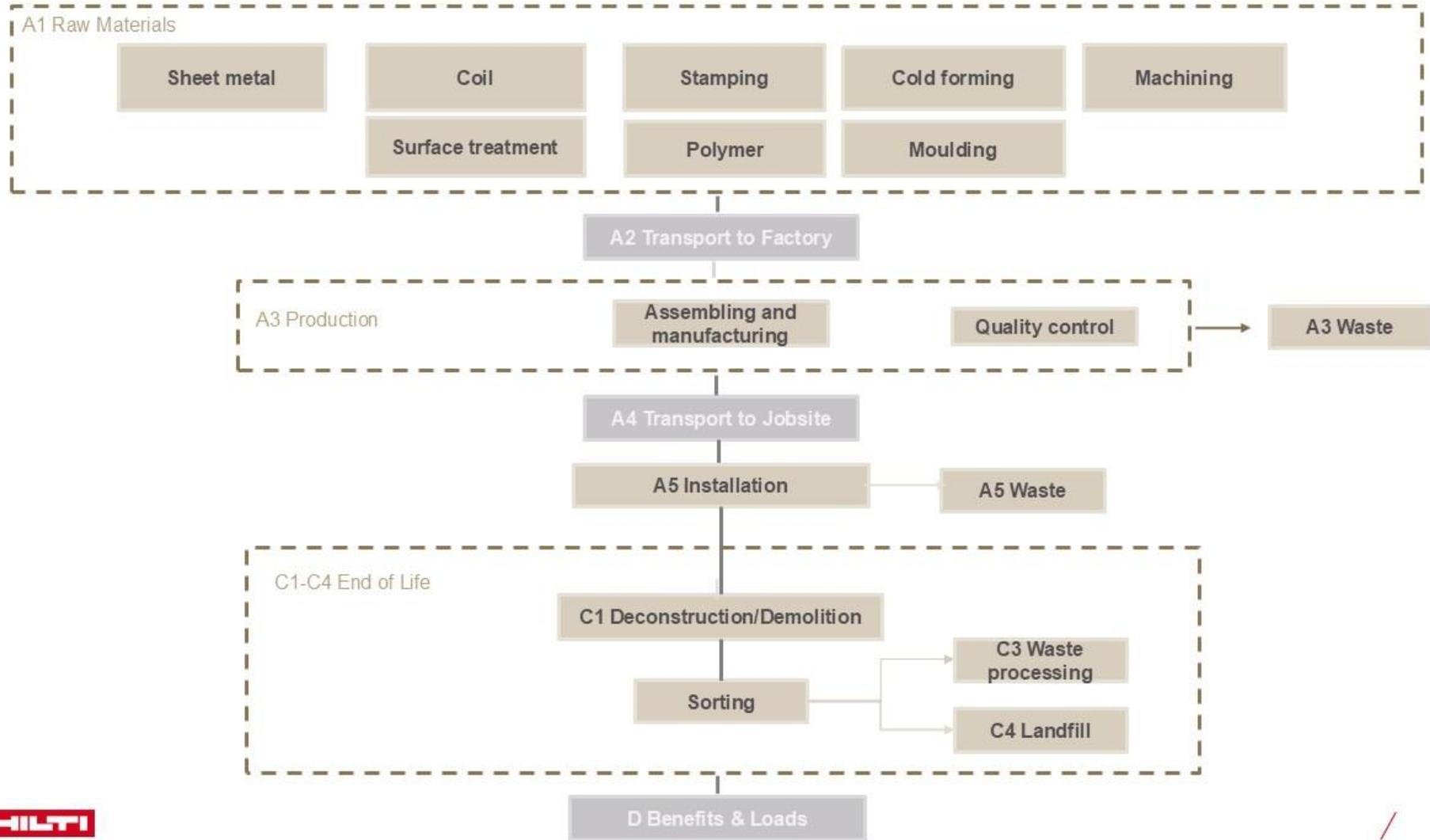
This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Consumption of energy and natural resources in demolition process is assumed to be negligible. As a ready-use fastening grating, which will be installed on a metal grates floor to which it is applied, it is assumed that the product can be recycled according to World Steel Association. About 85% of the steel will be recycled and 15% of the steel is considered for landfill. On the other hand, since there is absorber ring around the steel, it is expected to be recycled, incinerated and to the landfill (34%, 41% and 25%) by Plastic Europe 2020. Transportation distance to landfill is assumed as 50 km and the transportation method is assumed to be lorry (C2). The benefits and loads of packaging recycling are included in Model D.

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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

This LCA study includes the provision of all materials, transportation, energy, and emission flows, and end-of-life processing of product. All industrial processes from raw material acquisition, pre-processing, production, product distribution, installation and end-of-life management are included. Due to lack of data, some materials which are used in the product manufacturing only in very small amounts (less than 1% cut off criteria) and have a negligible impact on the emissions of the product. The production of capital equipment, construction activities, infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

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	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	+/-0.34%

X-FCM (CN-F) is available in multiple size variants with the raw material composition, manufacturing processes and locations remain identical in every case. The version in average results of product by total weight is used as the

representative product for this EPD, and the variability in GWP-fossil for A1-A3 is within the allowed range. All product variants were assessed separately and in full in order to document this.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification 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 ₂ e	2,51E+00	6,31E-02	2,36E-01	2,81E+00	1,92E-01	1,69E-01	ND	0,00E+00	4,27E-02	2,78E-02	1,22E-03	-1,40E+00						
GWP – fossil	kg CO ₂ e	2,51E+00	6,31E-02	4,04E-01	2,98E+00	1,91E-01	4,50E-03	ND	0,00E+00	4,26E-02	2,78E-02	1,22E-03	-1,39E+00						
GWP – biogenic	kg CO ₂ e	1,34E-03	1,31E-05	-1,71E-01	-1,69E-01	3,78E-05	1,65E-01	ND	0,00E+00	9,31E-06	-5,39E-05	-4,49E-07	-5,10E-03						
GWP – LULUC	kg CO ₂ e	1,25E-03	2,82E-05	2,83E-03	4,11E-03	9,30E-05	2,47E-06	ND	0,00E+00	1,89E-05	2,48E-05	5,53E-07	-1,59E-04						
Ozone depletion pot.	kg CFC-11e	1,19E-08	9,31E-10	4,19E-09	1,70E-08	2,79E-09	4,55E-11	ND	0,00E+00	5,96E-10	2,95E-10	2,78E-11	-7,19E-09						
Acidification potential	mol H ⁺ e	1,01E-02	2,15E-04	2,13E-03	1,24E-02	2,70E-03	1,82E-05	ND	0,00E+00	1,42E-04	2,33E-04	6,83E-06	-5,52E-03						
EP-freshwater ²⁾	kg Pe	9,24E-04	4,91E-06	1,18E-04	1,05E-03	1,12E-05	1,00E-06	ND	0,00E+00	3,32E-06	1,27E-05	7,98E-08	-6,00E-04						
EP-marine	kg Ne	2,14E-03	7,07E-05	5,00E-04	2,71E-03	7,03E-04	2,96E-05	ND	0,00E+00	4,61E-05	5,24E-05	3,17E-06	-1,23E-03						
EP-terrestrial	mol Ne	2,32E-02	7,69E-04	4,87E-03	2,88E-02	7,78E-03	5,77E-05	ND	0,00E+00	5,01E-04	5,84E-04	2,84E-05	-1,34E-02						
POCP (“smog”) ³⁾	kg NMVOCe	7,68E-03	3,17E-04	1,43E-03	9,43E-03	2,30E-03	2,21E-05	ND	0,00E+00	1,98E-04	1,74E-04	1,02E-05	-4,58E-03						
ADP-minerals & metals ⁴⁾	kg Sbe	1,95E-05	1,76E-07	1,13E-06	2,08E-05	3,91E-07	2,91E-08	ND	0,00E+00	1,40E-07	1,36E-06	1,55E-09	-1,35E-05						
ADP-fossil resources	MJ	2,48E+01	9,15E-01	4,90E+00	3,06E+01	2,60E+00	4,11E-02	ND	0,00E+00	5,98E-01	2,70E-01	2,36E-02	-1,28E+01						
Water use ⁵⁾	m ³ e depr.	6,59E-01	4,52E-03	1,32E-01	7,95E-01	1,08E-02	1,13E-03	ND	0,00E+00	2,78E-03	1,50E-02	6,92E-05	-2,32E-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	2,21E-07	6,31E-09	4,17E-08	2,69E-07	1,36E-08	2,44E-10	ND	0,00E+00	3,39E-09	3,14E-09	1,55E-10	-9,18E-08						
Ionizing radiation ⁶⁾	kBq	5,99E-02	7,97E-04	3,34E-02	9,41E-02	1,86E-03	2,69E-04	ND	0,00E+00	4,84E-04	2,23E-03	1,50E-05	4,98E-02						
Ecotoxicity (freshwater)	CTUe	9,77E+00	1,29E-01	1,39E+00	1,13E+01	3,02E-01	1,48E-01	ND	0,00E+00	9,46E-02	5,86E-01	2,82E-03	-3,43E+00						
Human toxicity, cancer	CTUh	2,89E-09	1,04E-11	1,07E-10	3,01E-09	3,53E-11	3,26E-12	ND	0,00E+00	7,25E-12	1,97E-11	1,87E-13	-2,33E-10						
Human tox. non-cancer	CTUh	2,19E-08	5,93E-10	3,37E-09	2,59E-08	1,29E-09	1,74E-10	ND	0,00E+00	3,75E-10	1,20E-09	6,73E-12	-1,10E-08						
SQP ⁷⁾	-	8,03E+00	9,22E-01	1,39E+01	2,29E+01	1,72E+00	3,04E-02	ND	0,00E+00	3,58E-01	5,05E-01	4,66E-02	-4,40E+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	2,45E+00	1,25E-02	2,12E+00	4,59E+00	2,98E-02	-1,97E+00	ND	0,00E+00	8,20E-03	4,90E-02	2,31E-04	-9,59E-01						
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,37E+00	1,37E+00	0,00E+00	-1,37E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,90E-02						
Total use of renew. PER	MJ	2,45E+00	1,25E-02	3,50E+00	5,96E+00	2,98E-02	-3,35E+00	ND	0,00E+00	8,20E-03	4,90E-02	2,31E-04	-9,10E-01						
Non-re. PER as energy	MJ	2,45E+01	9,15E-01	4,84E+00	3,03E+01	2,60E+00	4,11E-02	ND	0,00E+00	5,98E-01	4,97E-02	-7,04E-02	-1,29E+01						
Non-re. PER as material	MJ	2,88E-01	0,00E+00	7,58E-02	3,64E-01	0,00E+00	-7,58E-02	ND	0,00E+00	0,00E+00	-2,16E-01	-7,21E-02	6,92E-02						
Total use of non-re. PER	MJ	2,48E+01	9,15E-01	4,91E+00	3,06E+01	2,60E+00	-3,46E-02	ND	0,00E+00	5,98E-01	-1,67E-01	-1,42E-01	-1,28E+01						
Secondary materials	kg	2,12E-01	3,90E-04	9,60E-03	2,22E-01	1,16E-03	6,77E-05	ND	0,00E+00	2,69E-04	3,26E-04	5,99E-06	7,68E-01						
Renew. secondary fuels	MJ	4,30E-04	4,95E-06	2,35E-02	2,40E-02	9,83E-06	3,83E-07	ND	0,00E+00	3,42E-06	1,58E-05	1,24E-07	-1,03E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m ³	1,44E-02	1,35E-04	3,15E-03	1,77E-02	3,07E-04	-2,36E-05	ND	0,00E+00	7,93E-05	3,76E-04	1,50E-05	-3,10E-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	9,97E-01	1,55E-03	3,64E-02	1,03E+00	4,04E-03	6,97E-04	ND	0,00E+00	1,04E-03	4,11E-03	2,64E-05	-4,58E-01						
Non-hazardous waste	kg	5,37E+00	2,87E-02	5,93E-01	5,99E+00	6,85E-02	7,94E-02	ND	0,00E+00	1,96E-02	7,06E-02	1,25E-02	-3,79E+00						
Radioactive waste	kg	1,50E-05	1,95E-07	8,22E-06	2,34E-05	4,54E-07	6,86E-08	ND	0,00E+00	1,19E-07	5,70E-07	3,67E-09	1,29E-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	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	7,56E-02	7,56E-02	0,00E+00	1,03E-01	ND	0,00E+00	0,00E+00	8,43E-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	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	4,87E-02	ND	0,00E+00	0,00E+00	3,10E-02	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	1,97E-02	ND	0,00E+00	0,00E+00	1,30E-02	0,00E+00	0,00E+00						
Exported energy –	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,90E-02	ND	0,00E+00	0,00E+00	1,80E-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 ₂ e	2,49E+00	6,27E-02	4,07E-01	2,96E+00	1,90E-01	1,72E-02	ND	0,00E+00	4,24E-02	2,78E-02	1,20E-03	-1,39E+00						
Ozone depletion Pot.	kg CFC ₁₁ e	1,06E-08	7,43E-10	3,42E-09	1,48E-08	2,22E-09	3,72E-11	ND	0,00E+00	4,76E-10	2,48E-10	2,21E-11	-7,66E-09						
Acidification	kg SO ₂ e	8,17E-03	1,64E-04	1,73E-03	1,01E-02	2,15E-03	1,39E-05	ND	0,00E+00	1,09E-04	1,87E-04	5,06E-06	-4,45E-03						
Eutrophication	kg PO ₄ ³ e	1,49E-03	4,00E-05	4,89E-04	2,02E-03	2,75E-04	2,10E-05	ND	0,00E+00	2,65E-05	2,74E-05	1,65E-06	-8,21E-04						
POCP (“smog”)	kg C ₂ H ₄ e	1,08E-03	1,46E-05	1,33E-04	1,23E-03	1,18E-04	4,13E-06	ND	0,00E+00	9,75E-06	1,13E-05	5,18E-07	-6,98E-04						
ADP-elements	kg Sbe	1,91E-05	1,72E-07	1,09E-06	2,04E-05	3,82E-07	2,85E-08	ND	0,00E+00	1,37E-07	1,35E-06	1,52E-09	-1,35E-05						
ADP-fossil	MJ	2,39E+01	9,03E-01	4,30E+00	2,91E+01	2,57E+00	3,65E-02	ND	0,00E+00	5,91E-01	2,31E-01	2,33E-02	-1,37E+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 ₂ e	2,51E+00	6,31E-02	4,06E-01	2,98E+00	1,92E-01	4,51E-03	ND	0,00E+00	4,27E-02	2,78E-02	1,22E-03	-1,39E+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. Market for electricity, medium voltage, eastChinaGrid, Ecoinvent, 0.86 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 930 km
2. Market for transport, freight, sea, container ship, 6850 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0,00E+00
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.1 kg
2. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.0097 kg
3. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 3.2E-4 kg
4. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.011 kg
5. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 3.6E-4 kg
6. Exported Energy: Electricity, Ecoinvent, 0.019 MJ
7. Exported Energy: Electricity, Ecoinvent, 7.2E-4 MJ
8. Exported Energy: Thermal, Ecoinvent, 0.028 MJ
9. Exported Energy: Thermal, Ecoinvent, 0.001 MJ
10. Treatment of waste paper, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0033 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. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.0 kg
3. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.15 kg
4. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.0 kg
5. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0032 kg
6. Treatment of waste polyvinylchloride, municipal incineration, Ecoinvent, 0.0039 kg
7. Exported Energy: Electricity, Ecoinvent, 0.013 MJ
8. Exported Energy: Thermal, Ecoinvent, 0.018 MJ
9. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.0024 kg

Scenario information	Value
Scenario assumptions e.g. transportation	50 km

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

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
01.03.2026



APPENDIX

PRODUCT PORTFOLIO INCLUDED IN SCOPE

The following list of products are included in the scope of this declaration, as represented by averaging the X-FCM (CN-F).

2354532	Grating disc X-FCM-F L 28/33	0.0950
2354533	Grating disc X-FCM-F L 32/37	0.0975
2354534	Grating disc X-FCM-F L 38/43	0.1015
2354535	Grating disc X-FCM-F L 48/53	0.1079

Item number	Item designation	Weight [kg]
2279753	Grating disc X-FCM-F NG 28/33	0.0288
2279754	Grating disc X-FCM-F NG 32/37	0.0324
2279755	Grating disc X-FCM-F NG 38/43	0.0352
2279756	Grating disc X-FCM-F NG 48/53	0.0416
2343288	Grating disc X-FCM-F-HL 23/28	0.2234
2343289	Grating disc X-FCM-F-HL 28/33	0.2248
2343690	Grating disc X-FCM-F-HL 32/37	0.2273
2343691	Grating disc X-FCM-F-HL 38/43	0.2313
2343692	Grating disc X-FCM-F-HL 48/53	0.2377
2349077	Grating disc X-FCM 23/28	0.0297
2349078	Grating disc X-FCM 28/33	0.0313
2349120	Grating disc X-FCM 38/43	0.0376
2349122	Grating disc X-FCM-F 23/28	0.0297
2349123	Grating disc X-FCM-F 28/33	0.0313
2349125	Grating disc X-FCM-F 38/43	0.0376
2349126	Grating disc X-FCM-F 48/53	0.0440
2349147	Grating disc X-FCM 23/28	0.0297
2349148	Grating disc X-FCM 28/33	0.0312
2349149	Grating disc X-FCM 32/37	0.0328
2349150	Grating disc X-FCM 38/43	0.0376
2349151	Grating disc X-FCM 48/53	0.0420
2349152	Grating disc X-FCM-F 23/28	0.0297
2349153	Grating disc X-FCM-F 28/33	0.0312
2349154	Grating disc X-FCM-F 32/37	0.0348
2349155	Grating disc X-FCM-F 38/43	0.0376
2349156	Grating disc X-FCM-F 48/53	0.0440
2351686	Grating disc X-FCM-F NG 23/28	0.0273