

## ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

|                                |                              |
|--------------------------------|------------------------------|
| Owner of the declaration:      | Jotun A/S                    |
| Program operator:              | The Norwegian EPD Foundation |
| Publisher:                     | The Norwegian EPD Foundation |
| Declaration number:            | NEPD-2961-1652-EN            |
| Registration number:           | NEPD-2961-1652-EN            |
| ECO Platform reference number: | -                            |
| Issue date:                    | 08.07.2021                   |
| Valid to:                      | 08.07.2026                   |

Jotafloor Solvent Free Primer, Jotun Saudia Co. Ltd.

Jotun A/S



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



# Jotafloor Solvent Free Primer

## General information

**Product:**

Jotafloor Solvent Free Primer, Jotun Saudia Co. Ltd.

**Program operator:**

The Norwegian EPD Foundation  
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**Declaration number:**

NEPD-2961-1652-EN

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

CEN Standard EN 15804:2012+A1:2013 serves as core PCR.  
IBU PCR Part B for coatings with organic binders

**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 Jotafloor Solvent Free Primer, Jotun Saudia Co. Ltd.

**Declared unit with option:**

A1,A2,A3

**Functional unit:****Verification:**

Independent verification of data, other environmental information and the declaration according to ISO14025:2010, § 8.1.3 and § 8.1.4

External

Third party verifier:

Sign



Senior Research Scientist, Anne Rønning

(Independent verifier approved by EPD Norway)

**Owner of the declaration:**

Jotun A/S  
Contact person: Anne Lill Gade  
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**Manufacturer:**

Jotun Saudia Co. Ltd (Yanbu)

**Place of production:**

Jotun Saudia Co. Ltd (Yanbu)  
5003 7th-Light Industrial Park, Unit No. 1 46459-7917 Yanbu  
Saudi Arabia

**Management system:**

ISO 9001:2008 Certificate nr: 0044915-00, ISO 14001:2004 Certificate nr 0044914-00, ISO 45001: 2018 Certificate nr: 0098139

**Organisation no:**

923 248 579

**Issue date:** 08.07.2021**Valid to:** 08.07.2026**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.

**Author of the Life Cycle Assessment:**

The declaration is developed using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS

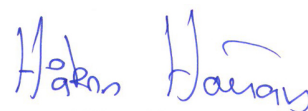
Approval:

Collected/registered by: Cleo Alves Otterbech

Internal verification by: Ken Gudvangen

**Approved:**

Sign



Håkon Hauan  
Managing Director of EPD-Norway

## Product

### Product description:

Jotafloor Solvent Free Primer is a two component amine cured solvent free epoxy coating. It is transparent. It ensures very good adhesion on most concrete floors in atmospheric environments only. Specially designed for high build floor coatings on properly prepared concrete floors and walls.

Jotafloor Solvent Free Primer is designed for a wide range of floors with various levels of mechanical and chemical exposure. It is a primer for all Jotafloor products. It is specially designed for use with the traffic deck system for heavy duty traffic, areas such as ramps, car parks, parking bays, pedestrian walkways, roof decks and industrial floors.

The declared product is recommended for cold stores, laboratories, hospitals, food and beverage plants, kitchens, high tech manufacturing facilities, dairies, warehouses, factories and hangars. When used with Jotafloor Non Slip Aggregates, this product is suitable for filling and repairing of cracks, undulations and surface imperfections.

### Product specification

For information on Green Building Standard credits, see "Additional Information" on page 4.

The material composition of the declared mixed product is given below:

| Materials | %           |
|-----------|-------------|
| Binder    | 75 - 100 %  |
| Solvent   | 10 - 25 %   |
| Additive  | 0.1 - 0.3 % |

### Technical data:

Product mixing ratio (by volume):  
Jotafloor Solvent free primer Comp A): 2 parts  
Jotafloor Solvent free primer Comp B (40): 1 part

Density Comp A: 1.12 g/cm<sup>3</sup>  
Density Comp B (40): 1 g/cm<sup>3</sup>  
Solids by volume: 98 ± 2 volume%

Film thickness per coat:  
Dry film thickness: 50 - 200 µm  
Wet film thickness: 50 - 200 µm  
Theoretical spreading rate: 20 - 5 m<sup>2</sup>/l

The most representative and worst case formulation produced at the manufacturing site is chosen for this EPD. For products with a selection of colours, this will be the formulation with the highest content of titanium dioxide.

The product packaging is based on an average sized metal packaging, including secondary packaging such as pallets and plastic wrapping.

For safety, health and environmental conditions, see the Safety Data Sheet for the declared product on [www.jotun.com](http://www.jotun.com).

For information on technical data, application and use of the product, see the Technical Data Sheet for the declared product on [www.jotun.com](http://www.jotun.com).

### Market:

Global. Transport to market is not included in this EPD.

### Reference service life, product

The reference service life of the product is highly dependent on the conditions of use.

### Estimated service life, object

The coated object is not declared.

## LCA: Calculation rules

### Declared unit:

1 kg Jotafloor Solvent Free Primer, Jotun Saudia Co. Ltd.

### Cut-off criteria:

All major raw materials and essential energy is included. The production process for raw materials and energy flows with very small amounts (less than 0.1 % dry matter) are not included. In total, more than 99% of the material input is included. These cut-off criteria do not apply for non-energy related emissions (such as wastes, hazardous materials and substances).

### Data quality:

The CEPE database is used as basis for the raw material composition. Specific data for the product composition and raw material amounts has been provided by the manufacturer and represents the production of the declared product. Production site data was collected in 2015. Representative data fromecoinvent v3.2 was used for other processes. The data quality for the material input in A1 is presented in tabular form.

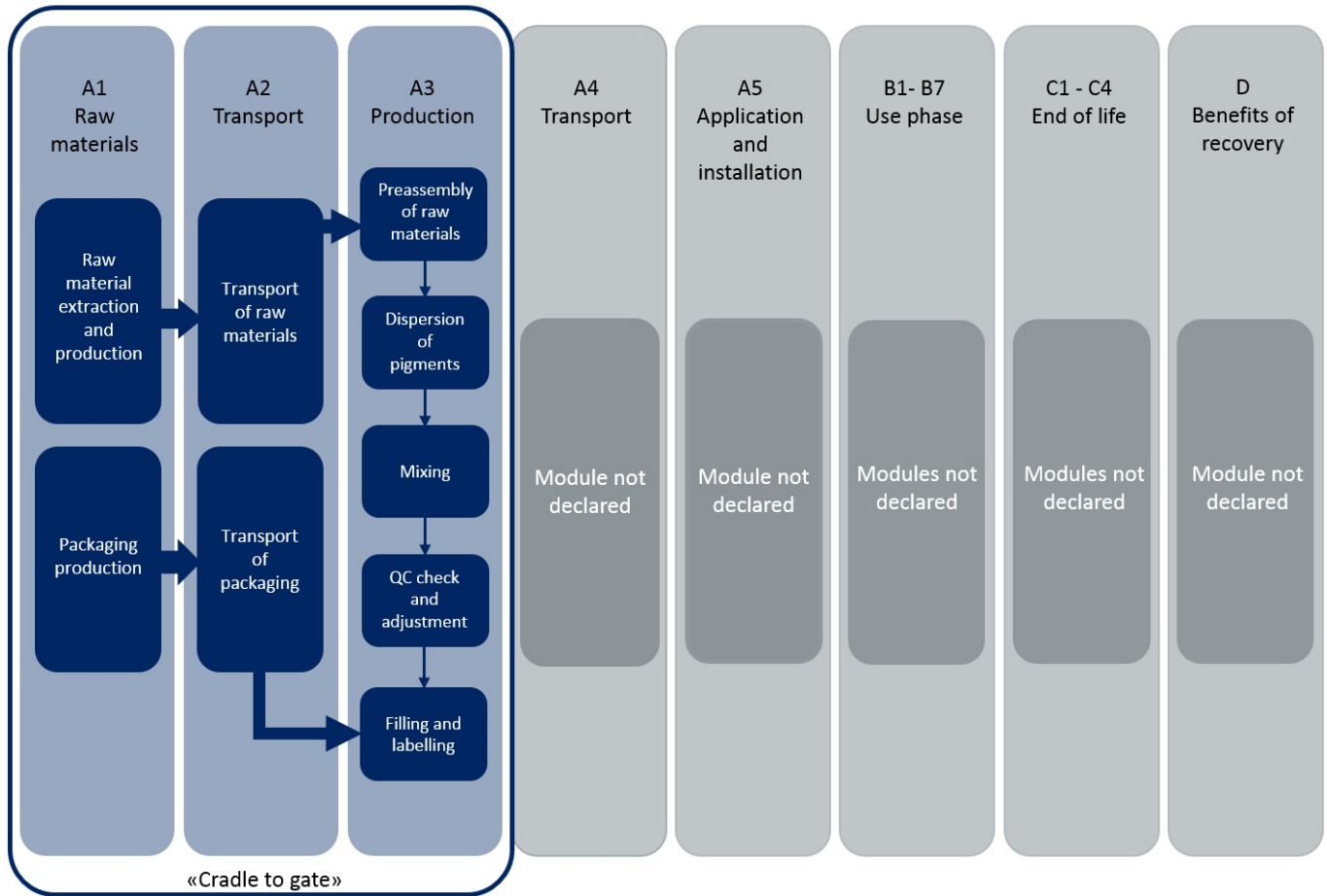
| Materials  | Source           | Data quality | Year |
|--|------------------|--------------|------|
| Packaging  | Østfoldforskning | Database     | 2017 |
| Jotafloor Solvent Free Primer Comp A, Jotun Saudi Yanbu      | Owner of EPD     | Database     | 2021 |
| Jotafloor Solvent Free Primer Comp B (40), Jotun Saudi Yanbu | Owner of EPD     | Database     | 2021 |

### Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy, water and waste production in-house is primarily allocated equally among all products through mass allocation. Specific allocation was performed for certain waste flows according to information provided by the site manager. VOC emissions have been allocated entirely to the production of solvent based paints. 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:**

The flowchart in the figure below illustrates the system boundaries for the analysis, in accordance with the modular principle of EN 15804. The analysis is a cradle-to-gate (A1 - A3) study.



**Additional information:**

The declared product contributes to Green Building Standard credits by meeting the following specific requirements:

LEED®v4 (2013)/LEED®v4.1 (2020)

MR credit: Building product disclosure and optimization.

- Material Ingredients, Option 2: Material Ingredient Optimization, International Alternative Compliance Path - REACH optimization: Fully inventoried chemical ingredients to 100 ppm and not containing substances on the REACH Authorization list – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list.

- MR credit: Building product disclosure and optimization. Environmental Product Declarations. Product-specific Type III EPD (ISO 14025;21930, EN 15804) for Jotun Saudi Co. Ltd.

BREEAM International (2016):

- Mat 01: Product-specific Type III EPD (ISO 14025;21930, EN 15804) for Jotun Saudi Co. Ltd.

Additional certificates and approvals may be available on request.

## LCA: Scenarios and additional technical information

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

This is a cradle to gate (A1-A3) EPD with no declared modules after the factory gate. Transport from place of production to user (A4) has to be calculated by the user.

### 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                |                                       |                 |             |                         | l/tkm |             |
| Railway              |                                       |                 |             |                         | l/tkm |             |
| Boat                 |                                       |                 |             |                         | l/tkm |             |
| Other Transportation |                                       |                 |             |                         | l/tkm |             |

### Assembly

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

### Use (B1)

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

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

|                         | Unit           | Value |
|-------------------------|----------------|-------|
| Maintenance cycle*      | -              |       |
| Auxiliary               | kg             |       |
| Other resources         | kg             |       |
| Water consumption       | m <sup>3</sup> |       |
| Electricity consumption | kWh            |       |
| Other energy carriers   | MJ             |       |
| Material loss           | kg             |       |
| VOC emissions           | kg             |       |

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

|                         | Unit | Value |
|-------------------------|------|-------|
|                         |      |       |
| Electricity consumption | kWh  |       |
| Replacement             |      |       |

\* Described above in

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

|                           | Unit           | Value |
|---------------------------|----------------|-------|
| Water consumption         | m <sup>3</sup> |       |
| Electricity consumption   | kWh            |       |
| Other energy carriers     | MJ             |       |
| Power output of equipment | kW             |       |

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

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

### Transport to waste processing (C2)

| Type                 | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption | Unit  | Value (l/t) |
|----------------------|---------------------------------------|-----------------|-------------|-------------------------|-------|-------------|
| Truck                |                                       |                 |             |                         | l/tkm |             |
| Railway              |                                       |                 |             |                         | l/tkm |             |
| Boat                 |                                       |                 |             |                         | l/tkm |             |
| Other Transportation |                                       |                 |             |                         | l/tkm |             |

Scenarios after A1-A3 are not included

## LCA: Results

### 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             | MND                             | MND      | MND        | MND         | MND    | MND         | MND           | MND                    | MND                   | MND                        | MND       | MND              | MND      | MND                                |

### Environmental impact

| Parameter | Unit                                 | A1-A3    |
|-----------|--------------------------------------|----------|
| GWP       | kg CO <sub>2</sub> -eq               | 7,19E+00 |
| ODP       | kg CFC11 -eq                         | 3,66E-07 |
| POCP      | kg C <sub>2</sub> H <sub>4</sub> -eq | 3,51E-03 |
| AP        | kg SO <sub>2</sub> -eq               | 2,65E-02 |
| EP        | kg PO <sub>4</sub> <sup>3-</sup> -eq | 7,41E-03 |
| ADPM      | kg Sb -eq                            | 2,54E-05 |
| ADPE      | MJ                                   | 1,04E+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    |
|-----------|----------------|----------|
| RPEE      | MJ             | 8,19E+00 |
| RPEM      | MJ             | 6,51E-01 |
| TPE       | MJ             | 8,84E+00 |
| NRPE      | MJ             | 1,11E+02 |
| NRPM      | MJ             | 0,00E+00 |
| TRPE      | MJ             | 1,11E+02 |
| SM        | kg             | 0,00E+00 |
| RSF       | MJ             | 0,00E+00 |
| NRSF      | MJ             | 0,00E+00 |
| W         | m <sup>3</sup> | 2,65E-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

"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    |
|-----------|------|----------|
| HW        | kg   | 4,87E-04 |
| NHW       | kg   | 1,88E+00 |
| RW        | kg   | 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    |
|-----------|------|----------|
| CR        | kg   | 0,00E+00 |
| MR        | kg   | 1,24E-03 |
| MER       | kg   | 2,50E-03 |
| EEE       | MJ   | INA*     |
| ETE       | MJ   | 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 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          |
|---------------------------------|-------------------------|---------|---------------|
| Electricity, Saudi Arabia (kWh) | ecoinvent 3.3 Alloc Rec | 1113,82 | g CO2-ekv/kWh |

### Dangerous substances

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

### Indoor environment

The declared product is emission tested by RISE Research Institutes of Sweden/SP Technical Research Institute of Sweden or Eurofins in accordance with California Department of Public Health (CDPH) Standard Method v1.2–2017.

## Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.

EN 15804:2012+A1:2013 Environmental product declarations - Core rules for the product category of construction products.

ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

IBU PCR Part B: Requirements on the EPD for Coatings with organic binders. v1.4, September 2016.

Vold et al (2017). EPD and LCA tool for Jotun - Technical description and background information, OR 01.17, Ostfold Research, Fredrikstad 2017.

CEPE v3.0 Raw materials LCI database for the European coatings and printing ink industries, May 2016.

ecoinvent v3.2 Alloc Rec, Swiss Centre of Life Cycle Inventories.





BREEAM International (2016): BREEAM International New Construction Technical Manual. SD233-2.0:2017.

CDPH method 1.2 (2017): Standard method for the testing and evaluation of volatile organic chemical emissions from indoor sources. California Department of Public Health.

LEED® v4 (2013): LEED® v4 for Building design and construction, U.S. Green Building Council®.

LEED® v4.1 (2020): LEED® v4.1 for Building design and construction, U.S. Green Building Council®.

REACH (2006): Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006. REACH Authorization list – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list.

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|---|--|--|
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