

## ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

|                                |                              |
|--------------------------------|------------------------------|
| Owner of the declaration:      | Fora Form AS                 |
| Program operator:              | The Norwegian EPD Foundation |
| Publisher:                     | The Norwegian EPD Foundation |
| Declaration number:            | NEPD-2919-1610-EN            |
| Registration number:           | NEPD-2919-1610-EN            |
| ECO Platform reference number: | -                            |
| Issue date:                    | 25.06.2021                   |
| Valid to:                      | 25.06.2026                   |

### Tind 1500 Low

Fora Form AS

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



**1500 low**

## Tind



fora  
form  
1610

## General information

### Product:

Tind 1500 Low

### Owner of the declaration:

Fora Form AS  
 Contact person: Kåre Sætre  
 Phone: +47 700 46 000  
 e-mail: info@foraform.com

### Program operator:

The Norwegian EPD Foundation  
 Pb. 5250 Majorstuen, 0303 Oslo  
 Phone: +47 23 08 80 00  
 e-mail: [post@epd-norge.no](mailto:post@epd-norge.no)

### Manufacturer:

Fora Form AS

### Declaration number:

NEPD-2919-1610-EN

### Place of production:

Fora Form AS  
 Mosfaltevegen 6154 Ørsta  
 Norway

### ECO Platform reference number:

### Management system:

NS-EN ISO 14001: 2015 No. 800406. NS-EN ISO 9001: 2015 No. 901268. NS-EN ISO 45001: 2018 No 907167.

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

CEN Standard EN 15804:2012+A1:2013 serves as core PCR  
 NPCR 026:2018 Part B for furniture

### Organisation no:

986 581 421

### 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.

### Issue date:

25.06.2021

### Declared unit:

1 Pcs Tind 1500 Low

### Year of study:

2021

### Declared unit with option:

A1,A2,A3,A4

### Comparability:

EPDs from programmes other than the Norwegian EPD Foundation may not be comparable

### Functional unit:

Functional unit whitout cardboard packaging is tot.36,06kg.

### 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

### 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.

Developer of EPD:

Kåre Sætre

Reviewer of company-specific input data and EPD:

Kristin Røyset

### 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.

### Approved:

Sign



Håkon Hauan, CEO EPD-Norge

Erik Svanes, Norsus AS  
 (no signature required)

| Key environmental indicators | Unit       | Cradle to gate A1 - A3 |
|------------------------------|------------|------------------------|
| Global warming               | kg CO2 eqv | 188,01                 |
| Total energy use             | MJ         | 3197,58                |
| Amount of recycled materials | %          | 19,97                  |

## Product

### Market:

Worldwide

### Product description:

Tind sofa is a sofa in a petite, enclosing format. Designed by Lars Tornøe, the sofa has detailing and shares the DNA from the Fjell chair that won the Norwegian DogA award for excellent design in 2017. The sofa is designed for work, meetings and interaction with contrasts between the precise outside and soft inside to create the perfect nook. The rounded back provides a friendly space. Round shapes help to make spaces feel more harmonic and connect one area to another without any hard corners. This makes TIND visually striking from all angles.

### Product specification

Cover on the seat cushion is exchangeable.  
steel frame with moulded foam with fibre and nozag springs  
Legs in one of our selected five Jotun Sahara coating colors and Fora Forms menu epoxy coating.  
Other finishes on request at additional cost.  
Plastic glider as standard, felt glider is available

### Technical data:

Tind 1500 W: 184 H: 87 D: 74,5 SH: 47  
Weight:36,06kg (whitout cardboard packaging)

### Reference service life, product

15 years

### Reference service life, building

| Materials                        | kg    | %     | Recycled share in material (kg) | Recycled share in material (%) |
|----------------------------------|-------|-------|---------------------------------|--------------------------------|
| Metal - Steel                    | 19,60 | 54,35 | 3,92                            | 20,00                          |
| Textile - Polyester (PE)         | 2,90  | 8,04  | 0,00                            | 0,00                           |
| Plastic - Polyurethane (PUR)     | 13,20 | 36,61 | 0,00                            | 0,00                           |
| Plastic - Polyoxymethylene (POM) | 0,36  | 1,00  | 0,18                            | 50,00                          |

| Packaging             | kg    |  | Recycled share in material (kg) | Recycled share in material (%) |
|-----------------------|-------|--|---------------------------------|--------------------------------|
| Packaging - Cardboard | 13,00 |  | 9,92                            | 76,30                          |

## LCA: Calculation rules

### Declared unit:

1 Pcs Tind 1500 Low

### 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:

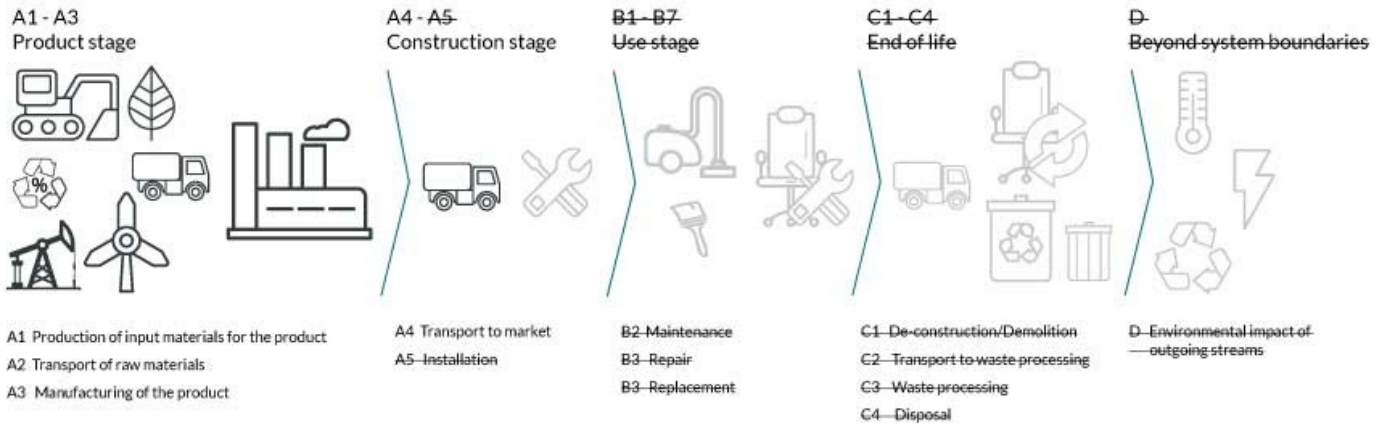
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other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

### Allocation:

The allocation is made in accordance with the provisions of EN 15804. 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.

| Materials                               | Source        | Data quality | Year |
|---|---------------|--------------|------|
| Plastic - Polyurethane (PUR)            | ecoinvent 3.4 | Database     | 2015 |
| Metal - Steel                           | ecoinvent 3.3 | Database     | 2016 |
| Metal coating - Powder coating on steel | ecoinvent 3.4 | Database     | 2017 |
| Packaging - Cardboard                   | ecoinvent 3.4 | Database     | 2017 |
| Plastic - Polyoxymethylene (POM)        | ecoinvent 3.4 | Database     | 2017 |
| Process                                 | ecoinvent 3.4 | Database     | 2017 |
| Textile - Polyester (PE)                | ecoinvent 3.4 | Database     | 2017 |

**System boundary:**



**Additional technical information:**

We want you to enjoy your furniture for many years to come. If you follow our advice in this Quality and Maintenance Manual you contribute to prolonged life of your furniture. We only use environmentally friendly materials and processes in our manufacturing unit in Ørsta Norway. Our goal is to manufacture furniture that can last for generations. All furniture made by Fora Form are made of FSC certified wood, manufactured according to ISO 14001, and has an EPD on all products. This ensures sustainability and a "cradle to cradle" philosophy. We actively work to reduce waste. All packing materials and waste are being recycled according to Norsk Gjenvinning.

Norwegian and Swedish Møbelfakta are accredited test facilities where furniture quality, strength, durability, flammability, safety, emissions and materials are tested and documented. A piece of furniture, which lives up to the three areas of requirements of Møbelfakta, has undergone extensive testing, is produced according to ethical guidelines and has been approved according to environmental requirements. Møbelfakta is a guarantee of high quality products. Almost all of Fora Forms collection is Møbelfakta approved.

Fora Form are ISO 9001 quality management, ISO 14001 environmental management and ISO 45001 occupational health and safety management certified. Sustainability is important for Fora Form.

We continuously work to sort and reduce our waste, and collaborate with Norsk Gjenvinning and Grønt Punkt (Green Dot Norway plc) regarding recycling of used packing materials. All wood is FSC certified. Our manufacturing unit in Ørsta use electricity that is 100% originated from renewable sources.

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

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

**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                | 38,8 %                                | Truck, 16-32 tonnes, EURO 5 | 50          | 0,044606                | l/tkm | 2,23        |
| 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            |       |
| Other energy carriers                | MJ             |       |
| Material loss                        | kg             |       |
| Output materials for waste treatment | kg             |       |
| Dust in the air                      | kg             |       |
| VOC emissions                        | kg             |       |

**Use (B1)**

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

**Maintenance (B2)/Repair (B3)**

| .                       | Unit           | Value |
|-------------------------|----------------|-------|
| Maintenance cycle*      |                |       |
| Auxiliary               |                |       |
| Other resources         |                |       |
| 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 |
|---------------------------|------|-------|
| Replacement cycle*        |      |       |
| Electricity consumption   | kWh  |       |
| Replacement of worn parts |      |       |

\* Described above if relevant

**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, C2)**

| .                                     | Unit | Value |
|---------------------------------------|------|-------|
| Hazardous waste disposed              | kg   |       |
| Collected as mixed construction waste | kg   |       |
| Reuse                                 | kg   |       |
| Recycling                             |      |       |
| Energy recovery                       |      |       |
| 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-A4 are not included

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

### Environmental impact

| Parameter | Unit                                 | A1       | A2       | A3       | A4       |
|-----------|--------------------------------------|----------|----------|----------|----------|
| GWP       | kg CO <sub>2</sub> -eq               | 1,86E+02 | 1,72E+00 | 1,53E-01 | 3,99E-01 |
| ODP       | kg CFC11 -eq                         | 8,88E-06 | 3,58E-08 | 7,81E-09 | 7,36E-08 |
| POCP      | kg C <sub>2</sub> H <sub>4</sub> -eq | 5,72E-02 | 2,82E-04 | 3,46E-05 | 6,50E-05 |
| AP        | kg SO <sub>2</sub> -eq               | 8,21E-01 | 5,50E-03 | 7,44E-04 | 1,27E-03 |
| EP        | kg PO <sub>4</sub> <sup>3-</sup> -eq | 1,57E-01 | 9,16E-04 | 1,02E-04 | 2,11E-04 |
| ADPM      | kg Sb -eq                            | 8,33E-04 | 4,59E-06 | 2,54E-07 | 1,22E-06 |
| ADPE      | MJ                                   | 2,25E+03 | 2,60E+01 | 1,71E+00 | 6,01E+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       | A4       |
|-----------|----------------|----------|----------|----------|----------|
| RPEE      | MJ             | 3,86E+02 | 3,78E-01 | 5,71E-01 | 8,76E-02 |
| RPEM      | MJ             | 8,15E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TPE       | MJ             | 4,67E+02 | 3,78E-01 | 5,71E-01 | 8,76E-02 |
| NRPE      | MJ             | 2,78E+03 | 2,66E+01 | 2,91E+00 | 6,15E+00 |
| NRPM      | MJ             | 2,57E+02 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TRPE      | MJ             | 3,04E+03 | 2,66E+01 | 2,91E+00 | 6,15E+00 |
| SM        | kg             | 1,40E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| RSF       | MJ             | 0,00E+00 | 0,00E+00 | 2,66E-05 | 0,00E+00 |
| NRSF      | MJ             | 0,00E+00 | 0,00E+00 | 2,72E-02 | 0,00E+00 |
| W         | m <sup>3</sup> | 2,58E+00 | 4,98E-03 | 1,40E-03 | 1,15E-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 =  $9,0 \cdot 10^{-3} = 0,009$

\*INA Indicator Not Assessed

## End of life - Waste

| Parameter | Unit | A1       | A2       | A3       | A4       |
|-----------|------|----------|----------|----------|----------|
| HW        | kg   | 6,67E-03 | 1,57E-05 | 3,51E-06 | 3,59E-06 |
| NHW       | kg   | 1,00E+02 | 1,40E+00 | 3,74E-02 | 3,24E-01 |
| RW        | kg   | INA*     | INA*     | INA*     | INA*     |

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

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

\*INA Indicator Not Assessed

## End of life - Output flow

| Parameter | Unit | A1       | A2       | A3       | A4       |
|-----------|------|----------|----------|----------|----------|
| CR        | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MR        | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MER       | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| EEE       | MJ   | INA*     | INA*     | INA*     | INA*     |
| ETE       | MJ   | 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 =  $9,0 \cdot 10^{-3} = 0,009$

\*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                       |
|---|------------------|--------|----------------------------|
| Energy, district heating, Norwegian average (kWh) | Østfoldforskning | 19,71  | g CO <sub>2</sub> -ekv/kWh |

### Dangerous substances

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

### Indoor environment

Our furniture doesn't contain any substances that effect indoor clima

## Additional environmental information

### 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.





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Vold et al., (2019) EPD generator for Norsk Industri, Background information for industry application and LCA data, LCA.no report number 06.19.

NPCR Part A: Construction products and services. Ver. 1.0. April 2017, EPD-Norge.

NPCR 026 Part B for Furniture. Ver. 2.0 October 2018, EPD-Norge.

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|---|--|--|
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