epd-norway
Global Program Operator

# ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2

## SCHWENK Transportbeton GmbH & Co.KG – RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1


SCHWENK
Baustoff leben

**Owner of the declaration**
SCHWENK Transportbeton GmbH & Co.KG
Hindenburgring 15
89077 Ulm/Donau
Germany

**Product**
RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1

**Declared product / Declared unit**
1 m³ of RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1

**This declaration is based on Product Category Rules**
EN 15804:2012 + A2:2019,
NPCR 020 PART B for concrete and concrete elements (v3.0)

**Program operator:**
EPD-Norge
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway

**Declaration number**
NEPD-10048-10048-2

**Registration number**
NEPD-10048-10048-2

**Issue date**
12.03.2025

**Valid to**
11.03.2030

**EPD Software**
Emidat EPD Tool v1.0.0

## General Information

**Product**
RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1

**Program Operator**
EPD-Norge
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway
Phone: +47 23 08 80 00
Email: post@epd-norge.no

**Declaration Number**
NEPD-10048-10048-2

**This declaration is based on Product Category Rules**
EN 15804:2012 + A2:2019,
NPCR 020 PART B for concrete and concrete elements (v3.0)

**Statements**
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**
1 m³ of RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1

**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. Verification of each EPD is made according to EPDNorway's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Norway, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

**Verification of EPD tool**
Charlotte Merlin, FORCE Technology
(no signature required)

**Owner of the declaration**
SCHWENK Transportbeton GmbH & Co.KG

**Contact person**
info@schwenk.de

**Phone**
+49 731 9341 0

**Email**
info@schwenk.de

**Manufacturer**
SCHWENK Transportbeton GmbH & Co.KG
Hindenburgring 15
89077 Ulm/Donau, Germany

**Place of production**
SCHWENK Beton Südbayern GmbH, Werk München-Ludwigsfeld, Ludwigsfelder Straße 166, 80997 München, Germany

**Management system**
ISO 9001, ISO 50001

**Issue date**
12.03.2025

**Valid to**
11.03.2030

**Year of study**
2023

**Comparability**
EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not seen in a building context. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database (including primary and secondary data).

**Development and verification of EPD**
The declaration was created using the Emidat EPD tool v1.0, developed by Emidat GmbH. The EPD tool has been approved by EPD Norway.

Developer of EPD: Thomas Arndt
Reviewer of company-specific input data and EPD: Dr. Klaus Raiber

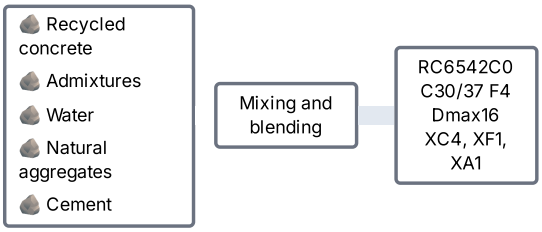
**Approved**

Håkon Hauan, CEO EPD-Norge

# Product

## Product description

Concrete is a building material made up of several components, including cement, water, sand, gravel, and air. Ready-mix concrete is manufactured in a batch plant in a controlled environment, using precise mix designs (with the addition of other cementitious materials or chemical admixtures that improve the properties of the concrete), ensuring consistency in quality, strength, and composition. This consistency leads to predictable performance in construction projects. Ready-mix concrete is then delivered to the construction site in an unhardened state, ready to use, eliminating the need for on-site mixing. This saves time in labor, equipment setup, and material handling, speeding up the construction process. The product is produced according to DIN EN 206. Testing was conducted according to EN 12350 and EN 12390. Performance data of the product with respect to its characteristics in accordance with the relevant technical provision (no CE-marking).




The most common man-made substance in the world is concrete. Regardless of the magnitude of the construction, it is a necessary component of roads, buildings, bridges, dams, pavements, pipelines, sewers, and other structures. It is made up of naturally occurring aggregates with varying granulometries (sand, fine gravel, and gravel) joined by hydrated cement paste. To improve particular qualities of the fresh or hardened concrete, such as workability, durability, or early and final strength, chemical admixtures can also be used. After manufacture, concrete is workable enough to be transported, poured, pumped, put in place, and compacted at the project site, where it gradually solidifies and gains strength.

## Product specification

| Name of ingredient | Share of total weight | Country of origin |
|---|---|---|
| Admixtures | 0 - 2 % | Germany |
| Cement | 10 - 25 % | Germany |
| Natural aggregates | 50 - 80 % | Germany |
| Recycled concrete | 10 - 25 % | Germany |
| Water | 2 - 10 % | Germany |

## Technical data

| | Unit | Value |
|---|---|---|
| Compressive Strength (Cylinder) | N / mm² | 30.0 |
| Compressive Strength (Cube) | N / mm² | 37.0 |
| Gross Density | kg / m³ | 2342.0 |

## Market

Germany

## Reference service life

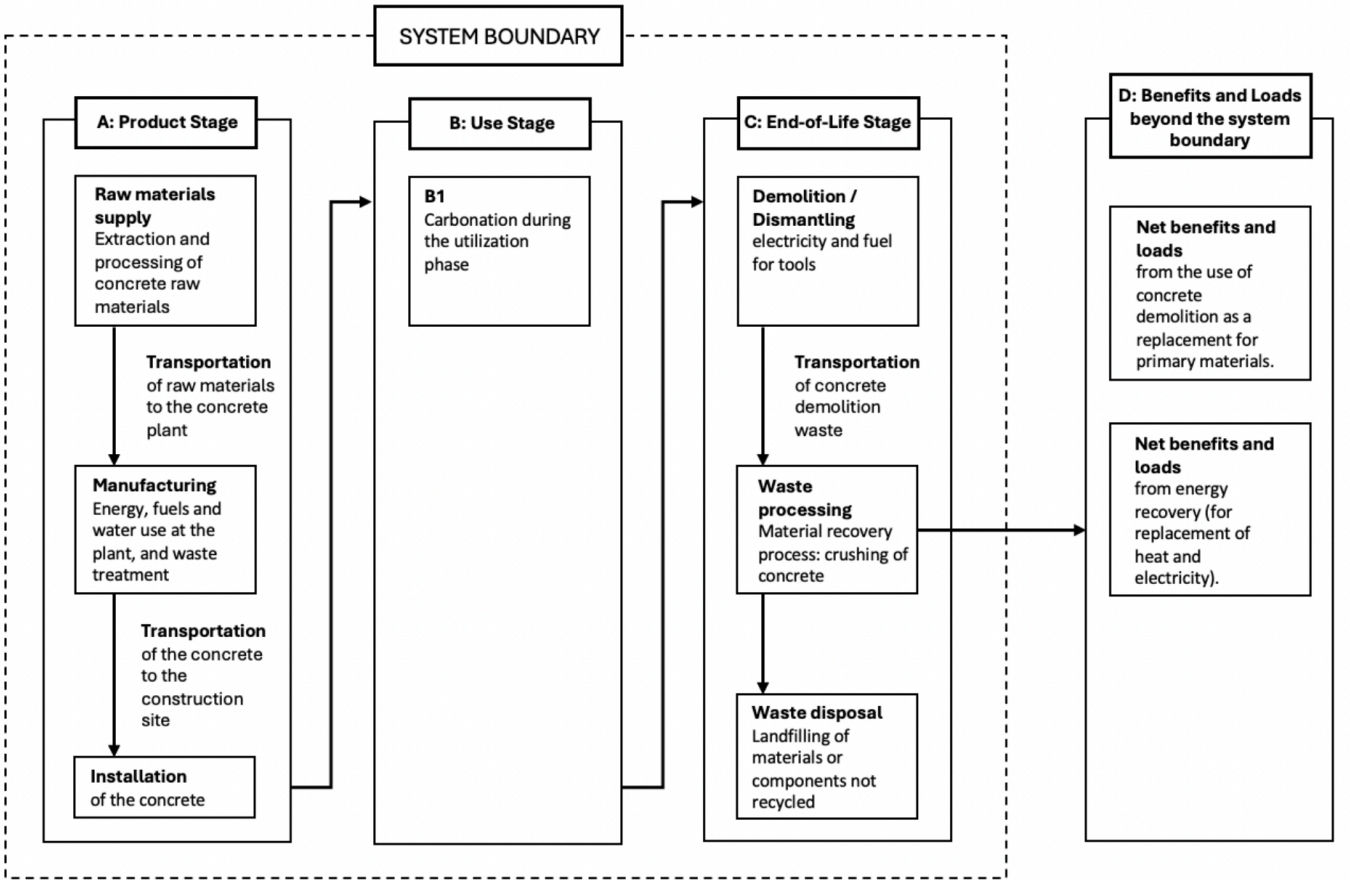
50 years

## LCA: Calculation rules

### Declared unit
1 m³ of RC6542C0 C30/37 F4 Dmax16 XC4, XF1, XA1

### Reference service life
50 years

### System boundary




### Data quality
The Emidat EPD Tool v1.0.0 was used for LCA modeling and calculation. Background data was used from ecoinvent database v3.10.

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

| | Production | | | Installation | | Use stage | | | | | | | End-of-Life | | | | Next product system |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw material supply | Transport | Manufacturing | Transport | Installation Process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational Energy Use | Operational Water Use | Demolition | Transport | Waste Processing | Disposal | Benefits and loads beyond the system boundary |
| Module | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Modules declared | x | x | x | x | x | x | MND | MND | MND | MND | MND | MND | x | x | x | x | x |
| Geography | | | DE | DE | DE | DE | MND | MND | MND | MND | MND | MND | DE | DE | DE | DE | DE |

For the geographies modeled in A1 and A2, refer to *Product specification*.

Type of EPD: cradle to gate with options, modules C1-C4 and module D (A1-A3, C, D, additional modules A4, A5, and B1)

**Stage of Material Production and Construction**

Module A1: Extraction and processing of raw materials

Module A2: Transportation of raw materials to the plant

Module A3: Concrete production at the plant and waste treatment

Module A4: Transportation to the construction site

Module A5: Includes processes associated with concrete installation (e.g., pumping on the construction site), as well as the production, transportation, and treatment of unused concrete

**Use Stage**

Module B1: Carbonation during the utilization phase

**Disposal Stage**

Module C1: Demolition/Dismantling

Module C2: Transportation of concrete demolition waste for processing

Module C3: Sorting of waste components and recycling of concrete

Module C4: Disposal of concrete

**Credits and burdens outside the system boundaries**

Module D: Credits and burdens from the use of demolished concrete as a replacement for primary materials

### Cut-off criteria

Environmental impacts of the following processes are considered to be negligible: Production and use of formwork and falsework for the installation of concrete, Materials used for the curing of concrete (e.g. plastics, aluminum) .

### Allocation

Elementary flows (energy and fuels, ancillary materials and waste) data was collected on production-process-level. Using the total output of the production process in 2023, elementary flows are assigned to 1 declared unit based on volume.

## LCA: Scenarios and additional technical information

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

| Transport to the building site (A4) | Value | Unit |
|---|---|---|
| Transported mass | 2342.00 | kg |
| Fuel consumption | 5.23 | L / 100 km |
| Average distance from manufacturer to construction site | 20.00 | km |
| Transport mode | truck | |
| Gross density of products transported | 2342.00 | kg / m³ |

| Installation into the building (A5) | Value | Unit |
|---|---|---|
| Formwork | - | kg |
| Falsework | - | kg |
| Concrete waste (installation losses, typical wastage rate on site) | 1.50 | % |
| Distance to waste landfill facility (for installation losses) | 50.00 | km |
| Amount of electricity to pour 1 m³ of concrete | 3.00 | kWh |
| Amount of diesel to pour 1 m³ of concrete | 60.00 | MJ |
| Water | 0.29 | m³ |
| Wastewater treatment | 0.29 | m³ |

Formwork and Falsework each contribute less than 1% of the total product $CO_2$ emissions, and are therefore neglected under cut-off rules. (Kaethner, Burridge, 2012). Other sources: Concrete waste: Adams & Hobbs (2023). Electricity, Diesel: Ecoinvent benchmark average.

| Use of the installed product (B1) | Value | Unit |
|---|---|---|
| Reference use period | 50.00 | years |
| Application | Building, outside, exposed to rain | |
| Degree of carbonation (Dc) | 0.85 | - |
| Cement absorption factor | 0.34 | kg $CO_2$ / kg Cement |
| k-factor | 1.60 | mm / √year |
| Correction factor | 1.00 | - |
| Surface area of concrete | 5.00 | m² |

Calculation of carbonization according to EN 16757. k-factor results from the concrete's compressive strength and its application. The cement absorption factor (maximum theoretical CO2 uptake) depends on the average clinker content in cement. The correction factor results from cement substitutes in the recipe.

| End of life (C1-C4) | Value | Unit |
|---|---|---|
| Material for recycling (total) | 2178.06 | kg |
| Distance to waste recycling facility | 50.00 | km |
| Material for landfill (total) | 163.94 | kg |
| Distance to waste landfill facility | 50.00 | km |
| Concrete to recycling | 2178.06 | kg |
| Diesel required to demolish 1 kg of concrete | 0.06 | MJ / kg |
| PM 10 emissions during the demolishment of 1 kg of concrete | 6.00e-05 | kg / kg |
| PM 2.5 emissions during the demolishment of 1 kg of concrete | 1.70e-05 | kg / kg |

Carbonation during waste processing is not considered. Recycling rate for concrete of 93% reflects the modeled country. Source: Mineralische Bauabfälle Monitoring 2018 Bericht zum Aufkommen und zum Verbleib mineralischer Bauabfälle im Jahr 2018 (https://kreislaufwirtschaft-bau.de/).

| Reuse, recovery and/or recycling potentials (D) | Value | Unit |
|---|---|---|
| Amount of secondary material that the system takes in | 342.00 | kg |
| Avoided gravel production | 1860.07 | kg |

Calculation of benefits and loads per EN 15804+A2.

# LCA: Results

## Core environmental impact indicators

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| GWP-total | kg $CO_2$-eq. | 2.08e+02 (1.38e+02)* | 4.85e+00 | 1.13e+01 | -5.48e+00 | 1.44e+01 | 1.21e+01 | 1.34e+01 | 1.03e+00 | -3.80e+00 |
| GWP-fossil | kg $CO_2$-eq. | 1.81e+02 (1.36e+02)* | 4.85e+00 | 1.06e+01 | -5.48e+00 | 1.44e+01 | 1.21e+01 | 1.34e+01 | 1.03e+00 | -3.70e+00 |
| GWP-biogenic | kg $CO_2$-eq. | 2.78e+01 (1.56e+00)* | 2.43e-03 | 6.82e-01 | 0 | 1.43e-03 | 6.08e-03 | 1.33e-03 | 1.06e-04 | -1.01e-01 |
| GWP-luluc | kg $CO_2$-eq. | 3.51e-02 | 1.72e-03 | 4.12e-03 | 0 | 1.25e-03 | 4.31e-03 | 1.16e-03 | 5.32e-04 | -4.16e-04 |
| ODP | kg CFC-11-Eq | 5.76e-07 | 1.01e-07 | 1.28e-07 | 0 | 2.20e-07 | 2.53e-07 | 2.04e-07 | 2.96e-08 | -5.21e-08 |
| AP | mol H+-Eq | 2.35e-01 | 1.15e-02 | 6.35e-02 | 0 | 1.30e-01 | 2.86e-02 | 1.21e-01 | 7.26e-03 | -3.19e-02 |
| EP-freshwater | kg P-Eq | 2.15e-02 | 3.41e-04 | 2.68e-03 | 0 | 4.18e-04 | 8.53e-04 | 3.89e-04 | 8.51e-05 | -1.63e-04 |
| EP-marine | kg N-Eq | 7.39e-02 | 3.00e-03 | 3.32e-02 | 0 | 6.01e-02 | 7.51e-03 | 5.59e-02 | 2.77e-03 | -1.27e-02 |
| EP-terrestrial | mol N-Eq | 9.40e-01 | 3.25e-02 | 3.06e-01 | 0 | 6.58e-01 | 8.12e-02 | 6.12e-01 | 3.02e-02 | -1.48e-01 |
| POCP | kg NMVOC-Eq | 2.41e-01 | 1.99e-02 | 9.16e-02 | 0 | 1.96e-01 | 4.97e-02 | 1.83e-01 | 1.08e-02 | -4.22e-02 |
| ADPE | kg Sb-Eq | 6.88e-04 | 1.39e-05 | 1.70e-05 | 0 | 5.14e-06 | 3.47e-05 | 4.79e-06 | 1.63e-06 | -3.79e-05 |
| ADPF | MJ, net calorific value | 1.08e+03 | 7.28e+01 | 1.27e+02 | 0 | 1.88e+02 | 1.82e+02 | 1.75e+02 | 2.51e+01 | -5.39e+01 |
| WDP | $m^3$ world Eq deprived | 7.52e+00 | 3.66e-01 | 6.87e-01 | 0 | 4.60e-01 | 9.14e-01 | 4.28e-01 | 7.03e-02 | -2.60e+00 |

**GWP-total**: Global Warming Potential - total **GWP-fossil**: Global warming potential - fossil **GWP-biogenic**: Global Warming Potential - biogenic **GWP-luluc**: Global Warming Potential - luluc **ODP**: Depletion potential of the stratospheric ozone layer **AP**: Acidification potential, Accumulated Exceedance **EP-freshwater**: Eutrophication potential - freshwater **EP-marine**: Eutrophication potential - marine **EP-terrestrial**: Eutrophication potential - terrestrial **POCP**: Photochemical Ozone Creation Potential **ADPE**: Abiotic depletion potential - non-fossil resources **ADPF**: Abiotic depletion potential - fossil resources **WDP**: Water (user) deprivation potential

* The first value is the gross value, it includes the impacts from all manufacturing activities. Gross values are more commonly used in Northern Europe. The value in brackets is the net value, it excludes the impact from the incineration of waste-derived fuels, and is more common in Central Europe and Germany.

## Additional indicators

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| PM | disease incidence | 3.47e-06 | 4.73e-07 | 1.68e-06 | 0 | 2.09e-05 | 1.18e-06 | 1.96e-05 | 1.65e-07 | -8.75e-07 |
| IRP | kBq U235-Eq | 4.50e+00 | 8.85e-02 | 4.69e-01 | 0 | 8.40e-02 | 2.21e-01 | 7.82e-02 | 1.60e-02 | -6.22e-01 |
| ETP-fw | CTUe | 1.44e+02 | 1.73e+01 | 3.36e+01 | 0 | 2.66e+01 | 4.31e+01 | 2.48e+01 | 3.44e+00 | -2.67e+01 |
| HTP-c | CTUh | 1.85e-07 | 3.10e-08 | 3.47e-08 | 0 | 5.61e-08 | 7.76e-08 | 5.22e-08 | 4.63e-09 | -6.02e-08 |
| HTP-nc | CTUh | 2.14e-06 | 4.80e-08 | 7.97e-08 | 0 | 2.55e-08 | 1.20e-07 | 2.37e-08 | 4.51e-09 | -3.50e-08 |
| SQP | dimensionless | 3.35e+02 | 7.32e+01 | 2.91e+01 | 0 | 1.32e+01 | 1.83e+02 | 1.22e+01 | 4.95e+01 | -1.22e+02 |

**PM**: Potential incidence of disease due to PM emissions **IRP**: Potential Human exposure efficiency relative to U235 **ETP-fw**: Potential Comparative Toxic Unit for ecosystems **HTP-c**: Potential Comparative Toxic Unit for humans - cancer effects **HTP-nc**: Potential Comparative Toxic Unit for humans - non-cancer effects **SQP**: Potential Soil quality index

**IRP**: 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.
**ETP-fw**, **HTP-c**, **HTP-nc** and **SQP**: 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 experienced with these indicators.

## Use of resources

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| PERE | MJ | 3.01e+02 | 1.16e+00 | 1.04e+01 | 0 | 1.15e+00 | 2.89e+00 | 1.07e+00 | 2.33e-01 | -1.76e+01 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 3.01e+02 | 1.16e+00 | 1.04e+01 | 0 | 1.15e+00 | 2.89e+00 | 1.07e+00 | 2.33e-01 | -1.76e+01 |
| PENRE | MJ | 1.07e+03 | 7.28e+01 | 1.26e+02 | 0 | 1.88e+02 | 1.82e+02 | 1.75e+02 | 2.51e+01 | -5.39e+01 |
| PENRM | MJ | 1.16e+01 | 0 | 1.74e-01 | 0 | 0 | 0 | -1.08e+01 | 0 | 0 |
| PENRT | MJ | 1.08e+03 | 7.28e+01 | 1.27e+02 | 0 | 1.88e+02 | 1.82e+02 | 1.64e+02 | 2.51e+01 | -5.39e+01 |
| SM | kg | 4.05e+02 | 0 | 6.08e+00 | 0 | 0 | 0 | 0 | 0 | 1.86e+03 |
| RSF | MJ | 6.63e+02 | 0 | 9.95e+00 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 7.34e+02 | 0 | 1.10e+01 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | $m^3$ | 2.47e+00 | 1.06e-02 | 5.86e-02 | 0 | 1.22e-02 | 2.65e-02 | 1.13e-02 | 2.61e-02 | -2.64e+00 |

**PERE**: Primary energy resources - renewable: use as energy carrier **PERM**: Primary energy resources - renewable: used as raw materials **PERT**: Primary energy resources - renewable: total **PENRE**: Primary energy resources - non-renewable: use as energy carrier **PENRM**: Primary energy resources - non-renewable: used as raw materials **PENRT**: Primary energy resources - non-renewable: total **SM**: Use of secondary material **RSF**: Renewable secondary fuels **NRSF**: Non-renewable secondary fuels **FW**: Net use of fresh water

## Waste flows

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| HWD | kg | 1.19e+00 | 1.06e-01 | 1.81e-01 | 0 | 2.10e-01 | 2.65e-01 | 1.95e-01 | 2.79e-02 | -2.43e-01 |
| NHWD | kg | 1.09e+02 | 2.12e+00 | 3.39e+02 | 0 | 2.87e+00 | 5.30e+00 | 2.67e+00 | 1.65e+02 | -2.50e+00 |
| RWD | kg | 1.26e-03 | 2.19e-05 | 1.34e-04 | 0 | 2.06e-05 | 5.47e-05 | 1.92e-05 | 3.91e-06 | -1.34e-04 |

**HWD**: Hazardous waste disposed **NHWD**: Non hazardous waste disposed **RWD**: Radioactive waste disposed

## Output flows

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| CRU | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MFR | kg | 0 | 0 | 0 | 0 | 0 | 0 | 2.18e+03 | 0 | 0 |
| MER | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EEE | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EET | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**CRU**: Components for re-use **MFR**: Materials for recycling **MER**: Materials for energy recovery **EEE**: Exported electrical energy **EET**: Exported thermal energy

| Name | Value | Unit |
|---|---|---|
| Biogenic carbon content in product | 0 | kg C |
| Biogenic carbon content in accompanying packaging | 0 | kg C |

## Additional requirements

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

Electricity consumption in the manufacturing phase is composed from the source below. Electricity is represented by data in ecoinvent 3.10 regionalised for Germany.

| Electricity | Unit | Value |
|---|---|---|
| Electricity from grid | kg $CO_2$-eq. / kWh | 0.47 |

### Dangerous substances

The product contains no substances given by the REACH candidate list.

## Additional environmental information

### Additional environmental impact indicators required in NPCR Part A for construction products

| Indicator | Unit | A1-3 | A4 | A5 | B1 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| GWP-IOBC | kg $CO_2$-eq. | ND | 4.85e+00 | ND | -5.48e+00 | 1.44e+01 | 1.21e+01 | 1.34e+01 | 1.03e+00 | -3.70e+00 |

**GWP-IOBC**: Global Warming Potential - Instantaneous oxidation of biogenic carbon

## Bibliography


| | |
|---|---|
| DIN EN ISO 14025:2011-10 | Environmental labels and declarations - Type III environmental declarations - Principles and procedures |
| DIN EN ISO 14040:2021-02 | Environmental management - Life cycle assessment - Principles and framework |
| DIN EN ISO 14044:2021-02 | Environmental management - Life cycle assessment - Requirements and guidelines |
| EN 15804:2012+A2:2019 | Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products |
| DIN CENTR 15941:2010-11 | Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data |
| DIN EN 15942:2022-04 | Sustainability of construction works - Environmental product declarations - Communication format business-to-business |
| ISO 21930:2017-07 | Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services |
| Ecoinvent v3.10 | ecoinvent, Zurich, Switzerland, database version 3.10 |
| PCR | NPCR 020 PART B for concrete and concrete elements (v3.0) |
| EN 16757 | Sustainability of construction works - Environmental product declarations - Product Category Rules for concrete and concrete elements |
| Kaethner, S. C. & Burridge, J. A. | Embodied CO2 of structural frames. The Structural Engineer (2012) |
| Adams, K. & Hobbs, G. | Final Report: Wastage Rates for Blocks and Ready-Mix Concrete. Reusefully Ltd for MPA (2023): https://www.aircrete.co.uk/Sustainability-Environmental/Wastage-Rates.aspx |
| Dos Santos Gervasio, H. and Dimova, S. | Environmental benchmarks for buildings , EUR 29145 EN, Publications Office of the European Union, 2018, ISBN 978-92-79-80969-9 (print),978-92-79-80970-5 (pdf), doi:10.2760/073513 (online),10.2760/90028 (print), JRC110085. |
| | Basic principles and recommendations for describing the dismantling, post use, and disposal stage of construction products: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-07-06_texte_130-2020_guidance-document-construction-industry.pdf |
| | ILCD Handbook: https://eplca.jrc.ec.europa.eu/uploads/ILCD-Handbook-LCIA-Background-analysis-online-12March2010.pdf |



| | | | |
|---|---|---|---|
| epd-norway Global Program Operator | **Program Operator** | Phone | +47 23 08 80 00 |
| | EPD-Norge | | |
| | Majorstuen P.O. Box 5250, N-0303 Oslo | Email | post@epd-norge.no |
| | Norway | Web | www.epd-norge.no |
| epd-norway Global Program Operator | **Publisher** | Phone | +47 23 08 80 00 |
| | The Norwegian EPD Foundation | | |
| | Post Box 5250 Majorstuen, 0303 Oslo | Email | post@epd-norge.no |
| | Norway | Web | www.epd-norge.no |
| SCHWENK Baustoff leben | **Owner of the declaration** | Phone | +49 731 9341 0 |
| | SCHWENK Transportbeton GmbH & Co.KG | | |
| | Hindenburgring 15, 89077 Ulm/Donau | Email | info@schwenk.de |
| | Germany | Web | none |
| SCHWENK Baustoff leben | **Author of the life cycle assesment** | Phone | +49 731 9341 0 |
| | SCHWENK Transportbeton GmbH & Co.KG | | |
| | Hindenburgring 15, 89077 Ulm/Donau | Email | info@schwenk.de |
| | Germany | Web | none |
| ECO PLATFORM EPD VERIFIED | ECO Platform<br>ECO Portal | Web<br>Web | www.eco-platform.org<br>ECO Portal |
| EMIDAT | **Developer of EPD generator** | Phone | +49 176 56 96 77 91 |
| | Emidat GmbH | | |
| | Sandstraße 33, 80335 München | Email | epd@emidat.com |
| | Germany | Web | www.emidat.com |