

## ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

|                                |                              |
|--------------------------------|------------------------------|
| Owner of the declaration:      | Saint-Gobain Finland Oy      |
| Program operator:              | The Norwegian EPD Foundation |
| Publisher:                     | The Norwegian EPD Foundation |
| Declaration number:            | NEPD-3008-1684-EN            |
| Registration number:           | NEPD-3008-1684-EN            |
| ECO Platform reference number: | -                            |
| Issue date:                    | 13.08.2021                   |
| Valid to:                      | 13.08.2026                   |

### webervetonit 4650 Design Color (webervetonit 4650 Design Plaano)

Saint-Gobain Finland Oy



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



## General information

**Product:**

webervetonit 4650 Design Color (webervetonit 4650 Design Plaano)

**Program operator:**

The Norwegian EPD Foundation  
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**Declaration number:**

NEPD-3008-1684-EN

**ECO Platform reference number:****This declaration is based on Product Category Rules:**

CEN Standard EN 15804:2012+A1:2013 serves as core PCR.  
NPCR 009:2018 Part B for Technical - Chemical products in the building and construction industry

**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 webervetonit 4650 Design Color (webervetonit 4650 Design Plaano)

**Declared unit with option:**

A1,A2,A3,A4,A5,C1,C2,C3,C4,D

**Functional unit:**

Functional unit is not used because use stage is not considered.

**General information on verification of EPD from EPD tools:**

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

**Verification of EPD tool:**

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Anne Rønning, Norsus AS

(no signature required)

**Owner of the declaration:**

Saint-Gobain Finland Oy  
Contact person: Anne Kaiser  
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**Manufacturer:**

Saint-Gobain Finland Oy

**Place of production:**

Saint-Gobain Finland Oy  
P.O. Box 70 Fi-00381 Helsinki  
Finland

**Management system:**

ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007

**Organisation no:**

FI09515553

**Issue date:** 13.08.2021**Valid to:** 13.08.2026**Year of study:**

2020

**Comparability:**

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

**Development and verification of EPD:**

The declaration has been developed and verified using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS. The EPD tool is integrated into the company's environmental management system, and has been approved by EPD-Norway

Developer of EPD:

Päivi Pesu

Reviewer of company-specific input data and EPD:

Anne Kaiser

**Approved:**

Sign



Håkon Hauan, CEO EPD-Norge

## Product

### Product description:

webervetonit 4650 Design Color is hand applicable and pumpable, fast-setting and drying, low-alkaline, cementitious through-colored, surface screed without casein for special floor structures. The product is designed to form a surface layer for dry areas such as commercial buildings, offices, schools, hotels and residential buildings. The scratch resistance of the surface is more equivalent to parquet floors rather than to tiling floors. The surface treatment of the product is to be chosen depending on the use. Delivered in 20 kg bags and 1000 kg big bags.

7 different colors available: F10 Yellow, F20 Beige, F30 Blue, F40 Terracotta, G10 Offwhite, G20 LightGrey and G40 WarmGrey.

### Product specification

The composition of the product is described in the following table:

| Materials | %     |
|-----------|-------|
| Binder    | 10-30 |
| Aggregate | 30-55 |
| Filler    | 25-40 |
| Additives | 1-5   |
| Pigments  | 0-5   |

## LCA: Calculation rules

### Declared unit:

1 kg webervetonit 4650 Design Color (webervetonit 4650 Design Plaano)

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

### Data quality:

Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

| Materials | Source                   | Data quality | Year |
|-----------|--------------------------|--------------|------|
| Chemicals | Chemicals below cut-off  | No data      | 0    |
| Binder    | EPD-BVG-20140073-IAG1-EN | EPD          | 2014 |
| Additives | ecoinvent 3.4            | Database     | 2017 |
| Aggregate | ecoinvent 3.4            | Database     | 2017 |
| Filler    | ecoinvent 3.4            | Database     | 2017 |
| Packaging | ecoinvent 3.4            | Database     | 2017 |
| Packaging | Modified ecoinvent 3.4   | Database     | 2017 |
| Pigments  | LCA.no                   | Database     | 2018 |
| Additives | EcoInvent 3.6            | Database     | 2019 |
| Cement    | Supplier                 | EPD          | 2019 |

### Technical data:

webervetonit 4650 Design Color is produced according to the requirements of EN 13813:2002 (Screed material and floor screeds - Screed materials).

Density: 1.6 - 1.8 kg/dm<sup>3</sup>.

Recommended water content: 4.0 l/20 kg (20% of dry weight)

Recommended layer thickness: 5-15 mm. Optimal 6-8 mm.

Consumption: 1,7 kg/m<sup>2</sup>/1 mm

More information: <https://www.fi.weber/lattiaratkaisut-ja-tuotteet/teollisuus-ja-varilliset-lattiatuotteet/webervetonit-4650-design-plaano>.

### Market:

Nordic and Baltic countries

### Reference service life, product

The reference service life of the product is similar to the service life of the building.

### Reference service life, building

60 years

### 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. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

**System boundary:**

All processes from raw material extraction to product transport to the construction site and assembly are included in the analysis as well as end of life stage and phases beyond the system boundary (A1 - A5, C1-C4, D). The basic production process comprises mixing of raw materials together. Raw materials are cement, aggregate, filler and additives delivered as bulk, big bags or smaller bags from EU. The base mix of weber 4650 Design Color is the same for all colors. Pigments are added to produce each color variant. Pigments are accounted based on average amounts. Ready mixed and dyed product is packed into 20 kg and 1000 kg bags for delivery.

Floor screed doesn't require any maintenance during the use stage, so stage B is not considered. When building is demolished at the end-of-life floor structure with floor screed integrated into concrete slab are crushed. 90 % of crushed concrete is recycled and used to replace natural gravel in soil construction, remaining 10% being disposed into landfill.

System boundaries (cradle-to-gate with options) are illustrated in the picture below.



**Additional technical information:**

The LCA calculation has been made taking into account the fact that during the manufacturing process 100% renewable electricity is used. This 100% renewable electricity bought is evidenced by Guarantee of Origin certificates (GOs) from LOS, valid for the study year (2020).

## LCA: Scenarios and additional technical information

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

Transport distance to Helsinki (A4) is 183 km from the manufacturing site. It is assumed that all the demolition waste is collected and 90% of crushed concrete is recycled and 10% is disposed into landfill. Transport distance to processing is estimated to be 30 km.

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

| Type                 | Capacity utilisation (incl. return) % | Type of vehicle                     | Distance km | Fuel/Energy consumption | Unit  | Value (l/t) |
|----------------------|---------------------------------------|-------------------------------------|-------------|-------------------------|-------|-------------|
| Truck                | 55,0 %                                | Truck, lorry over 32 tonnes, EURO 5 | 183         | 0,022823                | l/tkm | 4,18        |
| Railway              |                                       |                                     |             |                         | l/tkm |             |
| Boat                 |                                       |                                     |             |                         | l/tkm |             |
| Other Transportation |                                       |                                     |             |                         | l/tkm |             |

### Assembly (A5)

|                                       | Unit           | Value  |
|---------------------------------------|----------------|--------|
| Auxiliary                             | kg             |        |
| Water consumption                     | m <sup>3</sup> |        |
| Electricity consumption               | kWh            | 0,0021 |
| Other energy carriers                 | MJ             |        |
| Material loss                         | kg             |        |
| Output materials from waste treatment | kg             | 0,0307 |
| Dust in the air                       | kg             |        |
| VOC emissions                         | kg             |        |

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

|                                       | Unit | Value  |
|---------------------------------------|------|--------|
| Hazardous waste disposed              | kg   |        |
| Collected as mixed construction waste | kg   |        |
| Reuse                                 | kg   |        |
| Recycling                             | kg   | 0,8778 |
| Energy recovery                       | kg   |        |
| To landfill                           | kg   | 0,0975 |

### Transport to waste processing (C2)

| Type                 | Capacity utilisation (incl. return) % | Type of vehicle                   | Distance km | Fuel/Energy consumption | Unit  | Value (l/t) |
|----------------------|---------------------------------------|-----------------------------------|-------------|-------------------------|-------|-------------|
| Truck                | 38,8 %                                | Truck, lorry 16-32 tonnes, EURO 5 | 30          | 0,044606                | l/tkm | 1,34        |
| Railway              |                                       |                                   |             |                         | l/tkm |             |
| Boat                 |                                       |                                   |             |                         | l/tkm |             |
| Other Transportation |                                       |                                   |             |                         | l/tkm |             |

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

|   | Unit | Value |
|---|------|-------|
| Substitution of primary aggregates with crushed recycled cement-based products (kg) | kg   | 0,88  |

## LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

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

| Product stage |           |               | Construction installation stage |          | User 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                               | X        | MND        | MND         | MND    | MND         | MND           | MND                    | MND                   | X                          | X         | X                | X        | X                                  |

### Environmental impact

| Parameter | Unit                                 | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|-----------|--------------------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| GWP       | kg CO <sub>2</sub> -eq               | 3,10E-01 | 1,60E-02 | 5,26E-03 | 3,96E-03 | 4,88E-03 | 7,64E-04 | 5,05E-04 | -3,48E-03 |
| ODP       | kg CFC11 -eq                         | 1,74E-08 | 3,11E-09 | 3,19E-10 | 6,86E-10 | 9,00E-10 | 1,53E-10 | 1,69E-10 | -4,52E-10 |
| POCP      | kg C <sub>2</sub> H <sub>4</sub> -eq | 1,15E-04 | 2,58E-06 | 4,90E-07 | 6,63E-07 | 7,95E-07 | 1,40E-07 | 1,54E-07 | -9,07E-07 |
| AP        | kg SO <sub>2</sub> -eq               | 1,33E-03 | 5,19E-05 | 1,09E-05 | 2,99E-05 | 1,56E-05 | 3,86E-06 | 3,69E-06 | -2,02E-05 |
| EP        | kg PO <sub>4</sub> <sup>3-</sup> -eq | 2,54E-04 | 8,71E-06 | 2,27E-06 | 6,53E-06 | 2,58E-06 | 6,85E-07 | 6,51E-07 | -3,58E-06 |
| ADPM      | kg Sb -eq                            | 2,31E-06 | 3,61E-08 | 6,46E-09 | 1,70E-11 | 1,49E-08 | 4,80E-11 | 1,10E-11 | -1,87E-10 |
| ADPE      | MJ                                   | 4,82E+00 | 2,50E-01 | 3,03E-02 | 5,47E-02 | 7,35E-02 | 7,43E-03 | 1,42E-02 | -3,72E-02 |

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

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

## Resource use

| Parameter | Unit           | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|-----------|----------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| RPEE      | MJ             | 2,61E+00 | 4,53E-03 | 2,87E-01 | 3,00E-04 | 1,07E-03 | 9,96E-03 | 1,16E-04 | -1,25E-02 |
| RPEM      | MJ             | 4,69E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| TPE       | MJ             | 3,08E+00 | 4,53E-03 | 2,87E-01 | 3,00E-04 | 1,07E-03 | 9,96E-03 | 1,16E-04 | -1,25E-02 |
| NRPE      | MJ             | 5,19E+00 | 2,58E-01 | 8,15E-02 | 5,52E-02 | 7,53E-02 | 1,95E-02 | 1,44E-02 | -5,12E-02 |
| NRPM      | MJ             | 3,45E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| TRPE      | MJ             | 5,53E+00 | 2,58E-01 | 8,15E-02 | 5,52E-02 | 7,53E-02 | 1,95E-02 | 1,44E-02 | -5,12E-02 |
| SM        | kg             | 5,02E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| RSF       | MJ             | 4,69E-02 | 0,00E+00 | 4,04E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| NRSF      | MJ             | 2,62E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| W         | m <sup>3</sup> | 3,28E-03 | 6,09E-05 | 2,50E-04 | 4,75E-06 | 1,41E-05 | 4,88E-06 | 1,56E-05 | -1,01E-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

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

## End of life - Waste

| Parameter | Unit | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|-----------|------|----------|----------|----------|----------|----------|----------|----------|-----------|
| HW        | kg   | 1,69E-04 | 1,37E-07 | 5,20E-08 | 1,50E-07 | 4,40E-08 | 1,80E-08 | 2,15E-08 | -2,05E-07 |
| NHW       | kg   | 1,28E-01 | 2,34E-02 | 2,17E-03 | 2,50E-04 | 3,96E-03 | 2,19E-04 | 9,76E-02 | -1,81E-03 |
| RW        | kg   | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*      |

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

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

## End of life - Output flow

| Parameter | Unit | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D        |
|-----------|------|----------|----------|----------|----------|----------|----------|----------|----------|
| CR        | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MR        | kg   | 2,05E-03 | 0,00E+00 | 9,42E-03 | 0,00E+00 | 0,00E+00 | 8,78E-01 | 0,00E+00 | 0,00E+00 |
| MER       | kg   | 3,99E-03 | 0,00E+00 | 2,11E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| EEE       | MJ   | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     |
| ETE       | MJ   | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     | INA*     |

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 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

## Additional Norwegian requirements

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

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).

| Electricity mix  | Data source            | Amount | Unit          |
|--|------------------------|--------|---------------|
| District heating, Parainen (kWh)   | Modified ecoinvent 3.4 | 20,54  | g CO2-ekv/kWh |
| Renewable electricity Saint-Gobain, with Guarantee of Origin from LOS 2018 (kWh) | Saint-Gobain           | 54,39  | g CO2-ekv/kWh |

### Dangerous substances

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

### Indoor environment

webervetonit 4650 Design Color has M1 indoor air emission classification granted by The Finnish Building Information Foundation RTS (<https://cer.rts.fi/en/m1-emission-class-for-building-material/>) and premium EC1+ classification granted by GEV.

## Bibliography

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