



# ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

|                                |                              |
|--------------------------------|------------------------------|
| Owner of the declaration:      | Finja Betong AB              |
| Program operator:              | The Norwegian EPD Foundation |
| Publisher:                     | The Norwegian EPD Foundation |
| Declaration number:            | NEÚÖË 4Í 0Ëi 4ËN             |
| Registration number:           | NEÚÖË 4Í 0Ëi 4ËN             |
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| Valid to:                      | 01.12.2022                   |

## Tørrbetong B30, Dry Mortar

Finja Betong AB



[www.epd-norge.no](http://www.epd-norge.no)



## General information

**Product:**

Tørrbetong B30, Dry Mortar

**Program operator:**

The Norwegian EPD Foundation  
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**Declaration number:**

NEÜÖÄ 4Í 0ËÄ 4ËEN

**ECO Platform reference number:**

E

**This declaration is based on Product Category Rules:**

CEN Standard EN 15804 serves as core PCR

**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-information, life cycle assessment data and evidences.

**Declared unit:**

1 kg Tørrbetong B30, Dry Mortar

1 kg dry mortar is corresponds to 1.12 kg ready made mortar.

**Declared unit with option:**

A1-A4

**Functional unit:**

—

**Verification:**

The CEN Norm EN 15804 serves as the core PCR. Independent verification of the declaration and data, according to ISO14025:2010

internal  external

Third party verifier:



Martin Erlandsson, IVL Swedish Environmental Research Inst.  
(Independent verifier approved by EPD Norway)

**Owner of the declaration:**

Finja Betong AB  
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**Manufacturer:**

Finja Betong AB  
Betongvägen 1, S-281 93 Finja  
Phone: 010-455 20 00  
e-mail: [info@finja.se](mailto:info@finja.se)

**Place of production:**

Hässleholm, Sweden

**Management system:**

ISO 14001

**Organisation no:**

556101-6840

**Issue date:**

01.12.2011

**Valid to:**

01.12.2022

**Year of study:**

2017

**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:**

Ulf Liljenroth



Approved



Håkon Hauan  
Managing Director of EPD-Norway

## Product

### Product description:

High quality dry mortar of cement and sand 0–4 mm. For casting works in layers 20–100 mm. Suitable for e.g. plinths, retaining walls and stairs. Waterproof.

### Technical data:

Compressive strength 28 days: > 45 MPa.  
For further information see [www.finja.no](http://www.finja.no)

### Market:

Nordic countries

### Reference service life,

Same as for the wall it is part of.

### Product specification:

The composition of the product is described in the table below

| Materials | kg | %  |
|-----------|----|----|
| Cement    |    | 23 |
| Sand      |    | 77 |
| Packaging |    | <1 |

## LCA: Calculation rules

### Declared unit:

1 kg Tørrbetong B30 , Dry Mortar

### System boundary:

All processes from raw material extraction to product from the factory gate are included in the analysis (A1-A3). In addition, transportation to a central warehouse placed in accordance with guidelines issued by the EPD Norway (A4) is included.

### Flow Chart



Cradle

Gate

### Data quality:

| Materials | Data quality  | Source                   | Year |
|-----------|---------------|--------------------------|------|
| Cement    | EPD           | EPD-HCG-20140205-CAA1-EN | 2014 |
| Sand      | Industry data | Ecoinvent v3.3           |      |
| Packaging | Industry data | Ecoinvent v3.3           |      |

### Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation, except heat from oil to dry sand that is allocated to the sand percentage in the different mortar products. Effects of primary production of recycled materials allocated to the main product in which the material was used.

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production process for raw materials and energy flows that are included with very small amounts (<0,2%) are not included (except packaging). This cut-off rule does not apply for hazardous materials and substances.

## LCA: Scenarios and additional technical information

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

Products are transported from manufacturing unit in Hässleholm via Strängnäs to warehouse in Oslo.

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

| Type                  | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption, l/tkm | Value (l/t) |
|-----------------------|---------------------------------------|-----------------|-------------|--------------------------------|-------------|
| Truck (50% biodiesel) | 85%                                   | Lorry           | 930         | 0.02                           | 13.8        |

## LCA: Results

System boundaries (X=included, MND= module not declared, MNR=module not relevant)

| Product stage |           |               |           | Assembly stage | Use stage |             |        |             |               |                        |                       |                            | End of life stage |                  |          |                                    | Beyond the system boundaries |
|---------------|-----------|---------------|-----------|----------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-------------------|------------------|----------|------------------------------------|------------------------------|
| Raw materials | Transport | Manufacturing | Transport | Assembly       | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport         | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |                              |
| A1            | A2        | A3            | A4        | A5             | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2                | C3               | C4       | D                                  |                              |
| X             | X         | X             | X         | MND            | MND       | MND         | MND    | MND         | MND           | MND                    | MND                   | MND                        | MND               | MND              | MND      | MND                                |                              |

### Environmental impact

| Parameter | Unit                                  | A1 | A2 | A3 | A1- A3   | A4       |  |  |  |
|-----------|---------------------------------------|----|----|----|----------|----------|--|--|--|
| GWP*      | kg CO <sub>2</sub> -eqv               |    |    |    | 1.92E-01 | 4.98E-02 |  |  |  |
| ODP       | kg CFC11-eqv                          |    |    |    | 3.74E-09 | 1.51E-08 |  |  |  |
| POCP      | kg C <sub>2</sub> H <sub>4</sub> -eqv |    |    |    | 1.75E-05 | 1.54E-05 |  |  |  |
| AP        | kg SO <sub>2</sub> -eqv               |    |    |    | 3.25E-04 | 5.39E-04 |  |  |  |
| EP        | kg PO <sub>4</sub> <sup>3-</sup> -eqv |    |    |    | 5.71E-05 | 1.25E-04 |  |  |  |
| ADPM      | kg Sb-eqv                             |    |    |    | 4.14E-07 | 0.00E+00 |  |  |  |
| ADPE      | MJ                                    |    |    |    | 8.43E-01 | 1.43E+00 |  |  |  |

\* Emission and uptake of biogenic carbon as CO<sub>2</sub> is not accounted for as in accordance to EN 15804.

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

### Resource use

| Parameter | Unit           | A1 | A2 | A3 | A1-A3    | A4       |  |  |  |
|-----------|----------------|----|----|----|----------|----------|--|--|--|
| RPEE      | MJ             |    |    |    | 1.61E-01 | 1.91E-02 |  |  |  |
| RPEM      | MJ             |    |    |    | 0        | 0        |  |  |  |
| TPE       | MJ             |    |    |    | 1.61E-01 | 1.91E-02 |  |  |  |
| NRPE      | MJ             |    |    |    | 9.40E-01 | 1.41E+00 |  |  |  |
| NRPM      | MJ             |    |    |    | 1.30E-01 | 0        |  |  |  |
| TRPE      | MJ             |    |    |    | 1.07E+00 | 1.41E+00 |  |  |  |
| SM        | kg             |    |    |    | 2.85E-02 | 0        |  |  |  |
| RSF       | MJ             |    |    |    | 1.40E-01 | 0        |  |  |  |
| NRSF      | MJ             |    |    |    | 1.97E-01 | 0        |  |  |  |
| W         | m <sup>3</sup> |    |    |    | 2.28E-04 | 9.00E-03 |  |  |  |

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

### End of life - Waste

| Parameter | Unit | A1 | A2 | A3 | A1- A3   | A4 |  |  |  |
|-----------|------|----|----|----|----------|----|--|--|--|
| HW        | kg   |    |    |    | 1.55E-06 | 0  |  |  |  |
| NHW       | kg   |    |    |    | 1.51E-03 | 0  |  |  |  |
| RW        | kg   |    |    |    | 3.88E-05 | 0  |  |  |  |

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

### End of life - Output flow

| Parameter | Unit | A1 | A2 | A3 | A1- A3 | A4 |  |  |  |
|-----------|------|----|----|----|--------|----|--|--|--|
| CR        | kg   |    |    |    | 0      | 0  |  |  |  |
| MR        | kg   |    |    |    | 0      | 0  |  |  |  |
| MER       | kg   |    |    |    | 0      | 0  |  |  |  |
| EEE       | MJ   |    |    |    | 0      | 0  |  |  |  |
| ETE       | MJ   |    |    |    | 0      | 0  |  |  |  |

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

Reading example:  $9,0 \text{ E-03} = 9,0 \cdot 10^{-3} = 0,009$

## Additional Norwegian requirements

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

Electricity use in production is based on consumption figures for 2016. Emission data is taken from Ecoinvent 3.3 "Electricity, medium voltage {SE} market for | Alloc Rec, S" (2016).

| Data source           | Amount  | Unit                     |
|-----------------------|---------|--------------------------|
| Ecoinvent v3.3 (2016) | 48 gram | CO <sub>2</sub> -eqv/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 (Avfallsforkiften, Annex III), see table.

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

### Indoor environment

The emission test is based on a representative "worst case" product with high amount of added chemicals and meets the requirements for Emicode EC1<sup>PLUS</sup>. EMICODE EC1<sup>PLUS</sup> includes the strongest requirements on low VOC emissions compared to EMICODE EC1 and Blue Angel, AgBB, DIBt and California (Section 01350). The product has no detectable impact on the indoor environment.

### Carbon footprint

Carbon footprint has not been worked out for the product.

## Bibliography

|                       |  |
|-----------------------|--|
| ISO 14025:2010        | <i>Environmental labels and declarations - Type III environmental declarations - Principles and procedures</i>   |
| ISO 14044:2006        | <i>Environmental management - Life cycle assessment - Requirements and guidelines</i>  |
| EN 15804:2012+A1:2013 | <i>Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products</i>                                       |
| ISO 21930:2007        | <i>Sustainability in building construction - Environmental declaration of building products</i>  |
| LCI Report            | <i>LCA Report Finja Mortar products. Ulf Liljenroth, WSP 2017.</i>   |
| Emicode EC1PLUS       | <a href="http://www.emicode.com/fileadmin/redaktion/Service/Downloads_GB/GEV-Green_Building.pdf">www.emicode.com/fileadmin/redaktion/Service/Downloads_GB/GEV-Green_Building.pdf</a> |

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|---|--|---|
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