TIBNOR

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Merchant bars
Tibnor Denmark A/S



EPD HUB, HUB-7494
Published on 11.09.2026, last updated on 11.09.2026, valid until 10.09.2031

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

TIBNOR

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Tibnor Denmark A/S
Address	Prinsessens Kvarter 11, 7000 Fredericia, Denmark
Contact details	danmark@tibnor.com
Website	www.tibnor.dk

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 EN 17662 Execution of steel structures and aluminium structures
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	Patrik Bjelovuk Tibnor AB
EPD verification	Independent verification of this EPD and data, according to ISO 14025: o Internal verification þ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

This EPD is intended for business-to-business 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	Merchant bars
Additional labels	-
Product reference	Further processed Merchant bars based upon steel conforming to EN10025
Place(s) of raw material origin	EU
Place of production	Taulov, Denmark
Place(s) of installation and use	EU
Period for data	Calender year 2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	100

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of steel Merchant bars
Declared unit mass	1 kg
Mass of packaging	0,0025kg
GWP-fossil, A1-A3 ($kgCO_2e$)	0,662
GWP-total, A1-A3 ($kgCO_2e$)	0,665
GWP-GHG, A1-A3 ($kgCO_2e$)	0,663
Total energy use, A1-A3 (kWh)	4,18
Net freshwater use, A1-A3 (m^3)	0,13

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Tibnor supplies steel, metals and production services to the industry in the Nordics and Baltics. We are driven to make a difference for all our customers. For we, just like them, must work harder, smarter and better to compete in global competition. As a modern distributor of steel and metals, we understand that our role extends far beyond the actual delivery. We make a difference! We are the natural choice

PRODUCT DESCRIPTION

The term steel bars, also referred to as merchant bars, encompasses a wide variety of steel long products with different cross sections, for example, rounds, squares, flats, angles and T-sections. The steel grades used for merchant bars are most often weldable, low-carbon constructional steels with an iron content of 98% or more.
Steel bars are usually manufactured through continuous casting of melted and refined steel to billets which can be square or round. After cooling, the as-cast billets are reheated and hot rolled in a continuous multi-stand bar mill to the requisite section and dimension; in order to save energy, some steel plants have hot transfer between the billet caster and the reheating furnace. After cooling, the rolled bars are cut to length and bundled. Non-symmetrical shapes like angles require straightening before they can be bundled all according to EN 10025.
Merchant bars find use in a multitude of applications in building construction, mechanical engineering and in the energy and transport segments. In many applications, an example being shipbuilding, bars (for example, angles, T:s and flats) are welded to plates and sheets in order to impart stiffness. As with other steel products, bars used in machines and constructions can at the end of their useful life be recovered and recycled to 100%.

Further information can be found at: www.tibnor.dk

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	EU
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	0,00075

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of steel Merchant bars
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.
Tibnor purchases Merchant bars from several suppliers (A1). The exact allocation of volume between suppliers varies over the years depending on availability and cost.
The Merchant bars are delivered to Taulov from Italy, Germany, Sweden, France and England (A2) where they can be cut and processed according to the customers wishes and requirements or delivered to the customer in standard stock lengths (A3).
Some Merchant bars are delivered directly from the supplier to the customer. The transport from suppliers is done by ship, and/or in some rare cases by truck, the products are always bundled, sometimes with steel wires from the mills. When sent to customers from Tibnors site the products are either bundled or also secured with steel strip with clips, if cut in short pieces EU pallets can be used. In this study, it is assumed that all products are packaged using wooden pallets, although these processes are not applicable to all products. This conservative assumption has been applied to ensure representative results.
Waste from production (Cut to length of steel) is steel scrap amounting to 0,001095
Electricity used at the site is fossil free from wind power, waste from production is steel scrap approximately 8-20%, all is recycled (A3). This is transported to waste handling company 10 km away.

TRANSPORT AND INSTALLATION (A4-A5)

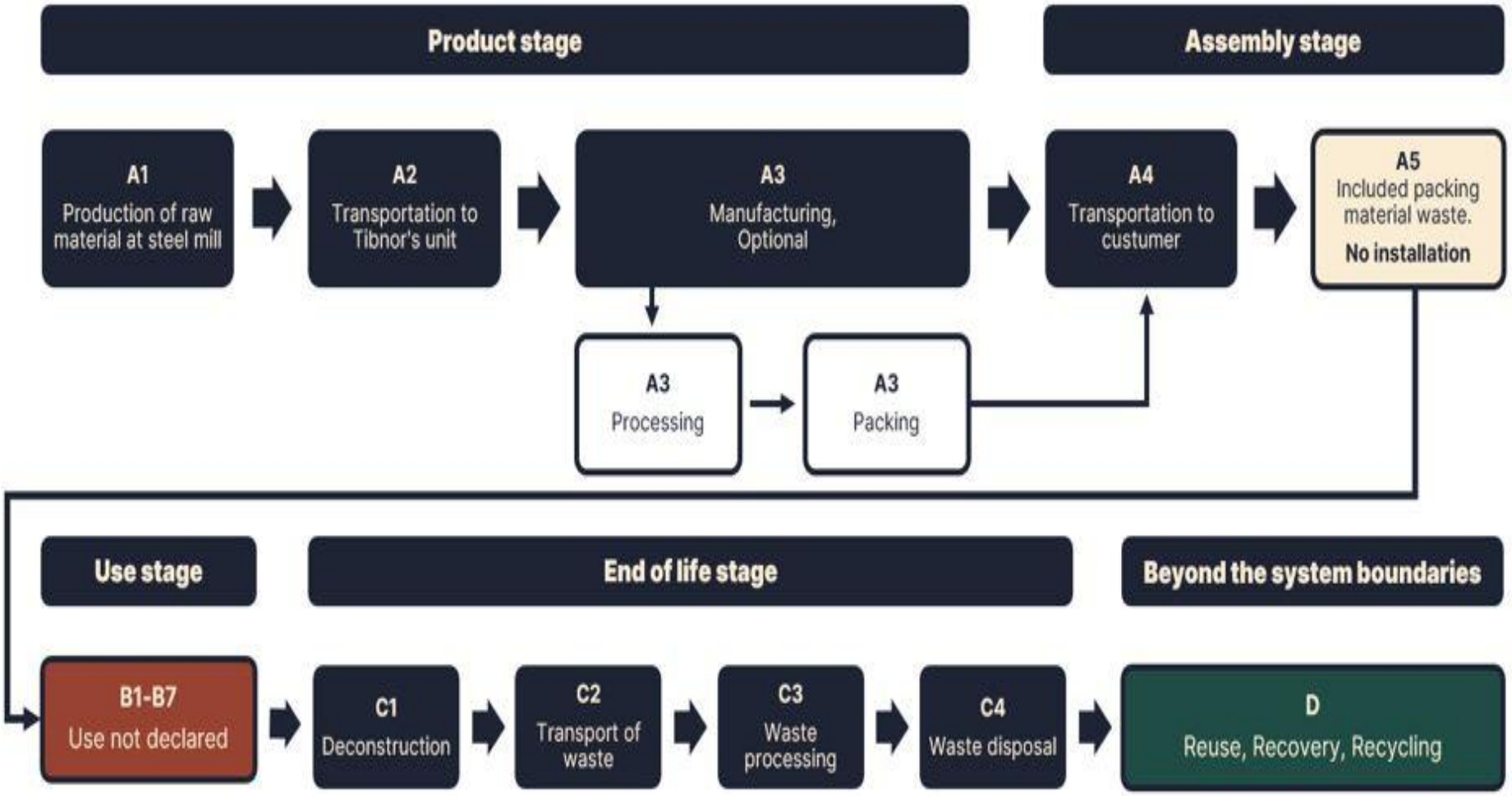
Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transportation impacts occurred from final products delivery to construction site (A4) covers fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.
The transportation process in module A4 comprises impacts from transportation of the products from Tibnors Warehouses to the customer in Sweden. This is a weighted average for all shipments.
Delivery to customer site is either directly from our supplier or from Tibnors warehouse (A4). Transportation from Tibnors warehouse is done by truck (Euro 6). Vehicle capacity utilization is at least 70%
Module A5 includes only the transportation and treatment of wooden pallets as installation waste. A transport distance of 50 km from the construction site to the waste-treatment facility using a EURO5 lorry is assumed. The end-of-life treatment of wooden packaging comprises 32% recycling, 30% incineration with energy recovery, and 38% sanitary landfill (EUROSTAT). No other installation resources are considered in this module, as their use is considered negligible.

PRODUCT END OF LIFE (C1-C4, D)

Demolition is assumed to consume 0,01 kWh/kg of product. The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment center. Transportation distance to treatment is assumed as 10 km and the transportation method is assumed to be lorry (C2). Using a more conservative number, EN 17662 assumes that approximately 88% of steel (hot rolled) is recycled (C3). It is assumed that the remaining 12% of steel is divided between 11% re-used and 1% landfill.
Module D includes the benefits and loads associated with the substitution of equivalent virgin steel production through the recycling and reuse of steel at the end of life. In addition, energy recovered from the incineration of the wooden pallet is assumed to substitute average national/regional electricity and district heat generation. it is assumed that the remaining 12 % of steel is divided between 11% re-use and 1% taken to landfill for final disposal (C4). Due to the recycling process, the end-of-life product is converted into recycled steel, while the wooden pallet is incinerated for energy recovery (D) It is assumed that none of the ingoing steel in A1 is recycled, and that the net flow going into module D is 1 kg.

LIFE CYCLE FLOW DIAGRAM



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 that is 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.

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	Not applicable
Ancillary materials	Not applicable
Manufacturing energy and waste	Physical Properties

Steel material that are cut to lenght, based on the the lenght of the remnant, will be re-used or recycled. Under 6m will be recycled. Over 6m will be re-used. Steel bands will be recycled.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2.

- EPD Hub Core Product Category Rules version 1.2, March 2025
- EPD Hub General Program Instructions version 1.3, March 2025
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- prEN 17662:2023 Execution of steel structures and aluminium structures - Environmental Product Declarations - Product category rules complementary to EN 15804 for Steel, Iron and Aluminium structural products for use in construction works.
- EN 15941:2024 Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data
- EN 15942:2011 Sustainability of construction works - Environmental product declarations - Communication format business-to-business
- ISO 14025:2006 Environmental statements and programmes for products - Principles and general requirements
- ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
- ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
- Wooden packaging waste treatment: EUROSTAT, https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519174/default/table?lang=en

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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	6,65E-01	3,80E-02	4,30E-04	ND	ND	ND	ND	ND	ND	ND	3,61E-03	1,90E-03	1,99E-02	6,24E-05	-3,35E-03
GWP – fossil	kg CO_2e	6,62E-01	3,80E-02	7,08E-05	ND	ND	ND	ND	ND	ND	ND	3,60E-03	1,90E-03	1,99E-02	6,24E-05	-3,35E-03
GWP – biogenic	kg CO_2e	2,75E-03	0,00E+00	3,59E-04	ND	ND	ND	ND	ND	ND	ND	3,68E-07	3,81E-07	-4,22E-05	-1,99E-08	0,00E+00
GWP – LULUC	kg CO_2e	3,56E-04	1,36E-05	1,25E-07	ND	ND	ND	ND	ND	ND	ND	3,69E-07	6,81E-07	2,45E-05	3,57E-08	-5,25E-06
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	5,23E-08	7,55E-10	1,12E-12	ND	ND	ND	ND	ND	ND	ND	5,52E-11	3,78E-11	2,67E-10	1,81E-12	-4,14E-11
Acidification potential	mol H^+e	1,75E-02	7,90E-05	4,28E-07	ND	ND	ND	ND	ND	ND	ND	3,25E-05	3,95E-06	2,37E-04	4,43E-07	-2,11E-05
EP-freshwater[2)]	kg Pe	1,10E-04	2,56E-06	2,17E-08	ND	ND	ND	ND	ND	ND	ND	1,04E-07	1,28E-07	1,28E-05	5,13E-09	-2,08E-06
EP-marine	kg Ne	3,88E-03	1,90E-05	4,91E-07	ND	ND	ND	ND	ND	ND	ND	1,51E-05	9,49E-07	5,24E-05	1,69E-07	-3,20E-06
EP-terrestrial	mol Ne	2,08E-02	2,05E-04	1,76E-06	ND	ND	ND	ND	ND	ND	ND	1,65E-04	1,02E-05	5,92E-04	1,84E-06	-3,16E-05
POCP ("smog")[3)]	kg NMVOCe	1,14E-02	1,31E-04	5,62E-07	ND	ND	ND	ND	ND	ND	ND	4,93E-05	6,57E-06	1,75E-04	6,60E-07	-1,02E-05
ADP-minerals & metals[4)]	kg Sbe	2,00E-04	1,26E-07	1,82E-10	ND	ND	ND	ND	ND	ND	ND	1,29E-09	6,32E-09	1,41E-06	9,92E-11	-4,29E-09
ADP-fossil resources	MJ	1,22E+01	5,34E-01	1,01E-03	ND	ND	ND	ND	ND	ND	ND	4,72E-02	2,67E-02	2,67E-01	1,53E-03	-5,53E-02
Water use[5)]	m^3e depr.	5,26E+00	2,65E-03	3,16E-05	ND	ND	ND	ND	ND	ND	ND	1,18E-04	1,33E-04	4,80E-03	4,42E-06	-1,07E-03

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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,70E-08	2,80E-09	7,26E-12	ND	ND	ND	ND	ND	ND	ND	9,25E-10	1,40E-10	3,21E-09	1,01E-11	-1,78E-10
Ionizing radiation[6)]	kBq U235e	1,48E-02	6,89E-04	2,90E-06	ND	ND	ND	ND	ND	ND	ND	2,09E-05	3,44E-05	2,26E-03	9,63E-07	-1,07E-03
Ecotoxicity (freshwater)	CTUe	2,08E+00	7,10E-02	3,77E-04	ND	ND	ND	ND	ND	ND	ND	2,60E-03	3,55E-03	1,55E-01	1,29E-04	-6,59E-03
Human toxicity, cancer	CTUh	3,12E-10	6,37E-12	3,90E-14	ND	ND	ND	ND	ND	ND	ND	3,71E-13	3,18E-13	1,78E-11	1,15E-14	-6,98E-13
Human tox. non-cancer	CTUh	9,16E-09	3,38E-10	2,15E-12	ND	ND	ND	ND	ND	ND	ND	5,87E-12	1,69E-11	1,21E-09	2,64E-13	-2,83E-11
SQP[7)]	-	5,84E+00	3,23E-01	1,01E-03	ND	ND	ND	ND	ND	ND	ND	3,30E-03	1,61E-02	5,19E-01	3,02E-03	-1,99E-02

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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	1,92E+00	9,35E-03	-3,67E-02	ND	ND	ND	ND	ND	ND	ND	2,99E-04	4,67E-04	4,98E-02	1,48E-05	6,85E-02
Renew. PER as material	MJ	3,14E-03	0,00E+00	-3,14E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,93E+00	9,35E-03	-3,99E-02	ND	ND	ND	ND	ND	ND	ND	2,99E-04	4,67E-04	4,98E-02	1,48E-05	6,85E-02
Non-re. PER as energy	MJ	1,31E+01	5,34E-01	1,01E-03	ND	ND	ND	ND	ND	ND	ND	4,72E-02	2,67E-02	2,67E-01	1,53E-03	-5,53E-02
Non-re. PER as material	MJ	2,08E-04	0,00E+00	-2,08E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	1,31E+01	5,34E-01	8,05E-04	ND	ND	ND	ND	ND	ND	ND	4,72E-02	2,67E-02	2,67E-01	1,53E-03	-5,53E-02
Secondary materials	kg	9,86E-01	2,48E-04	7,13E-07	ND	ND	ND	ND	ND	ND	ND	1,96E-05	1,24E-05	3,26E-04	3,85E-07	-7,13E-06
Renew. secondary fuels	MJ	1,64E-04	3,14E-06	6,99E-09	ND	ND	ND	ND	ND	ND	ND	5,12E-08	1,57E-07	1,51E-05	7,97E-09	-4,85E-08
Non-ren. secondary fuels	MJ	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-01	7,28E-05	-3,20E-06	ND	ND	ND	ND	ND	ND	ND	3,12E-06	3,64E-06	1,42E-04	1,59E-06	-4,16E-05

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	5,29E-03	7,76E-04	7,38E-06	ND	ND	ND	ND	ND	ND	ND	5,25E-05	3,88E-05	1,74E-03	1,69E-06	-2,39E-04
Non-hazardous waste	kg	1,55E-01	1,64E-02	5,55E-03	ND	ND	ND	ND	ND	ND	ND	7,15E-04	8,19E-04	6,30E-02	3,87E-05	-1,05E-02
Radioactive waste	kg	7,41E-06	1,71E-07	7,22E-10	ND	ND	ND	ND	ND	ND	ND	5,12E-09	8,56E-09	5,80E-07	2,35E-10	-2,74E-07

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	2,77E-05	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,10E-01	0,00E+00	0,00E+00
Materials for recycling	kg	3,11E-01	0,00E+00	8,00E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,80E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	3,89E-04	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	4,00E-03	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	2,30E-03	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	1,70E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	6,63E-01	3,80E-02	7,09E-05	ND	ND	ND	ND	ND	ND	ND	3,61E-03	1,90E-03	1,99E-02	6,25E-05	-3,35E-03

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. Natural gas boiler process heat (2005), Denmark, ProBas, 0.0708 kgCO2e/MJ
2. Electricity, Denmark, 2023, Denmark, One Click LCA, 0.15 kgCO2e/kWh
3. Onshore wind park electricity (2000), Denmark, ProBas, 0.0052 kgCO2e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 16-32 metric ton, EURO6, 200.0 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	70
Bulk density of transported products	0
Volume capacity utilization factor	<1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	-
Water use (m^3)	No water is needed for the installation of the product.
Ancillary materials: type and mass (kg)	Not considered
Waste materials: type and mass (kg)	Wood pallet packaging: 0.025 kg
Waste materials: output routes	Wood pallet waste treatment: - to recycling: 0,00803 kg - to incineration: 0,00745 kg - to landfill: 0,00952 kg
Direct emissions (kg)	No direct emissions are expected to occur during the installation process. Emissions from energy use, ancillary materials and their processing are considered in the respective datasets used in the modelling.

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	
Collection process: Mixed waste (kg)	
Recovery: re-use (kg)	0,11
Recovery: recycling (kg)	0,88
Recovery: energy recovery (kg)	0
Disposal (kg)	0,01
Scenario assumptions e.g. transportation (mode, km) & other	

Table 4 - EN 17762

Data Description	Data sources							
	A1	A2	A3	A4	A5	B	C	D
Materials	Supplier's EPD	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11
Processes	Not applicable	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11	Ecoinvent 3.11

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

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

11.09.2026

