

## 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-1898-829-EN             |
| Registration number:           | NEPD-1898-829-EN             |
| ECO Platform reference number: | -                            |
| Issue date:                    | 08.10.2019                   |
| Valid to:                      | 08.10.2024                   |

### Zero Stucco, Jotun U.A.E. Ltd. (L.L.C.)

Jotun A/S

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



## Zero Stucco

## General information

### Product:

Zero Stucco, Jotun U.A.E. Ltd. (L.L.C.)

### Program operator:

The Norwegian EPD Foundation  
Pb. 5250 Majorstuen, 0303 Oslo  
Phone: +47 23 08 80 00  
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### Declaration number:

NEPD-1898-829-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 Zero Stucco, Jotun U.A.E. Ltd. (L.L.C.)

### 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  
Phone: +47 33 45 70 00  
e-mail: [anne.lill.gade@jotun.no](mailto:anne.lill.gade@jotun.no)

### Manufacturer:

Jotun A/S  
Hystadveien 167 3209 Sandefjord  
Norway

### Place of production:

Jotun U.A.E. Ltd. (L.L.C.)  
Near Old National Taxi depot, Street 17A, Al Quoz Industrial Area 2 Dubai  
United Arab Emirates

### 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:

08.10.2019

### Valid to:

08.10.2024

### Year of study:

2019

### 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

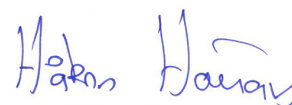
Approval:

Collected/registered by: Ken Gudvangen

Internal verification by: Anne Lill Gade

### Approved:

Sign



Håkon Hauan  
Managing Director of EPD-Norway

## Product

### Product description:

Zero Stucco is an acrylic copolymer based putty with very low VOC and very low emissions.

Releases minimal smell and emissions during application and drying. Easy application. Provides an excellent base for subsequent coats. Zero Stucco is free from APOE and formaldehyde, and heavy metals has not been used as active ingredients.

Ideal for interior surfaces. To be used for surface preparation of new interior walls.

### Product specification

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

The material composition of the declared product is given below:

| Materials | %         |
|-----------|-----------|
| Filler    | 50 - 75 % |
| Water     | 25 - 50 % |
| Binder    | 5 - 10 %  |
| Additive  | 1 - 3 %   |
| Biocide   | <0.1 %    |
| Solvent   | <0.1 %    |

### Technical data:

TDS Specific gravity: 1.7 g/cm<sup>3</sup>  
 SDS Density: 1.7 g/cm<sup>3</sup>.  
 Solids by volume: 51.5 ± 2 volume %

Dry film thickness: 80 - 120 µm  
 Wet film thickness: 145 - 194 µm  
 Theoretical spreading rate: 4.3 - 6.4 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 Zero Stucco, Jotun U.A.E. Ltd. (L.L.C.)

### 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.

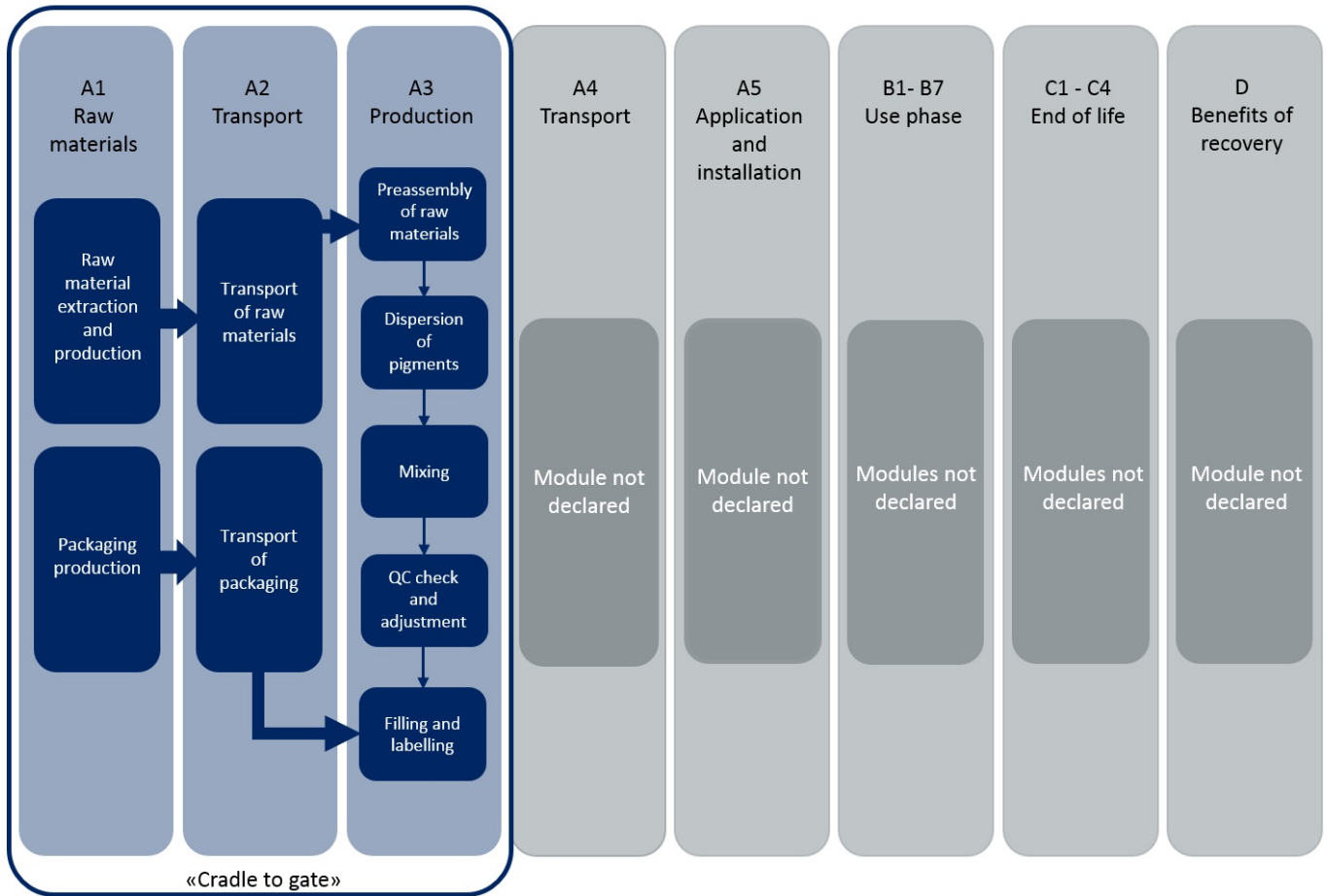
| Materials            | Source                | Data quality | Year |
|----------------------|-----------------------|--------------|------|
| Additives            | CEPE RM Database v3.0 | Database     | 2016 |
| Binders and Resins   | CEPE RM Database v3.0 | Database     | 2016 |
| Others               | CEPE RM Database v3.0 | Database     | 2016 |
| Pigments and Fillers | CEPE RM Database v3.0 | Database     | 2016 |
| Solvents             | CEPE RM Database v3.0 | Database     | 2016 |
| Packaging            | Østfoldforskning      | Database     | 2017 |

### 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):

EQ credit: Low-emitting materials

- VOC content for Primer, Sealers and Undercoaters (100 g/L) (CARB(SCM)2007) and emission less or equal to 0.5 mg/m3 (CDPH method 1.2).

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.

- Environmental Product Declarations. Product-specific Type III EPD (ISO 14025;21930, EN 15804) for Jotun U.A.E. Ltd. (L.L.C.).

LEED® (2009): IEQ Credit 4.2: The VOC requirements of SCAQMD Rule 1113, 2004 (clear wood finishes, floor coatings)

BREEAM International (2016):

- Mat 01: Product-specific Type III EPD (ISO 14025;21930, EN 15804) for Jotun U.A.E. Ltd. (L.L.C.).

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       | A2       | A3       |
|-----------|--------------------------------------|----------|----------|----------|
| GWP       | kg CO <sub>2</sub> -eq               | 1,06E+00 | 6,81E-03 | 9,11E-02 |
| ODP       | kg CFC11 -eq                         | 7,28E-08 | 1,27E-09 | 1,20E-08 |
| POCP      | kg C <sub>2</sub> H <sub>4</sub> -eq | 4,14E-04 | 2,61E-06 | 2,45E-05 |
| AP        | kg SO <sub>2</sub> -eq               | 5,70E-03 | 7,84E-05 | 6,04E-04 |
| EP        | kg PO <sub>4</sub> <sup>3-</sup> -eq | 1,49E-03 | 1,09E-05 | 6,11E-05 |
| ADPM      | kg Sb -eq                            | 1,98E-05 | 8,01E-09 | 4,84E-08 |
| ADPE      | MJ                                   | 1,47E+01 | 1,07E-01 | 1,39E+00 |

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       | A2       | A3       |
|-----------|----------------|----------|----------|----------|
| RPEE      | MJ             | 2,18E+00 | 1,83E-03 | 4,22E-03 |
| RPEM      | MJ             | 4,24E-01 | 4,47E-04 | 9,36E-04 |
| TPE       | MJ             | 2,60E+00 | 2,27E-03 | 5,16E-03 |
| NRPE      | MJ             | 1,60E+01 | 1,10E-01 | 1,40E+00 |
| NRPM      | MJ             | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TRPE      | MJ             | 1,60E+01 | 1,10E-01 | 1,40E+00 |
| SM        | kg             | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| RSF       | MJ             | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| NRSF      | MJ             | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| W         | m <sup>3</sup> | 9,93E-03 | 2,06E-05 | 2,25E-04 |

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 =  $9,0 \cdot 10^{-3} = 0,009$

\*INA Indicator Not Assessed

## End of life - Waste

| Parameter | Unit | A1       | A2       | A3       |
|-----------|------|----------|----------|----------|
| HW        | kg   | 2,26E-05 | 5,86E-08 | 5,85E-07 |
| NHW       | kg   | 1,23E+00 | 6,17E-03 | 1,19E-02 |
| RW        | kg   | INA*     | INA*     | INA*     |

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

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

\*INA Indicator Not Assessed

## End of life - Output flow

| Parameter | Unit | A1       | A2       | A3       |
|-----------|------|----------|----------|----------|
| CR        | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MR        | kg   | 0,00E+00 | 0,00E+00 | 1,54E-03 |
| MER       | kg   | 0,00E+00 | 0,00E+00 | 3,47E-03 |
| EEE       | MJ   | INA*     | INA*     | INA*     |
| ETE       | MJ   | 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 =  $9,0 \cdot 10^{-3} = 0,009$

\*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, United Arab Emirates (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.

GREENGUARD Gold Certification - UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

## 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 declaration - 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  
 CARB SCM (2007): California Air Resources Board (CARB) Suggested Control Measure for Architectural Coatings.  
 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® (2009): LEED® 2009 for New construction and Major renovations Rating system. U.S. Green Building Council®  
 SCAQMD rule 1113 (2016): South Coast Air Quality Management District Rule 1113, Architectural Coatings  
 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  
 UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

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