epd-norge

# ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025, ISO 21930 and EN 15804+A2

## A specific EPD for

## Glulam, spruce, u 12%

Moelven

The Norwegian
EPD Foundation

**Owner of the declaration:**
Moelven Töreboda AB
Töreboda
www.moelven.com

**Program holder and publisher**
The Norwegian EPD Foundation

**Declaration number:**
NEPD-3736-2685-SE

**Product category /PCR:**
Wood and wood-based products

**Issue date:** 29.09.2022
**Valid to:** 29.09.2027

**EPD Software:**
This EPD is based on IVL EPD Generator for the Sawmill products (NEPDT26) and follow the approved background database verification approach.

ivl

# General information

**Product:**
Glulam, spruce, u 12%

**Program Operator:**
The Norwegian EPD Foundation
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**Declaration Number:**
NEPD-3736-2685-EN

**This declaration is based on Product Category Rules:**
CEN Standard EN 15804 A2 serves as core PCR and PCR Part B for wood and wood-based products for use in construction (NPCR 015 version 3.0, 10.04.2019).

**Statement of liability:**

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

**Declared unit:**
—

**Declared unit with option:**
1 m3 glulam
A1-A5, B1-B7, C1-C3 and D

**Functional unit:**
—

**Verification**:
Independent verification of the declaration and data, according to ISO14025:2010.

☐ Internal ☒ External

Third party verifier:

Linda Høibye, Life Cycle Assessment Consulting
Independent verifier approved by EPD Norway

**Owner of the declaration and manufacturer:**
Moelven Töreboda AB
Contact person: Johan Bouveng
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**Place of production:**
Fabriksgatan 8, 545 31 Töreboda
Sweden

**Management system:**
ISO 14001, ISO 9001, PEFC, FSC

**Organisation no:**
556023-8023

**Issue date:**
29.09.2022

**Valid to:**
29.09.2027

**Year of study:**
2021

**Comparability:**

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

**The EPD has been worked out by:**
Martin Erlandsson, IVL

**Approved by:**

Håkon Hauan
(Managing Director EPD Norway)

# Product

### Product description:

Glulam is used for structural purposes like load bearing beams and pillars. The average moisture ratio of the declared products is 12 % (EN 14298) and made of spruce.

### Product specification:

Standard product is built up with lamellas with a thickness of 45 mm, why the height is determined by multiples of 45 mm. Products with special weight and thickness can be cut. The lamellas are cut to the right dimension and dried to the correct moisture level. The lamellas are then sorted according to strength and are then finger jointed to specified length.

| Materials, product | kg/m$^3$ | % |
|---|---|---|
| MUF resin | 3.5 | 1% |
| Spruce | 459 | 99% |
| | | |
| Sum | 462 | 100% |
| **Packaging materials** | kg/m$^3$ | % |
| Polyethene wrap | 1.70 | 94% |
| PET strap | 0.07 | 4% |
| Steel strap | 0.03 | 2% |
| | | |
| | | |
| Sum | 1.80 | 100% |

### Technical data:

Glulam is produced according to EN 14080:2013. Glulam is delivered according to qualities and sizes specified by demands on different markets. Products with special height and thickness can occur and designed for specific constructions objects.
The raw dry mass for spruce is 384 kg/m$^3$ as a Swedish average and used here to calculate biogenic carbon content and the delivery density including water according to the current moisture content ant content of resin.

### Market:

Europe.

### Reference service life:

Reference service life is normally the same as the building when not exposed for weathering, which is typically set to 50 or 60 years.

Use QR code for **fact sheet** on glulam.

# LCA: Calculation rules

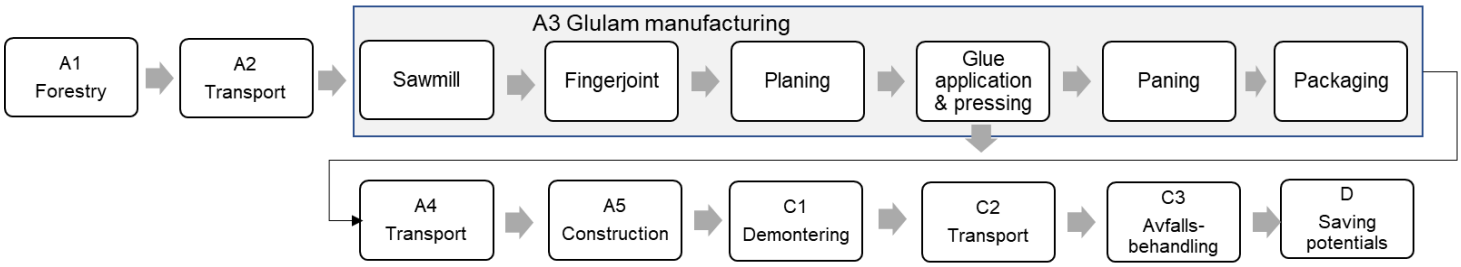
### Declared unit:

1 m$^3$ glulam

### System boundary:

Flow chart for the production (A3) of the declared product are shown below, while the rest of the modules are shown on page 5. Module A4 to D is further explained in the scenario section.

***Figure 1*** *The declared product manufacturing and transport to a customer and the remaing lifecycle.*




### Data quality:

The glulam, sawmill process and transport use specific LCA data and national representative figures is used for the forestry. Generic upstream data for energy wares and small amount of auxiliary materials are mainly from GaBi database version 2021.1 (age 2017-2022).

### Allocation:

The allocation is made in accordance with the provisions of EN15804. All impact from the planning of boards are allocated to the main product. The shaving are sold and only attributed to its upstream impact from its previously processes. The sawmill and its multiple co-products are allocated based on their different economic values, except the drying process that is attributed to the intermediate product on physical premises. The economic value of the different parts of the input round timber are attributed using the market value of its final products/co-products.
A conservative approach is used for transport of round timber to the sawmill based on economic allocation factors (module A2).
A conservative economic allocation approach is used for forestry products, where no impact is allocated to the tops and branches (GROT), except forestry operations aimed for GROT (forwarding and shipping). Indicator result on potential soil quality (SQP) is assessed based on national characterisation factors for Swedish forestry (Horn et al 2021).

### Cut-off criteria:

All major raw materials and all the essential energy used are included. All production process are included, hence the few limited cut off that occurs (<<1%) related to packaging materials that is not substituted in module D. This cut-off rule does not apply for hazardous materials and substances. Inherent biogenic carbon and stored energy in packaging material is balanced out direct.

### Calculation of biogenic carbon content:

Sequestration (module A1) and emissions of biogenic carbon are calculated according to EN16485:2014/EN15804+A2, where the net biogenic carbon cycle A to C is zero (i.e. carbon dioxide neutral). In this EPD, the amount of biogenic carbon stored in the product (module A3) is reported additionally (according to EN 15804 A2) as biogenic carbon stored in the product (see table 'Resource use'). For biogenic carbon in all other modules after A3, the carbon in the products is assigned to the module where the emission occurs in order to support the modularity principle in EN15804, so the net result is zero. Biogenic carbon and energy stored in packaging materials (less than 5 weight-%) are directly balanced out and therefore not visible in the environmental indicator result.

# LCA: Scenarios and additional technical information

The following information below describe the scenarios in the different modules of the EPD.

### Transport from production place to user (A4)

| Type | Loaf factor, % (90+0%) | Type of vehicle | Distance km | Fuel | | Value |
|---|---|---|---|---|---|---|
| Semi-trailer | 0.45 | TT/AT 28-34 + 34-40t | 100 | 0.027 | l/tkm | 2.7 |

A4: The transportation is reported as 100 km and shall be used as factor to estimate the actual distance to the specific object.

### Assembly (A5)

| | Unit | Value |
|---|---|---|
| Material loss | % | 5 |
| Crane, electricity consumption | kWh | 2.8E-02 |
| Front loader, diesel | kWh | 2.7E-01 |

A5: At the construction site, 4 minutes of work with front loader is assumed (Erlandsson 2015) and an average lift with a crane (Lundström 2016). 5% material loss is assumed att construction site.

### Use (B1)

| | Unit | Value |
|---|---|---|
| MND | | |

### Maintenance (B2)/Repair (B3)

| | Unit | Value |
|---|---|---|
| MND | | |

The declared product is not assumed to be exposed for wether and for that reason no mainatance is needed during the service life.

### Replacement (B4)/Refurbishment (B5)

| | Unit | Value |
|---|---|---|
| MND | | |

### Operational energy (B6) and water consumption (B7)

| | Unit | Value |
|---|---|---|
| MND | | |

No operational energy used during service life.

### End of Life (C1, C3, C4)*

| | Unit | Value |
|---|---|---|
| C1: Demolision machine (diesel) | kWh | 0.51 |
| C3: To material reuse → MND | kg | 0 |
| C3: To material recycling → MND | kg | 0 |
| C3: To energy recovery | kg | 462 |
| C3: Wood chipping (diesel) | kWh | 2.8 |
| C4: To landfill → MND | kg | 0 |

Energy need for demolition (C1) and chipping (C3) of the wooden discard products is found in according to Erlandsson et el (2015). The scenario accounts for 100%* energy recovery and end of waste is reached in C3. No statistics exist in Sweden on recycling of demolition wood but will likely be at least 90%.

### Transport to waste processing (C2)*

| Type | Load factor, % (90+0%) | Type of vehicle | Distance km | Fuel | Value |
|---|---|---|---|---|---|
| Large lorry/truck | 45% | TT/AT 14-20+20-28t | 35 | 0.037 | 1.3 |

*C2: Assumed tranport from demolition site to local waste treatment site, from where it is then sold.

The transport assume empty return.

### Benefits and loads beyond the system boundaries (D)*

| | Unit | Value |
|---|---|---|
| Chipped glulam that substitute fuel in a district heating plant | kg, DM | 413 |
| Chipped discard product that substitute average used fuel in a district heating plant | MJ | -7924 |

D: The chipped product is assumed to be used as fuel in a district heating and then replaces the average energy mix.

* If less recycling rate than 100% is asked for shall the result from module C and D be multiplied by such factor that takes the actual number into account. 100% is used here to support the modular approach of using these figures on the buildings level.

### Additional technical information

No additional information given.

# LCA: Results

The LCA results are presented for the declared unit defined on page 2 of the EPD document. EN 15804 exists in two versions and version 2 is the latest.

System boundaries: **X**=included, **MND**= module not declared, **MNR**=module not relevant.

| Product stage | | | Construction process stage | | Use stage | | | | | | | End of life stage | | | | Beyond the system boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw materials | Transport | Manufacturing | Transport | Construction, installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| x | x | x | x | x | MND | MND | MND | MND | MND | MND | MND | x | x | x | MND | x |
| SE | SE | SE | SE | SE | — | — | — | — | — | — | — | SE | SE | SE | SE | SE |

## Core environmental impact, version A2 — mandatory indicators

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| GWP-total | kg $CO_2$ e | -6.74E+02 | 2.68E+00 | 3.84E+00 | 1.16E-01 | 1.04E+00 | 7.51E+02 | | 1.02E+02 |
| GWP-fossil | kg $CO_2$ e | 5.24E+01 | 2.68E+00 | 2.82E+00 | 1.15E-01 | 1.03E+00 | 1.18E-01 | | -1.88E+02 |
| GWP-biogenic | kg $CO_2$ e | -7.44E+02 | 0.00E+00 | 3.26E-01 | 3.59E-04 | 3.20E-03 | 7.51E+02 | | 2.90E+02 |
| GWP-LULUC | kg $CO_2$ e | 3.65E-01 | 5.55E-08 | 1.94E-02 | 6.44E-04 | 5.75E-03 | 2.95E-04 | | 0.00E+00 |
| GWP-IOBC/GHG [1)] | kg $CO_2$ e | 5.27E+01 | 2.76E+00 | 2.84E+00 | 1.16E-01 | 1.04E+00 | 1.20E-01 | | -1.61E+02 |
| ODP | kg CFC11 eq. | 1.02E-06 | 6.16E-08 | 5.53E-08 | 2.60E-09 | 2.32E-08 | 2.82E-15 | | -1.02E-06 |
| AP | mol $H^+$ eq. | 6.02E-01 | 3.07E-02 | 3.24E-02 | 1.30E-03 | 1.16E-02 | 3.67E-04 | | -4.18E-01 |
| EP-freshwater | kg P eq. | 3.57E-03 | 1.41E-04 | 1.89E-04 | 5.96E-06 | 5.32E-05 | 2.54E-06 | | -5.34E-04 |
| EP-marine | kg N eq. | 2.78E-01 | 1.66E-02 | 1.51E-02 | 6.98E-04 | 6.23E-03 | 1.37E-04 | | -8.37E-03 |
| EP-terrestial | mol N eq. | 2.51E+00 | 1.57E-01 | 1.37E-01 | 6.63E-03 | 5.92E-02 | 1.14E-03 | | 7.20E-02 |
| POCP | kg NMVOC eq. | 5.16E-01 | 2.15E-02 | 2.74E-02 | 9.06E-04 | 8.09E-03 | 3.01E-04 | | 5.99E-01 |
| ADP-m&m 2) | kg NMVOC eq. | 5.06E-05 | 1.47E-06 | 2.64E-06 | 6.21E-08 | 5.54E-07 | 9.81E-08 | | -1.24E+03 |
| ADP-fossil 2) | kg NMVOC eq. | 1.13E+03 | 4.16E+01 | 5.94E+01 | 1.75E+00 | 1.57E+01 | 1.16E+01 | | -6.09E-01 |
| WDP | kg NMVOC eq. | 6.65E+02 | 4.90E+01 | 3.68E+01 | 2.07E+00 | 1.84E+01 | 9.14E-02 | | -5.80E+00 |

***GWP-total:*** *Global Warming Potential;* ***GWP-fossil:*** *Global Warming Potential fossil fuels;* ***GWP-biogenic:*** *Global Warming Potential biogenic;* ***GWP-LULUC:*** *Global Warming Potential land use and land use change;* ***ODP:*** *Depletion potential of the stratospheric ozone layer;* ***AP:*** *Acidification potential, Accumulated Exceedance;* ***EP-freshwater:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-marine:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-terrestial:*** *Eutrophication potential, Accumulated Exceedance;* ***POCP****: Formation potential of tropospheric ozone;* ***ADP-m&m****: Abiotic depletion potential for non-fossil resources (****minerals and metals****);* ***ADP-fossil:*** *Abiotic depletion potential for fossil resources;* ***WDP:*** *Water deprivation potential, deprivation weighted water counsumption*

***Note 1*** *– This additional indicator* ***GWP-GHG/IOBC*** *is also referred to as* ***GWP-GHG*** *in context of Swedish and Finish legislation.*
**Disclaimer 2** – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

## Additional environmental impact, version A2 — addition of non-mandatory indicators with poor reliability [1) 2)]

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| PM [2)] | Disease incidence | 3.74E-06 | 1.65E-07 | 1.99E-07 | 6.96E-09 | 6.21E-08 | 3.58E-09 | | -5.24E+01 |
| IRP [1)] | kBq U235 eq | 1.58E+01 | 9.37E-02 | 8.00E-01 | 3.95E-03 | 3.53E-02 | 4.98E-01 | | -2.59E-07 |
| ETP-fw [2)] | CTUe | 1.17E+03 | 7.28E+01 | 6.41E+01 | 3.07E+00 | 2.74E+01 | 6.14E+00 | | -1.93E+02 |
| HTP-c [2)] | CTUh | 3.30E-06 | 1.45E-09 | 1.65E-07 | 6.13E-11 | 5.47E-10 | 2.35E-10 | | -1.96E-01 |
| HTP-nc [2)] | CTUh | 3.14E-06 | 8.88E-08 | 1.64E-07 | 3.74E-09 | 3.34E-08 | 4.78E-09 | | -2.38E+00 |
| SQP [2)] | Dimensionless | 6.84E+04 | 5.32E+01 | 3.42E+03 | 2.25E+00 | 2.00E+01 | 7.69E+00 | | -3.05E+03 |

***PM:*** *Particulate matter emissions;* ***IRP:*** *Ionising radiation, human health;* ***ETP-fw:*** *Ecotoxicity (freshwater);* ***ETP-c:*** *Human toxicity, cancer effects;* ***HTP-nc:*** *Human toxicity, non-cancer effects;* ***SQP:*** *Land use related impacts / soil quality*

**Disclaimer 1** – 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.
**Disclaimer 2** – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

## Environmental impact, version A1

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| GWP-TOT | kg $CO_2$ e | -7.00E+02 | 2.68E+00 | 2.71E+00 | 1.13E-01 | 1.01E+00 | 7.51E+02 | | -1.68E+02 |
| GWP-IOBC/GHG* | kg $CO_2$ e | 5.03E+01 | 2.68E+00 | 2.71E+00 | 1.13E-01 | 1.01E+00 | 1.16E-01 | | -1.68E+02 |
| ODP | kg CFC11 e | 9.36E-07 | 5.55E-08 | 5.08E-08 | 2.34E-09 | 2.09E-08 | 3.75E-15 | | -1.02E-06 |
| POCP** | kg $C_2H_4$ e | 5.19E-03 | -6.31E-03 | -9.29E-05 | -2.30E-04 | -2.05E-03 | 5.48E-05 | | 9.86E-03 |
| AP | kg $SO_2$ e | 4.24E-01 | 1.98E-02 | 2.26E-02 | 8.34E-04 | 7.45E-03 | 2.81E-04 | | -3.97E-01 |
| EP | kg $PO_4^{3-}$ e | 5.19E-03 | -6.31E-03 | 7.44E-03 | 3.23E-04 | 2.88E-03 | 7.54E-05 | | -3.28E-03 |
| ADPM | kg Sb e | 5.15E-05 | 1.47E-06 | 2.69E-06 | 6.22E-08 | 5.55E-07 | 1.24E-07 | | -2.46E-05 |
| ADPE | MJ | 8.27E+02 | 4.04E+01 | 4.43E+01 | 1.71E+00 | 1.52E+01 | 1.28E+00 | | -1.24E+03 |

**LCI origin from GaBi database separates NOx into NO and $NO_2$, in combination with the applied characterization model with a marginal approach for POCP

**GWP** Global warming potential; **ODP** Depletion potential of the stratospheric ozone layer; **POCP** Formation potential of tropospheric photochemical oxidants; **AP** Acidification potential of land and water; **EP** Eutrophication potential; **ADPM** Abiotic depletion potential for non fossil resources; **ADPE** Abiotic depletion potential for fossil resources.
*** GWP-GHG/IOBC** is also referred to **GWP-GHG**.

## Resource use, version A1+2 — mandatory indicators

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| RPEE | MJ | 3.27E+03 | 1.43E+01 | 1.65E+02 | 6.03E-01 | 5.38E+00 | 1.02E+01 | | 3.69E+03 |
| RPEM | MJ | 7.87E+03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -7.87E+03 | | 0.00E+00 |
| TPE | MJ | 1.11E+04 | 1.43E+01 | 1.65E+02 | 6.03E-01 | 5.38E+00 | -7.86E+03 | | 3.69E+03 |
| NRPE | MJ | 1.13E+03 | 4.17E+01 | 5.95E+01 | 1.76E+00 | 1.57E+01 | 1.16E+01 | | -1.78E+03 |
| NRPM | MJ | 7.18E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -7.18E+01 | | 0.00E+00 |
| TRPE | MJ | 1.20E+03 | 4.17E+01 | 5.95E+01 | 1.76E+00 | 1.57E+01 | -6.02E+01 | | -1.78E+03 |
| SM | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| RSF | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| NRSF | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | -1.91E+03 |
| W | $m^3$ | 1.60E+01 | 1.14E+00 | 8.82E-01 | 4.82E-02 | 4.30E-01 | 1.76E-02 | | -8.48E+01 |

**RPEE** Renewable primary energy resources used as energy carrier; **RPEM** Renewable primary energy resources used as raw materials; **TPE** Total use of renewable primary energy resources; **NRPE** Non renewable primary energy resources used as energy carrier; **NRPM** Non renewable primary energy resources used as materials; **TRPE** Total use of non renewable primary energy resources; **SM** Use of secondary materials; **RSF** Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; **W** Use of net fresh water.
Energy stored as material in the packaging materials is direct balanced out in the module it arrise and stored in the product is balanced out over the

## End of life — Waste, version A1+2 — mandatory indicators

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| HW | kg | 1.25E-03 | 1.76E-10 | 6.25E-05 | 7.40E-12 | 6.61E-11 | 3.06E-09 | | -2.61E-07 |
| NHW | kg | 2.09E+00 | 5.25E-03 | 1.05E-01 | 2.22E-04 | 1.98E-03 | 3.48E-03 | | -3.59E+00 |
| RW | kg | 1.15E-01 | 4.51E-05 | 5.78E-03 | 1.90E-06 | 1.70E-05 | 4.30E-03 | | -2.43E-01 |

**HW** Hazardous waste disposed; **NHW** Non hazardous waste disposed; **RW** Radioactive waste disposed

## End of life — Output flow, version A1+2 — mandatory indicators

| Parameter | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | | D |
|---|---|---|---|---|---|---|---|---|---|
| CR | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| MR | kg | 1.70E-01 | 0.00E+00 | 8.50E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| MER | kg | 1.25E+00 | 0.00E+00 | 6.25E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| EEE | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |
| ETE | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 |

**CR** Components for reuse; **MR** Materials for recycling; **MER** Materials for energy recovery; **EEE** Exported electric energy; **ETE** Exported thermal energy

## Information describing the biogenic carbon content at the factory gate

| Biogenic carbon content | Amount | Unit |
|---|---|---|
| Biogenic carbon content in product | 205 | kg C |
| Biogenic carbon content in the accompanying packaging | 0 | kg C |

44/12 is the ratio between the molecular mass of $CO_2$ and C molecules.
The carbon and its energy content stored in packaging materials is less tha 5% and therefore according to EN 15804 direct balanced out in the environmental indicator result.

# Additional Norwegian requirements

### Greenhous gas emission from the use of electricity in the manufacturing phase

Swedish national production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Data source | Amount | Unit |
|---|---|---|
| Energywares Gabi and end energymix ENSTO-E 2016 | 0.042 | kg $CO_2$e/kWh |

### Dangerous substances

☑ The product contains no substances given by the REACH Candidate list or the Norwegian priority list.

☐ The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.

☐ The product contain dangerous substances, more then 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.

☐ The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskiften, Annex III), see table below.

| Name | CAS no. | Amount |
|---|---|---|
| — | — | — |

### Indoor environment

Not relevant

### Carbon footprint

Carbon footprint according to ISO 14067 has not been worked out for the product.

# Bibliography


| | |
|---|---|
| ISO 14025:2006 | Environmental labels and declarations - Type III environmental declarations - Principles and procedures. |
| ISO 14044:2006+A1:2017+A2:2020 | Environmental management - Life cycle assessment - Requirements and guidelines. |
| EN 15804:2012+A1:2013 | Sustainability of construction works — Environmental product declaration — Core rules for the product category of construction products. |
| EN 15804:2012+A2:2019 | Sustainability of construction works — Environmental product declaration — Core rules for the product category of construction products. |
| ISO 21930:2007 | Sustainability in building construction — Environmental declaration of building products. |
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