

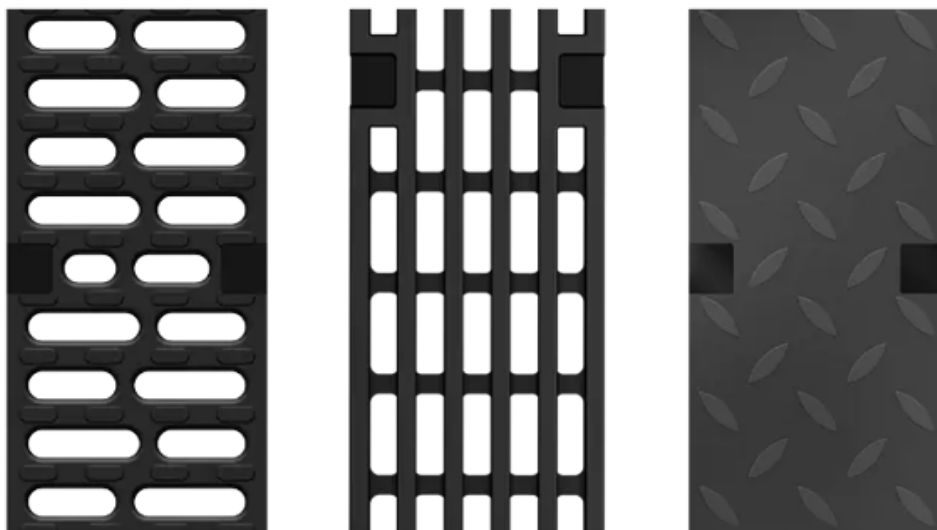
ACO. we care for water

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

ACO DRAIN® Cast Iron Grating

ACO Ahlmann SE & Co. KG



EPD HUB, HUB-5513

Published on 24.02.2026

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Valid until 23.02.2031

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	ACO Ahlmann SE & Co. KG
Address	Am Ahlmannkai, 24782 Büdelsdorf, Germany
Contact details	info@aco.com
Website	www.aco.com

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	Annika Zindel, ACO Ahlmann SE & Co. KG
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

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	ACO DRAIN® Cast Iron Grating
Additional labels	-
Product reference	See list in Annex 1
Place(s) of raw material origin	Europe, Asia
Place of production	Average of several production sites in Europe and Asia
Place(s) of installation and use	Global
Period for data	01.01.2024- 31.12.2024
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3 (%)	-35%/+31%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	64.7

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Mass of packaging	0.0074 kg
GWP-total, A1-A3 (kgCO ₂ e)	1.96
Secondary material, inputs (%)	68.6

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

ACO is one of the world's leading water technology companies, particularly for rainwater and wastewater management. Our mission is "ACO. we care for water." Care in this sense means to be protective and attentive and is deeply anchored in the ACO WaterCycle. This cycle describes the collection, transportation, purification, storage and finally the reuse of this vital resource. Using innovative separation and filter technologies, ACO prevents the contamination of water from fats, fuels, heavy metals and microplastics. We prioritize durability and reusability in our products and continuously work to minimize their carbon footprint. Founded in Schleswig-Holstein in 1946, ACO is represented in over 50 countries around the world and is known for proximity to regional markets and business partnerships.

PRODUCT DESCRIPTION

The declared ACO DRAIN® gratings made of cast iron, rated for load classes from B125 to E600, provide a robust solution for drainage channels in linear drainage systems. The gratings comply with DIN EN 1433/DIN 19580 standards and feature a screwless locking system (Drainlock). Measuring 0.5 meters in length, these gratings can be easily connected to achieve the desired installation length and are available in various nominal widths and designs to suit aesthetic preferences. The declared unit is one kilogram; for conversion to a specific product, a product list with weights is provided in Annex 1. This EPD covers all cast iron gratings offered by European ACO entities on the global market.

Further information can be found at:
www.aco.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	Europe, Asia
Minerals	0	-
Fossil materials	0	-
Bio-based materials	0	-

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	0.0017

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
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	Recovery	Recycling
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse		

ND = Modules not declared

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 manufacturing takes place at different locations and this EPD declared one average kilogram of cast iron grating. The product is manufactured from pig iron and steel scrap which are melted in a furnace and cast in different shapes.

Production losses were assumed to be zero. For those raw materials where no transport data are available, general 'market' processes from Ecoinvent are used. Finished and packaged products are delivered to ACO sales locations via sea and road transport. For transportation the distances from the foundry to the ACO site is calculated based on a mathematical distribution of purchased masses. The products are stacked on wooden pallets, separated by PET sheets and secured with PET straps.

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 products are mainly distributed across Europe, a road transportation by lorry over 100 km for the product is assumed to facilitate customer and project-specific scaling of module A4. No relevant installation resources are used. In Module A5, packaging materials are considered installation waste and assumed to be transported 50 km by lorry to a treatment facility. Based on statistical data, wood packaging is distributed as 32% recycled, 30% incinerated, and 38% landfilled, while plastic packaging is treated with 40% recycling, 37% incineration, and 23% landfill.

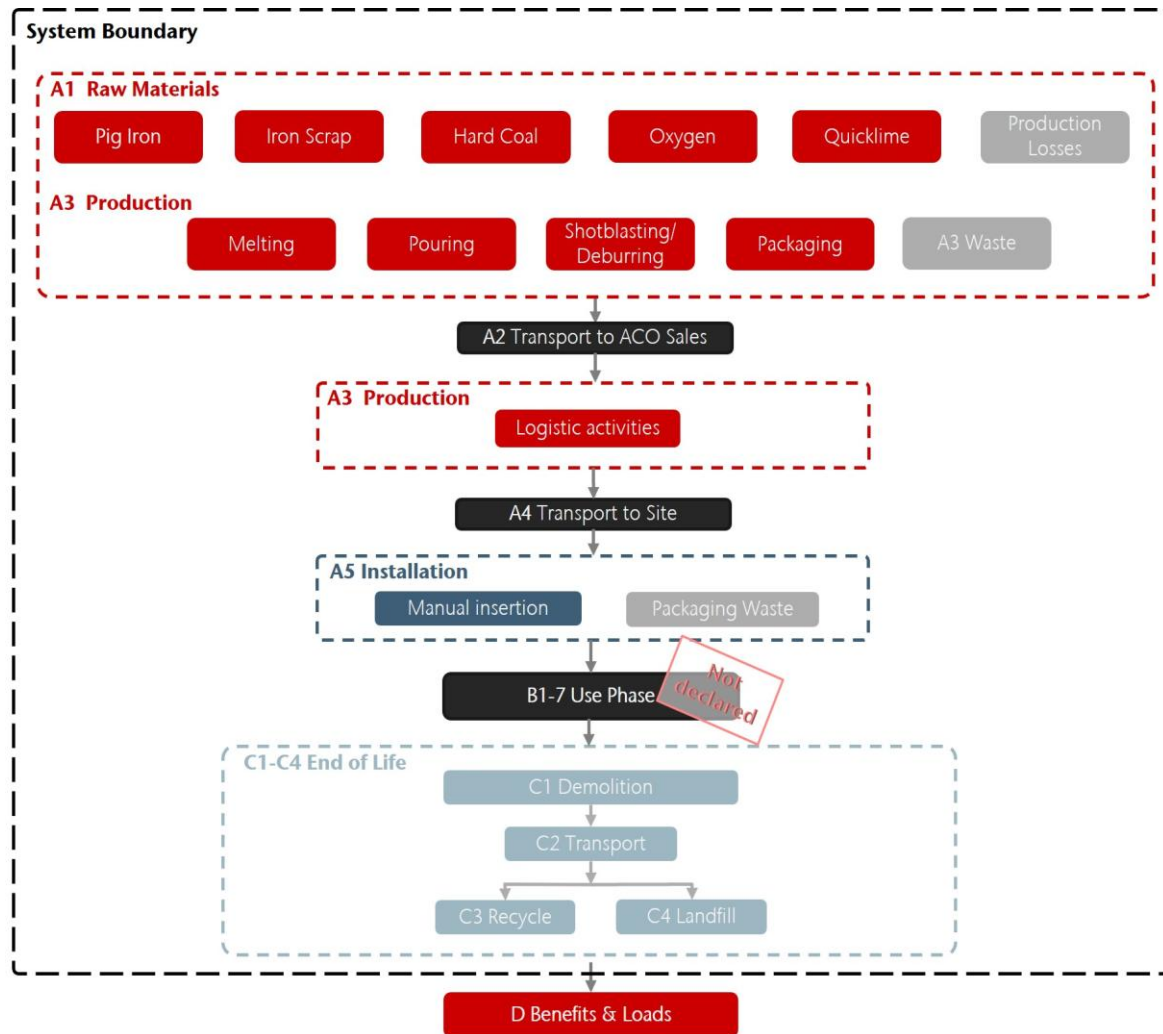
PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

PRODUCT END OF LIFE (C1-C4, D)

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed zero (C1). The end-of-life product is assumed to be sent to the closest facilities by lorry and is assumed to be between 50 km and 250 km far away (C2). The end-of-life product is collected separately from the demolition site while 85% is sent to recycling according to data from the world steel association (C3). The remaining 15% of the steel is considered for landfill (C4). Waste steel can be remelted and replace primary steel, waste wood from packaging can avoid production of mulch for in agricultural applications or produce energy by thermal treatment (D). For the benefits only primary and no secondary materials were considered.

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.

No infrastructure such as the furnace construction or anode for metal electrolysis is included.

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 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	No allocation
Manufacturing energy and waste	Allocated by mass or volume

All significant processes contributing to the environmental impact are included within these boundaries. Production losses were assumed to be zero, as no waste occurs in the foundry, any excess material is directly remelted and reused, eliminating the need for waste treatment. In addition to the energy consumption of the foundries, electricity demand for minor on-site logistics is estimated. Packaging materials are calculated per kilogram of product based on the most frequently sold standard item, using its packaging setup and total weight to normalize wood and PET usage.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple factories
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	-35%/+31%

The EPD represents all cast iron gratings produced for European ACO entities, including manufacturing sites in Asia and Europe. It is based on a mathematical allocation of purchased masses over a three-year period, ensuring a representative average across regions and time.

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'.

Module A5 (packaging) source: EUROSTAT.
Module C-D source: World Steel Association - Life Cycle Inventory study report, 2020 data release, May 2021.

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.
ND = Not declared

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	6.41E-01	1.76E-01	1.14E+00	1.96E+00	1.04E-02	1.00E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.30E-02	1.92E-02	9.37E-04	-2.73E-01
GWP – fossil	kg CO ₂ e	6.43E-01	1.76E-01	1.14E+00	1.96E+00	1.04E-02	3.87E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.30E-02	1.92E-02	9.36E-04	-2.71E-01
GWP – biogenic	kg CO ₂ e	-2.57E-03	3.14E-05	-6.06E-03	-8.60E-03	2.27E-06	6.17E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.38E-06	-4.08E-05	-2.98E-07	-2.00E-03
GWP – LULUC	kg CO ₂ e	2.12E-04	8.92E-05	1.76E-04	4.77E-04	4.06E-06	3.61E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.90E-05	2.37E-05	5.35E-07	-3.28E-05
Ozone depletion pot.	kg CFC ₋₁₁ e	2.58E-09	2.74E-09	1.19E-08	1.72E-08	2.17E-10	4.21E-12	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.01E-10	2.58E-10	2.71E-11	-8.95E-10
Acidification potential	mol H ⁺ e	2.23E-03	3.68E-03	5.31E-03	1.12E-02	2.46E-05	1.71E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.43E-04	2.29E-04	6.64E-06	-1.07E-03
EP-freshwater ²⁾	kg Pe	1.90E-04	7.97E-06	4.07E-04	6.05E-04	7.28E-07	6.65E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.34E-06	1.24E-05	7.70E-08	-1.16E-04
EP-marine	kg Ne	5.36E-04	9.18E-04	8.30E-04	2.28E-03	6.45E-06	1.49E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.64E-05	5.06E-05	2.53E-06	-2.38E-04
EP-terrestrial	mol Ne	5.78E-03	1.02E-02	8.25E-03	2.42E-02	6.98E-05	7.11E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.05E-04	5.72E-04	2.76E-05	-2.61E-03
POCP (“smog”) ³⁾	kg NMVOCe	1.99E-03	2.88E-03	2.42E-03	7.29E-03	4.27E-05	2.18E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.99E-04	1.69E-04	9.90E-06	-8.86E-04
ADP-minerals & metals ⁴⁾	kg Sbe	3.89E-07	2.76E-07	1.02E-06	1.68E-06	2.98E-08	1.31E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.41E-07	1.36E-06	1.49E-09	-2.62E-06
ADP-fossil resources	MJ	6.61E+00	2.31E+00	1.42E+01	2.31E+01	1.56E-01	3.62E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.03E-01	2.58E-01	2.30E-02	-2.46E+00
Water use ⁵⁾	m ³ e depr.	5.04E-02	8.28E-03	5.49E+00	5.55E+00	8.01E-04	1.66E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.80E-03	4.64E-03	6.63E-05	-4.52E-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, 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	5.47E-08	8.97E-09	1.13E-08	7.50E-08	1.02E-09	2.51E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.41E-09	3.10E-09	1.51E-10	-1.79E-08
Ionizing radiation ⁶⁾	kBq U235e	5.88E-03	1.50E-03	3.36E-02	4.10E-02	1.89E-04	1.18E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.88E-04	2.19E-03	1.44E-05	9.94E-03
Ecotoxicity (freshwater)	CTUe	2.22E+01	2.17E-01	1.76E+01	4.00E+01	1.84E-02	2.32E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.53E-02	1.50E-01	1.93E-03	-6.61E-01
Human toxicity, cancer	CTUh	7.50E-10	3.48E-11	1.18E-10	9.02E-10	1.74E-12	2.73E-13	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.31E-12	1.72E-11	1.73E-13	-4.33E-11
Human tox. non-cancer	CTUh	1.88E-09	8.95E-10	6.34E-09	9.12E-09	1.01E-10	1.15E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.77E-10	1.17E-09	3.97E-12	-2.13E-09
SQP ⁷⁾	-	1.59E+00	9.50E-01	1.49E+00	4.04E+00	1.57E-01	3.83E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.60E-01	5.02E-01	4.52E-02	-7.83E-01

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	1.52E-01	2.36E-02	1.15E+00	1.32E+00	2.55E-03	-6.29E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.27E-03	4.81E-02	2.22E-04	-1.57E-01
Renew. PER as material	MJ	0.00E+00	0.00E+00	6.14E-02	6.14E-02	0.00E+00	-6.14E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-02
Total use of renew. PER	MJ	1.52E-01	2.36E-02	1.21E+00	1.38E+00	2.55E-03	-1.24E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.27E-03	4.81E-02	2.22E-04	-1.40E-01
Non-re. PER as energy	MJ	6.22E+00	2.31E+00	1.33E+01	2.18E+01	1.56E-01	-1.18E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.03E-01	2.58E-01	2.30E-02	-2.46E+00
Non-re. PER as material	MJ	3.89E-01	0.00E+00	7.48E-02	4.64E-01	0.00E+00	-7.48E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-3.31E-01	-5.84E-02	1.20E-03
Total use of non-re. PER	MJ	6.61E+00	2.31E+00	1.34E+01	2.23E+01	1.56E-01	-1.93E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.03E-01	-7.32E-02	-3.54E-02	-2.46E+00
Secondary materials	kg	6.86E-01	1.06E-03	4.67E-03	6.92E-01	6.77E-05	6.15E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.71E-04	3.15E-04	5.78E-06	1.49E-01
Renew. secondary fuels	MJ	1.05E-05	6.03E-06	2.08E-03	2.10E-03	8.53E-07	5.24E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.45E-06	1.46E-05	1.20E-07	-2.23E-05
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	1.26E-03	2.24E-04	1.19E-02	1.34E-02	2.31E-05	-6.84E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.99E-05	1.37E-04	2.39E-05	-6.00E-04

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	5.11E-02	3.27E-03	6.96E-02	1.24E-01	2.26E-04	5.47E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.05E-03	1.69E-03	2.54E-05	-8.93E-02
Non-hazardous waste	kg	1.15E+00	5.15E-02	1.45E+00	2.66E+00	4.53E-03	1.45E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.97E-02	6.09E-02	5.80E-04	-6.96E-01
Radioactive waste	kg	1.44E-06	3.69E-07	8.16E-06	9.97E-06	4.67E-08	2.96E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.20E-07	5.60E-07	3.52E-09	2.58E-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	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	2.60E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	8.50E-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	2.56E-02	ND	ND	ND	ND	ND	ND	ND	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	1.06E-02	ND	ND	ND	ND	ND	ND	ND	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	1.50E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – 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	6.43E-01	1.76E-01	1.14E+00	1.96E+00	1.04E-02	3.87E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.30E-02	1.92E-02	9.37E-04	-2.71E-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.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Market group for natural gas, high pressure, World, Ecoinvent, 0.54 kgCO₂e/m³
2. Market group for natural gas, high pressure, EU without CH, Ecoinvent, 0.55 kgCO₂e/m³
3. Electricity, medium voltage, European attribute mix, Rest-of-Europe, Ecoinvent, 0.0011 kgCO₂e/kWh
4. Electricity, medium voltage, residual mix, Germany, Ecoinvent, 0.82 kgCO₂e/kWh
5. Electricity, consumption mix w/o renewables, China, 2023, China, One Click LCA, 1.15 kgCO₂e/kWh
6. Electricity, consumption mix w/o renewables, India, 2024, India, One Click LCA, 1.16 kgCO₂e/kWh
7. Electricity production, wind, 1-3MW turbine, onshore, India, Ecoinvent, 0.0206 kgCO₂e/kWh
8. Electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted, India, Ecoinvent, 0.0563 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO6, 100 km

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0012 kg
2. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.0011 kg
3. Exported Energy: Electricity, Ecoinvent, 0.0077 MJ
4. Exported Energy: Electricity, Ecoinvent, 0.0029 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.011 MJ
6. Exported Energy: Thermal, Ecoinvent, 0.004 MJ
7. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 7.1E-4 kg
8. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.0014 kg
9. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.0013 kg
10. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.0016 kg

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

1. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.85 kg
2. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.15 kg

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 15802+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.

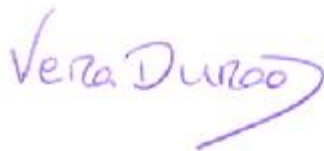
Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Vera Durão, as an authorised verifier acting for EPD Hub Limited

24.02.2026



ANNEX 1: ARTICLES COVERED BY THIS EPD

This EPD covers all cast iron gratings offered by European ACO entities on the global market, including but not limited to the following products, with a GWP fossil of 1.96 kg CO₂e/kg for all products:

Article number	Article number (SAP)	Product description	Nominal width [mm]	Load class	Net weight [kg per item]	Length [mm]	GWP-fossil, A1-A3 [kg CO ₂ e/item]
12676	2002423	Slotted grating	100	B125	2.3	500	4.51
20400	-	Heelguard slotted grating	100	B125	2.45	500	4.80
12670	2002416	Slotted grating	100	C250	3.2	500	6.27
12673	2002420	Longitudinal bar grating	100	C250	3.5	500	6.86
12675	2002422	Slotted grating	100	C250	3.8	500	7.45
23408	2006180	Slotted grating	100	D400	3.8	500	7.45
49505	2017891	Slotted grating lightpoint. with opening	100	D400	4.1	500	8.04
49506	2017892	Slotted grating	100	D400	4.1	500	8.04
23405	-	Heelguard slotted grating	100	D400	4.1	500	8.04
132865	2003465	Slotted grating	100	E600	5.0	500	9.80
132866	2003466	Longitudinal bar grating	100	E600	4.5	500	8.82
132867	2003467	Cover	100	E600	5.3	500	10.39
13070	2025695	Slotted grating	150	C250	5.3	500	10.39
13073	2025698	Longitudinal bar grating	150	C250	5.3	500	10.39
23164	2006173	Slotted grating	150	D400	6.4	500	12.54
23161	-	Heelguard slotted grating	150	D400	6.8	500	13.33
133660	2003941	Slotted grating	150	E600	7.7	500	15.09
133662	2003942	Longitudinal bar grating	150	E600	7.5	500	14.70
133664	2003943	Cover	150	E600	9.0	500	17.64
13470	2025733	Slotted grating	200	C250	8.6	500	16.86
13473	2025736	Longitudinal bar grating	200	C250	7.5	500	14.70
13477	2004353	Slotted grating	200	D400	11.6	500	22.74
13478	2004354	Slotted grating lightpoint, with opening	200	D400	9.6	500	18.82
23224	2006176	Slotted grating	200	D400	9.8	500	19.21
23221	-	Heelguard slotted grating	200	D400	10.3	500	20.19
133666	2003944	Slotted grating	200	E600	10.7	500	20.97
133668	2003945	Longitudinal bar grating	200	E600	11.7	500	22.93
133670	2003946	Cover	200	E600	11.0	500	21.50
13870	2025740	Slotted grating	300	C250	17.9	500	35.08
13873	2025743	Longitudinal bar grating	300	C250	16.3	500	31.95
13871	2025741	Slotted grating	300	E600	23.0	500	45.08
13872	2025742	Cover	300	E600	25.8	500	50.57
13874	2025744	Longitudinal bar grating	300	E600	24.6	500	48.22