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FIRE TECHNOLOGY

# 产品资料与销售咨询

PRODUCT DOCUMENTATION & SALES CONTACT

## ROKU V2 Gipsfaserplatte - Environmental product declaration epd-norge 12166-1278-en


澳迪斯防火科技（廊坊）有限公司

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以上为销售联系信息，不替代安全数据表中的应急联系电话。
原始技术内容及制造商、检测机构和证书签发信息见后续资料页。

Sales contact only; emergency contacts in safety data sheets remain applicable.
Original technical, manufacturer and certification details follow.

epd-norge
Global program operatør

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

## ROKU® V2 Fibre Gypsum Board



kuhnodice

The Norwegian EPD Foundation

**Owner of the declaration:**
KuhnOdice Germany GmbH

**Product:**
ROKU® V2 Fibre Gypsum Board

**Declared unit:**
1 m2

**This declaration is based on Product Category Rules:**
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 010:2022 Part B for building boards

**Program operator:**
The Norwegian EPD Foundation

**Declaration number:**
NEPD-12166-12178

**Registration number:**
NEPD-12166-12178

**Issue date:**
28.08.2025

**Valid to:**
28.08.2030

**EPD software:**
LCAno EPD generator ID: 1160420

## General information

**Product**

ROKU® V2 Fibre Gypsum Board

**Owner of the declaration:**

KuhnOdice Germany GmbH
Contact person:
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e-mail: info@kuhnodice.com

**Program operator:**

The Norwegian EPD Foundation
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web: www.epd-norge.no

**Manufacturer:**

KuhnOdice Germany GmbH

**Declaration number:**

NEPD-12166-12178

**Place of production:**

KuhnOdice Germany GmbH
Jägersgrund 10
57339 Erndtebrück, Germany

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

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 010:2022 Part B for building boards

**Management system:**

ISO 9001 : 2015

**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.

**Organisation no:**

DE 323725769

**Declared unit:**

1 m2 ROKU® V2 Fibre Gypsum Board

**Issue date:**

28.08.2025

**Declared unit with option:**

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

**Valid to:**

28.08.2030

**Year of study:**

2024

**Functional unit:**

Not Relevant.

**Comparability:**

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

**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 EPD-Norway'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

**Development and verification of EPD:**

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway. Company verification tool # : NEPDT80

Developer of EPD: Dr. Poorya Zargaran

Reviewer of company-specific input data and EPD: Dr. Oliver Fastje

**Verification of EPD tool:**

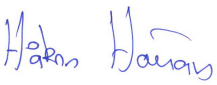
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

**Approved:**



Håkon Hauan, CEO EPD-Norge

## Product

### Product description:

The ROKU® V2 cardboard-coated gypsum board is a fire-resistant panel made from natural gypsum. It is coated in cardboard and includes minimal additional amounts of starch, surfactants, glass fibre and mineral fillers for an improved duration of fire resistance.

### Product specification

ROKU® V2 Gypsum Fiber Board is ideally suited for surface insulation in fire protection systems and for insulating tubular frame constructions.

Classified as A2 in accordance with EN 13501-1, ROKU® V2 is engineered for use in a wide range of passive fire protection applications, including surface insulation and tubular frame construction.

Within the EU and EFTA, the product falls under the scope of Regulation (EU) No 305/2011 (Construction Products Regulation, CPR) with regard to market placement. The ROKU V2 fire protection board is covered by the harmonised European standard EN 520 (Gypsum plasterboards – Definitions, requirements and test methods). The Declaration of Performance (DoP) and CE marking are provided in accordance with this standard. A European Technical Assessment (ETA) is not required for this product.

The manufacture of ROKU® V2 Gypsum Fiber Board is optimized for efficiency and continuous improvement, certified to ISO 9001. Preliminary products undergo incoming inspection before use. Each batch is subject to internal quality control to ensure compliance with fire protection standards, supplemented by regular external monitoring. Raw materials are stored securely to prevent environmental release. Worker safety is prioritized with minimal direct contact with raw materials, protective clothing, dust masks, and adequate extraction systems. Waste is sorted, stored, and returned to the recycling process wherever possible.

ROKU® V2 Gypsum Fiber Board is available in varying thicknesses and dimensions, including lengths of 2500 mm and widths of 1200 mm and 1250 mm.

The following waste codes should be taken into account: 17 08 02 - gypsum-based construction materials other than those mentioned in 17 08 01.

100% of the known ingredients of the product have been considered in the environmental footprint calculation.

| Materials | Value | Unit |
|---|---|---|
| Gypsum | 90 - 95 | wt.% |
| Recycled paper | 2 - 4 | wt.% |
| mineral aggregates and construction chemical compounds | 2 - 4 | wt.% |

### Technical data:

ROKU® V2 Gypsum Fiber Board is an asbestos-free and formaldehyde-free, cardboard-coated gypsum board made from starch, surfactants, textile glass fibers, and inorganic fillers. For further details, please refer to the product's Technical Data Sheet (TDS).

| Name | Value | Unit |
|---|---|---|
| Moisture Content (Mass Fraction) | 0.3 | wt.% |
| Density | 900 | $kg/m^3$ |
| Bending Resistance | 4.9 | $N/mm^2$ |

### Market:

Europe

### Reference service life, product

ROKU® V2 Gypsum Fiber Board has been in use worldwide for over 50 years.

### Reference service life, building or construction works

Not Relevant.

## LCA: Calculation rules

### Declared unit:

1 m2 ROKU® V2 Fibre Gypsum Board

### 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 when specific information are missing. These cut-off criteria do not apply for hazardous materials and substances.

### 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.

**Data quality:**

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

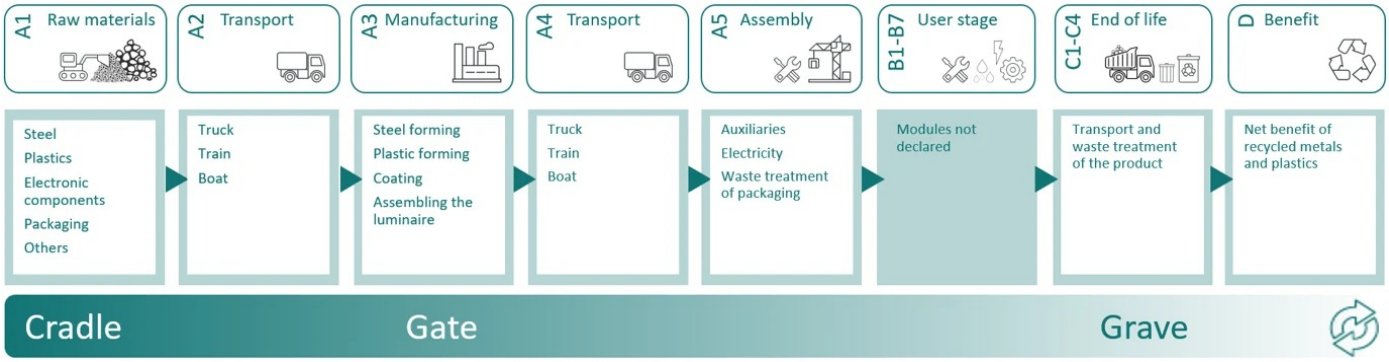
| Materials | Source | Data quality | Year |
|---|---|---|---|
| Gypsum board | EPD-BVG-20210343-IBE1-DE | EPD | 2020 |

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

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

**System boundary:**

The User Stage (B1-B7) has not been considered for the product, as this stage typically involve no related actions.




**Additional technical information:**

## LCA: Scenarios and additional technical information

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

A4 : Average distance (500 km) to customers in Europe.
C2: Average distance (50 km) to waste processing in Europe.

| Transport from production place to user (A4) | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit | Value (Liter/tonne) |
|---|---|---|---|---|---|
| Truck, unspecified, EURO 6 (km) - Europe | 46,1 % | 500,00 | 0,034 | l/tkm | 17,00 |

| Transport to waste processing (C2) | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit | Value (Liter/tonne) |
|---|---|---|---|---|---|
| Truck, unspecified, EURO 6 (km) - Europe | 46,1 % | 50,00 | 0,034 | l/tkm | 1,70 |

| Disposal (C4) | Unit | Value | | | |
|---|---|---|---|---|---|
| Waste, municipal solid waste, to landfill (kg) - C4 | kg | 10,00 | | | |

## LCA: Results

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

| Environmental impact | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Indicator** | **Unit** | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| | GWP-total | kg $CO_2$ -eq | 1.67E+00 | 6.55E-01 | 0 | 0 | 6.55E-02 | 0 | 8.09E+00 | 0 |
| | GWP-fossil | kg $CO_2$ -eq | 2.21E+00 | 6.54E-01 | 0 | 0 | 6.54E-02 | 0 | 5.15E-01 | 0 |
| | GWP-biogenic | kg $CO_2$ -eq | -5.50E-01 | 2.88E-04 | 0 | 0 | 2.88E-05 | 0 | 7.57E+00 | 0 |
| | GWP-luluc | kg $CO_2$ -eq | 3.24E-03 | 2.40E-04 | 0 | 0 | 2.40E-05 | 0 | 4.36E-05 | 0 |
| | ODP | kg CFC11 -eq | 1.12E-07 | 1.50E-07 | 0 | 0 | 1.50E-08 | 0 | 3.34E-08 | 0 |
| | AP | mol H+ -eq | 4.40E-03 | 1.98E-03 | 0 | 0 | 1.98E-04 | 0 | 1.31E-03 | 0 |
| | EP-FreshWater | kg P -eq | 1.51E-05 | 5.55E-06 | 0 | 0 | 5.55E-07 | 0 | 5.02E-05 | 0 |
| | EP-Marine | kg N -eq | 1.19E-03 | 4.03E-04 | 0 | 0 | 4.03E-05 | 0 | 1.26E-02 | 0 |
| | EP-Terrestial | mol N -eq | 1.26E-02 | 4.50E-03 | 0 | 0 | 4.50E-04 | 0 | 3.94E-03 | 0 |
| | POCP | kg NMVOC -eq | 3.62E-03 | 1.75E-03 | 0 | 0 | 1.75E-04 | 0 | 3.24E-03 | 0 |
| | ADP-minerals&metals[1] | kg Sb-eq | 1.39E-05 | 1.77E-05 | 0 | 0 | 1.77E-06 | 0 | 9.94E-07 | 0 |
| | ADP-fossil[1] | MJ | 3.27E+01 | 1.02E+01 | 0 | 0 | 1.02E+00 | 0 | 2.69E+00 | 0 |
| | WDP[1] | $m^3$ | 7.39E+00 | 9.86E+00 | 0 | 0 | 9.86E-01 | 0 | 7.04E+01 | 0 |

GWP-total = Global Warming Potential total; 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 marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. 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

### Remarks to environmental impacts

The dominance analysis reveals that most environmental impacts and indicators originate from information module A1 - A3.

| Additional environmental impact indicators | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | | **Unit** | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| | PM | Disease incidence | 1.06E-07 | 4.50E-08 | 0 | 0 | 4.50E-09 | 0 | 1.67E-08 | 0 |
| | IRP[2] | kgBq U235 -eq | 7.73E-02 | 4.44E-02 | 0 | 0 | 4.44E-03 | 0 | 1.86E-02 | 0 |
| | ETP-fw[1] | CTUe | 2.05E+01 | 7.64E+00 | 0 | 0 | 7.64E-01 | 0 | 2.95E+01 | 0 |
| | HTP-c[1] | CTUh | 2.33E-10 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 3.60E-10 | 0 |
| | HTP-nc[1] | CTUh | 1.85E-08 | 1.00E-08 | 0 | 0 | 1.00E-09 | 0 | 4.39E-09 | 0 |
| | SQP[1] | dimensionless | 1.28E+01 | 8.68E+00 | 0 | 0 | 8.68E-01 | 0 | 8.79E+00 | 0 |

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. 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
2. 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.

| Resource use | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Indicator | | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| | PERE | MJ | 3.64E+00 | 1.49E-01 | 0 | 0 | 1.49E-02 | 0 | 3.46E-01 | 0 |
| | PERM | MJ | 4.90E+00 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | PERT | MJ | 8.54E+00 | 1.49E-01 | 0 | 0 | 1.49E-02 | 0 | 3.46E-01 | 0 |
| | PENRE | MJ | 3.27E+01 | 1.02E+01 | 0 | 0 | 1.02E+00 | 0 | 2.69E+00 | 0 |
| | PENRM | MJ | 0.00E+00 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | PENRT | MJ | 3.27E+01 | 1.02E+01 | 0 | 0 | 1.02E+00 | 0 | 2.69E+00 | 0 |
| | SM | kg | 0.00E+00 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | RSF | MJ | 3.82E-03 | 5.30E-03 | 0 | 0 | 5.30E-04 | 0 | 7.14E-03 | 0 |
| | NRSF | MJ | 1.37E-02 | 1.87E-02 | 0 | 0 | 1.87E-03 | 0 | 3.21E-03 | 0 |
| | FW | $m^3$ | 6.99E-03 | 1.17E-03 | 0 | 0 | 1.17E-04 | 0 | 3.68E-03 | 0 |

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = 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; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

## End of life - Waste

| Indicator | | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| | HWD | kg | 7.63E-04 | 5.53E-04 | 0 | 0 | 5.53E-05 | 0 | 7.81E-03 | 0 |
| | NHWD | kg | 3.89E-01 | 6.28E-01 | 0 | 0 | 6.28E-02 | 0 | 1.00E+01 | 0 |
| | RWD | kg | 4.00E-04 | 6.90E-05 | 0 | 0 | 6.90E-06 | 0 | 1.95E-05 | 0 |

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

## End of life - Output flow

| Indicator | | Unit | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| | CRU | kg | 0.00E+00 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | MFR | kg | 1.71E-01 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | MER | kg | 2.67E-02 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | EEE | MJ | 2.18E-02 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |
| | EET | MJ | 3.30E-01 | 0.00E+00 | 0 | 0 | 0.00E+00 | 0 | 0.00E+00 | 0 |

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

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

## Biogenic Carbon Content

| Indicator | Unit | At the factory gate |
|---|---|---|
| Biogenic carbon content in product | kg C | 1.50E-01 |
| Biogenic carbon content in accompanying packaging | kg C | 0.00E+00 |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

## Additional 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).

### Dangerous substances

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

### Indoor environment

ROKU® V2 Fibre Gypsum Board complies with the health-related evaluation of emissions of volatile organic compounds (VVOC, VOC, and SVOC) from building products established by the German AgBB according to scheme 2021.

## Additional Environmental Information

| Additional environmental impact indicators required in NPCR Part A for construction products | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| GWPIOBC | kg $CO_2$ -eq | 1.67E+00 | 6.55E-01 | 0 | 0 | 6.55E-02 | 0 | 8.09E+00 | 0 |

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

## Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
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ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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Background information for EPD generator application and LCA data, LCA.no report number 05.22
NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.
NPCR 010 Part B for Building Boards. Ver. 4.0, March 2022, EPD-Norge.


| | | | |
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