

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

**Flügger 01 Wood Tex Oil Primer**  
**Flügger Group A/S**



Programme: The International EPD® system, [www.environdec.com](http://www.environdec.com)

Programme operator: EPD International AB

EPD registration number: S-P-11697

Publication date: 11-12-2023

Valid until: 07-12-2028

Geographical scope: Scandinavia and Northern Europe

*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com).*

# GENERAL INFORMATION

## MANUFACTURER INFORMATION

<b>Manufacturer</b>	Flügger Group A/S
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<b>Contact details</b>	anpap@flugger.com
<b>Website</b>	https://www.flugger.com/

## PRODUCT IDENTIFICATION

<b>Product name</b>	Flügger 01 Wood Tex Oil Primer
<b>Additional label(s)</b>	-
<b>Product number</b>	-
<b>Place(s) of production</b>	Kolding, Denmark
<b>CPC code</b>	3511-Paint and varnishes and related products

## EPD INFORMATION

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units), have equivalent system boundaries and descriptions of data, apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and

impact assessment methods (including the same version of characterisation factors), have equivalent content declarations; and be valid at the time of comparison.

<b>EPD program operator</b>	The International EPD System
<b>EPD standards</b>	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
<b>Product category rules</b>	The CEN standard EN 15804 serves as the core PCR. In addition, the International EPD System PCR 2019:14 Construction products, version 1.3.1 is used. Product specific complementary category rules have not been applied in this EPD.
<b>EPD author</b>	Flügger Group A/S
<b>EPD verification</b>	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
<b>Verification date</b>	08-12-2023
<b>EPD verifier</b>	Anni Oviir
<b>EPD number</b>	S-P-11697
<b>Publishing date</b>	11-12-2023
<b>EPD valid until</b>	07-12-2028

## PRODUCT INFORMATION

### PRODUCT DESCRIPTION

Flügger 01 Wood Tex Oil Primer is colourless and water-based priming paint for exterior wood. It offers maximum durability, a highly weather-resistant surface, gloss, and colour stability. It is easy to apply and dries really quickly.

Flügger 01 Wood Tex Oil Primer ensures good adhesion and resists moisture absorption. Prevents the formation of mould and mould growth on the surface of the final coat.

### PRODUCT APPLICATION

The Flügger 01 Wood Tex Oil Primer can be applied on top of wooden surfaces. The substrate must be absorbent, clean, dry, solid, and suitable for paint treatment. Loose wood stain, paint and decayed wood fibres must be removed by cleaning and sanding. Any kind of dirt, grease, chalking material and mould and mildew must be removed by cleaning, prior to the treatment.

It can be applied by brush or roller. It is recommended to decide the corresponding tool depending on the finish. If a roller has been selected for the application, it is recommended to use a brush afterwards. Wipe off excess priming oil. Cold and heat can affect the viscosity of the material. Condensation during drying/curing must not occur. Cold weather and increased humidity extend drying time, full curing, and re-treatment interval. Increased temperature and low humidity reduce drying time and full curing. Always apply test treatments to check and accept the adhesion and results.

### TECHNICAL SPECIFICATIONS

Product type: Priming oil

Nominal spreading rate: 6 m<sup>2</sup>/ltr.

Paint layers: 2

Min. working temp. during application and drying/curing:

Min. +5°C

Humidity: Max. humidity 80 % RH.

Drying time at 20° C, 60 % RH (Hours): 1

Re-coatable at 20° C, 60 % RH (Hours): 6

Fully cured at 20° C, 60 % RH (Days): 28

Dilution: Do not dilute

Cleaning of Tools etc.: Water

### PHYSICAL PROPERTIES OF THE PRODUCT

Physical properties for products covered by this EPD:

- Density: 1,01 kg/liter
- Solid weight: 22%
- Solids by volume: 21%

### 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.

### ADDITIONAL TECHNICAL INFORMATION

Further information can be found at <https://www.flugger.com/>.

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm). The product contains no substances given by the Norwegian priority list.

### PRODUCT RAW MATERIAL COMPOSITION

Product and Packaging Material	Weight, kg	Post-consumer material, %	Renewable material, %	Country Region of origin
Water	0,65-0,70	-	-	Europe
Binder	0,30-0,35	-	-	Europe
Filler	-	-	-	Europe
Pigment	-	-	-	Europe
Additive	<0,0007	-	-	Europe
Biocide	<0,008	-	-	Europe
Solvent	0,01-0,05	-	-	Europe
Transportation packaging	0,056	-	-	Europe
Product packaging	0,048	100% for 0,38L and 0,75L buckets & 50% for 3L and 10L buckets	-	Europe

## PRODUCT LIFE-CYCLE

### MANUFACTURING AND PACKAGING (A1-A3)

The manufacturing stage (A1-A3) consists of four main stages: premixing, dispersion, adjusting, and filling. The first stage is premixing where pigments, extenders, binders, additives, and solvents are weighted and mixed. The next stage is the dispersion process where the pigments and extenders are grinded, embedded in binders, and stabilized. In the adjusting stage, the coating mixture is adjusted by adding more solvent/water or additives to adjust colour, viscosity, gloss, etc. to meet specifications.

The last two steps include the filling of the product into cans and loading it to pallets. The paint is filled in 0.38 L, 0.75 L, 3L, and 10 L cans in filling machines and then loaded to pallets. The full pallets are moved to a warehouse within the site. Eventually, the paint is moved out and transported to the construction site. Also, emissions and handling of waste formed in the production processes at the manufacturing facility are included in this stage. It is worth mentioning that the wooden pallets are assumed that can be used up to 20 times before being sent to recycling.

All materials used for the production of Flügger 01 Wood Tex are purchased from European suppliers. No packaging is considered for these materials since all of them are delivered in bulk form due to the considerable amounts transported.

The raw materials are transported to the Kolding, Denmark manufacturing site. The modelling includes road and/or maritime transportation of each raw material from 2021.

### TRANSPORT AND INSTALLATION (A4-A5)

The transportation and installation stages (A4-A5) analyse the impacts that occurred during the transportation of the products to the construction site, as well as the impacts generated during the application of the product.

The transportation impacts were calculated for 1 kg of paint including product and transportation packaging, with a final destination being a construction site in Oslo, and the transportation method is assumed to be a lorry.

The priming oil is applied to a wooden surface. Paint waste during application in this EPD assume a commercial painting scenario and are based on values measured by Flügger's professional product support team. Packages and transportation packaging are handled as waste and are transported for 50 km to the closest disposal facilities.

### PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not include the product use and maintenance stage (B1-B7). Therefore, environmental impacts related to this stage have not been studied.

Air, soil, and water impacts during the use phase have not been studied.

### PRODUCT END OF LIFE (C1-C4, D)

The end-of-life stage analyses the impacts related to the disposal of remnant paint on a surface when that surface reaches the end of its service life. The consumption of energy and natural resources is considered negligible for disassembling of the end-of-life product. Therefore, the

impacts of demolition are assumed zero (C1).

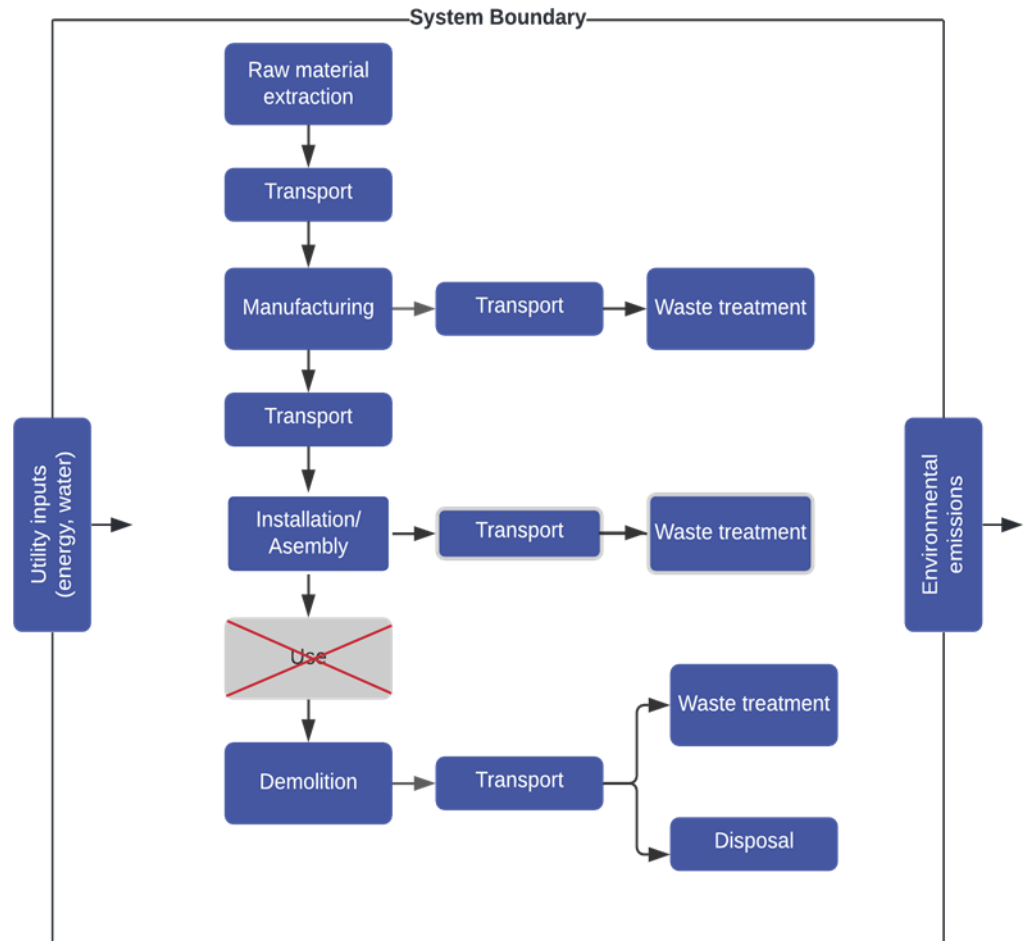
Module (C2) includes the transport of the waste paint to the closest disposal facilities. All end-of-life product is assumed to be sent to the closest disposal facilities, assuming a transportation distance equal to 50 km.

Module (C3) is assumed zero, as no further waste processing for reuse, recovery, or recycling takes place in this analysis for the mineral substrates.

Module (C4) is the disposal of end-of-life paint, which in this case incineration is considered as the final disposal method.

Module (D) includes the potential loads and benefits from recycling and incinerating packaging products at the end of life.

## MANUFACTURING PROCESS



# LIFE-CYCLE ASSESSMENT

## LIFE-CYCLE ASSESSMENT INFORMATION

Period for data	2021
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## DECLARED AND FUNCTIONAL UNIT

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	Not declared
Reference service life	Not declared

## BIOGENIC CARBON CONTENT

### Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,0011

## SYSTEM BOUNDARY

This EPD covers the cradle to gate with options scope with following modules; A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing), A4 (Transport), A5 (Assembly) as well as C1 (Deconstruction), C2 (Transport at end-of-life), C3 (Waste processing) and C4 (Disposal). In addition, module D - benefits and loads beyond the system boundary is included.

Product stage			Assembly stage			Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D	
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x	x	x	
Geography: Scandinavia and Northern Europe																			
EU	EU	EU	EU	EU	-	-	-	-	-	-	-	EU				EU			
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr. /Demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling	

Modules not declared = MND. Modules not relevant = MNR.

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019 and the applied PCR. The study does not exclude any hazardous materials or substances.

The study includes all major raw materials and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The cut-off criteria do not apply to hazardous materials and substances. Therefore, 100% of the total product content is included and extensively analysed. The life cycle analysis includes all industrial processes from raw material acquisition to production, distribution, and end-of-life stages. The production of capital equipment, construction activities, infrastructure, maintenance, personnel-related, and administration activities are excluded.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation if some material, energy, and waste data cannot be measured separately for the product under investigation.

In this study, as per EN 15804, allocation is conducted in the following order.

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g., mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

As it is impossible to collect data separately for each product produced in the plant, data such as incoming energy, water, and waste production in-house is primarily allocated among all products through volume allocation. The recycling process and transportation of the material are allocated to this analysis. No co-product allocation is relevant for paints.

This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs.

Allocation used in Ecoinvent 3.8 environmental data sources follows the methodology 'allocation, cut-off by classification'. This methodology is in line with the requirements of the EN 15804 -standard.

All estimations and assumptions considered are presented below:

### Module A4

The transportation distance is defined according to PCR 2019:14 Construction Products. The transportation distance was calculated by estimating the distance that needs to be covered from Flügger's production plant in Kolding, Denmark to Flügger's main warehouse in Bollebygd, Sweden (537 km), and then to Oslo, Norway (338 km) and to the final construction site assuming an average transportation distance equal to (30 km). The transportation method is assumed to be a lorry. Transportation does not cause losses as products are packaged accordingly. The volume capacity utilization factor is assumed to be 1 for the packaged products.

The transported mass was calculated by considering both the product and transportation packaging, as well as 1 kg of the assessed product mass. It is worth mentioning that for calculating the transported mass in the A4 module, the entire weight of the wooden pallets was considered, without the reuse scenario.

### Module A5

The installation stage at the construction site includes unwrapping of the plastic buckets and application of the paint on top of the surface with a roller or brush. The consumption of energy and natural resources is negligible for the assembly stage. The application losses assume a commercial painting scenario and are equal to 3,6%. The value was



measured by Flügger's professional product support team. Packages and transportation packaging are handled as waste and assumed to be sorted and sent to the closest disposal facilities such as recycling, incineration, and landfill. The transportation distance to the closest disposal facilities is assumed to be 50 km and the transportation method is assumed to be a lorry.

### Module C1

Since the consumption of energy and natural resources is negligible for disassembling the end-of-life product, the impacts of demolition are assumed zero.

### Module C2

It is estimated that the product loses some of its mass as the solvents of the paint evaporate during its use. In this study is assumed that all solvents in the paint have been released. All the end-of-life product is assumed to be sent to the closest disposal facilities. The transportation distance is assumed to be 50 km and the transportation method is assumed as lorry.

### Module C3

No further waste treatment processes are considered to be taken place in the examined system.

### Module C4

Paint waste is gathered as part of another product, in this case, a wood substrate, and is generally not separated from it at the end of life. The

typical disposal scenario for paint applied on a wood substrate is the same as for the wooden construction waste (CEPE, 2018). In this case, as the dried film paint is not currently recycled, it is assumed that all of it goes for incineration (CEPE, 2018).

### Module D

Plastic materials are incinerated with energy recovery, while wood-based packaging is converted into secondary raw materials after recycling. We assume a 73% of power plant efficiency. Electricity accounts for 11% and heat for 62% (Eriksson O., et al., 2017).

## AVERAGES AND VARIABILITY

This is a product specific EPD. For this reason, no differentiation in GWP-GHG indicator is observed.

## ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Note: additional environmental impact data may be presented in annexes.

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	8,76E-01	1,72E-01	2,86E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,16E-03	0,00E+00	7,90E-01	-9,07E-02
GWP – fossil	kg CO <sub>2</sub> e	6,09E-01	1,74E-01	2,63E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,15E-03	0,00E+00	7,90E-01	-9,06E-02
GWP – biogenic	kg CO <sub>2</sub> e	-2,26E-01	0,00E+00	6,00E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,20E-01	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	4,94E-01	5,99E-05	1,78E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,05E-07	0,00E+00	2,12E-06	-4,77E-05
Ozone depletion pot.	kg CFC <sub>11</sub> e	5,95E-08	4,30E-08	4,74E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,10E-10	0,00E+00	7,19E-10	-1,11E-08
Acidification potential	mol H <sup>+</sup> e	3,09E-03	5,57E-04	1,67E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,43E-06	0,00E+00	6,88E-05	-2,05E-04
EP-freshwater	kg Pe	7,03E-05	1,36E-06	2,63E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,63E-08	0,00E+00	8,04E-08	-3,42E-06
EP-marine	kg Ne	1,78E-03	1,23E-04	8,20E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,32E-06	0,00E+00	3,10E-05	-3,60E-05
EP-terrestrial	mol Ne	6,62E-03	1,36E-03	4,41E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,47E-05	0,00E+00	3,43E-04	-4,00E-04
POCP (“smog”) <sup>2)</sup>	kg NMVOCe	2,40E-03	5,36E-04	1,49E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,71E-06	0,00E+00	8,44E-05	-1,24E-04
ADP-minerals & metals <sup>3)</sup>	kg Sbe	5,25E-06	1,76E-06	2,69E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,69E-09	0,00E+00	2,65E-08	-8,02E-08
ADP-fossil resources	MJ	1,08E+01	2,80E+00	5,59E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,29E-02	0,00E+00	6,95E-02	-1,61E+00
Water use <sup>4)</sup>	m <sup>3</sup> e depr.	3,49E-01	1,17E-02	1,64E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,60E-04	0,00E+00	1,84E-02	-1,35E-02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO<sub>4</sub>e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. 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 experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,00E-08	1,77E-08	2,31E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,96E-10	0,00E+00	5,54E-10	-6,23E-10
Ionizing radiation <sup>5)</sup>	kBq U235e	6,49E-02	1,33E-02	3,17E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,73E-04	0,00E+00	2,27E-04	-1,35E-02
Ecotoxicity (freshwater)	CTUe	1,81E+01	2,23E+00	8,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,79E-02	0,00E+00	2,12E-01	-3,63E-01
Human toxicity, cancer	CTUh	5,12E-10	5,72E-11	1,50E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,45E-13	0,00E+00	1,01E-09	-1,44E-11
Human tox. non-cancer	CTUh	1,19E-08	2,41E-09	1,03E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,74E-11	0,00E+00	3,07E-09	-3,89E-10
SQP <sup>6)</sup>	-	2,96E+01	3,75E+00	1,27E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,86E-02	0,00E+00	2,70E-02	-5,82E-01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

## USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>7)</sup>	MJ	3,71E+00	3,58E-02	1,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,91E-04	0,00E+00	1,91E-03	-1,38E-01
Renew. PER as material	MJ	1,87E+00	0,00E+00	-3,90E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-1,83E+00	8,67E-04
Total use of renew. PER	MJ	5,58E+00	3,58E-02	9,73E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,91E-04	0,00E+00	-1,82E+00	-1,37E-01
Non-re. PER as energy	MJ	9,39E+00	2,80E+00	5,09E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,29E-02	0,00E+00	6,95E-02	-1,61E+00
Non-re. PER as material	MJ	3,45E+00	0,00E+00	-1,92E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-1,53E+00	0,00E+00
Total use of non-re. PER	MJ	1,28E+01	2,80E+00	-1,41E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,29E-02	0,00E+00	-1,46E+00	-1,61E+00
Secondary materials	kg	3,13E-02	3,91E-04	1,19E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,13E-05	0,00E+00	1,48E-04	-9,72E-05
Renew. secondary fuels	MJ	2,15E-03	3,45E-06	7,80E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-07	0,00E+00	6,01E-07	-3,73E-07
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	9,45E-03	4,78E-04	4,00E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,45E-06	0,00E+00	6,09E-05	-4,54E-04

8) PER = Primary energy resources

## END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,11E-02	2,86E-03	1,65E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,87E-05	0,00E+00	0,00E+00	-2,14E-03
Non-hazardous waste	kg	7,51E-01	1,78E-01	1,22E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,88E-04	0,00E+00	3,30E-01	-1,55E-01
Radioactive waste	kg	2,95E-05	1,93E-05	2,14E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,26E-07	0,00E+00	0,00E+00	-4,27E-06

## END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,01E-02	0,00E+00	3,25E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	-1,31E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	1,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	6,09E-01	1,74E-01	2,63E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,15E-03	0,00E+00	7,90E-01	-9,06E-02

*10) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO<sub>2</sub> is set to zero.*

## SCENARIO DOCUMENTATION

### Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity, Denmark, residual mix, One Click LCA dataset, Ecoinvent 3.6, year: 2019
Electricity CO <sub>2e</sub> / kWh	0,63
District heating data source and quality	District Heat, Denmark, Ecoinvent, year: 2020
District heating CO <sub>2e</sub> / kWh	0,0586

### Transportation scenario documentation (A4)

Scenario parameter	Value
Type	Lorry
Type of vehicle	>32 t, EURO 6
Capacity utilisation (%)	100
Fuel consumption (liter/tkm)	0,01078
Global warming potential (kg CO <sub>2</sub> eq/tkm)	0,087
Distance (km)	537 km (Kolding, Denmark -Bollebygd, Sweden) 338 km (Bollebygd, Sweden – Oslo, Norway) 30 km (Construction site in Norway)

### End of life documentation (C1-C4)

Scenario parameter	Value
Collected separately (kg)	-
Collected with mixed construction waste (kg)	0,33
Re-use (kg)	-
Recycling (kg)	-
Incineration (kg)	0,33
Landfill (kg)	-
Transportation to disposal site (km)	50

## BIBLIOGRAPHY

Dahlgren, L., Stripple, H., Oliveira, F., Rydberg, T., and Zhang, Y. (2016). Raw materials LCI database for the European coatings and printing ink industries – Documentation of datasets v3.0, IVL U5659, May 2016.

European Council of the Paint, Printing Ink and Artists' Colours Industry, "Product Environmental Footprint Category Rules – Decorative Paints", v1.0, April 2018.

EN 15804:2012+A2:2019 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

Ecoinvent database v3.8 (2021) and One Click LCA database.

EPD International (2021). General Programme Instructions of the international EPD® system. Version 4.0. [www.environdec.com](http://www.environdec.com).

Eriksson, O. and Finnveden, G., 2017. Energy recovery from waste incineration—the importance of technology data and system boundaries on CO2 emissions. *Energies*, 10(4), p.539

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

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

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

International EPD System PCR 2019:14 Construction products, version 1.3.1

Flügger 01 Wood Tex Oil Primer LCA background report 19.10.2023

## ABOUT THE MANUFACTURER

Flügger is an international group based in the Nordic region that develops, produces, markets, and sells a wide range of building paints, wood stains, fillers, wallpapers, and accessories. The philosophy of Flügger is to make products and solutions that enable painters and consumers to deliver sustainable, beautiful, and high-quality painting results in an efficient way. Flügger’s passion for paint and good craftsmanship, as well as

respect for the environment, is deeply anchored in its history, which spans several centuries and roots back to 1783.

## EPD AUTHOR AND CONTRIBUTORS

<b>Manufacturer</b>	Flügger Group A/S
<b>EPD author</b>	Flügger Group A/S
<b>EPD verifier</b>	Anni Oviir
<b>EPD program operator</b>	The International EPD System
<b>Background data</b>	This EPD is based on Ecoinvent 3.8 (Allocation, cut-off, EN15804) and One Click LCA databases.
<b>LCA software</b>	The LCA and EPD have been created using One Click LCA Pre-Verified EPD Generator for paints and coatings.

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents, and compliancy with EN 15804, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD.
- The background report (project report) for this EPD

### VERIFICATION OVERVIEW

Following independent third party has verified this specific EPD:

EPD verification information	Answer
Independent EPD verifier	Anni Oviir
EPD verification started on	2023-11-09
EPD verification completed on	2023-12-08
Supply-chain specific data %	>90%
Approver of the EPD verifier	The International EPD System

Author & tool verification	Answer
EPD author	Flügger Group A/S
EPD author training completion	2022-01-18
EPD Generator module	Paints, Coatings, Sealants and Adhesives
Independent software verifier	Ugo Pretato, Studio Fieschi & soci Srl.
Software verification date	2021-05-11

## THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of

- the data collected and used in the LCA calculations,
- the way the LCA-based calculations have been carried out,
- the presentation of environmental data in the EPD, and
- other additional environmental information, as present

with respect to the procedural and methodological requirements in ISO 14025:2010 and EN 15804:2012+A2:2019.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Signature



## VERIFICATION AND REGISTRATION (INTERNATIONAL EPD SYSTEM)

ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)	
PCR	PCR 2019:14 Construction products, version 1.3.1
PCR review was conducted by:	The Technical Committee of the International EPD® System. See <a href="http://www.environdec.com/TC">www.environdec.com/TC</a> for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a> .
Independent third-party verification of the declaration and data, according to ISO 14025:2006:	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
Third party verifier	Anni Oviir
	Approved by: The International EPD® System Technical Committee, supported by the Secretariat
Procedure for follow-up during EPD validity involves third party verifier	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no



THE INTERNATIONAL EPD® SYSTEM

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## ANNEX 1 : ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	1,08E+00	1,72E-01	2,79E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,13E-03	0,00E+00	7,90E-01	-8,92E-02
Ozone depletion Pot.	kg CFC <sub>-11</sub> e	5,11E-08	3,41E-08	3,92E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,04E-10	0,00E+00	6,26E-10	-9,76E-09
Acidification	kg SO <sub>2</sub> e	2,50E-03	4,09E-04	1,31E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,26E-06	0,00E+00	4,85E-05	-1,70E-04
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	1,92E-03	8,49E-05	1,05E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E-06	0,00E+00	5,53E-05	-1,23E-04
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	4,24E-04	2,11E-05	1,70E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,58E-07	0,00E+00	1,30E-06	-9,34E-06
ADP-elements	kg Sbe	5,16E-06	1,76E-06	2,63E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,51E-09	0,00E+00	2,09E-08	-7,99E-08
ADP-fossil	MJ	1,17E+01	2,80E+00	5,91E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,29E-02	0,00E+00	6,95E-02	-1,61E+00

## ANNEX 2 : ENVIRONMENTAL PERFORMANCE USING THE DECLARED UNIT «1 m<sup>2</sup> of painted surface»

For product level calculations, the declared unit can be freely chosen based on the product and life cycle stages studied. However, the most common choice is the 1 kg of product, as it offers numerous benefits, including consistency, simplicity, alignment with common usage, practicality, ease of data collection, and adherence to global standards.

In the section below, the steps to convert “1 kg of product” into “1 m<sup>2</sup> of painted surface” are outlined.

The following paint characteristics need to be considered in this unit conversion:

- Paint coverage (m<sup>2</sup>/liter)
- Density (kg/liter)
- Number of layers needed in its application.

$$\text{Declared unit} = \text{Paint coverage} \left( \frac{\text{kg}}{\text{m}^2} \right) * \text{Number of layers (paint layers)}$$

### Flügger 01 Wood Tex Oil Primer

- Paint coverage: 6 m<sup>2</sup>/liter
- Density: 1,01 kg/liter
- Required paint layers: 2 layers.

$$\text{Declared unit} = \left( \left( \frac{1}{6 \text{ m}^2} \right) * 1,01 \text{ kg/liter} \right) * 2 \text{ layers} = 0,3357 \text{ kg of paint}$$

### Carbon emissions conversion

- **Total carbon emissions per 1 kg of paint:** GWP<sub>total</sub> (A1-A3) = 0,876 kg CO<sub>2</sub> eq
- **Total carbon emissions per declared unit:** GWP<sub>total</sub> (A1-A3) = 0,876 kg CO<sub>2</sub> eq/kg \* 0,3357 kg = 0,294 kg CO<sub>2</sub> eq

## ANNEX 3 : ENVIRONMENTAL IMPACT DATA FOR «1 m<sup>2</sup> of painted surface»

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	2,94E-01	5,78E-02	9,62E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,23E-04	0,00E+00	2,65E-01	-3,05E-02
GWP – fossil	kg CO <sub>2</sub> e	2,05E-01	5,84E-02	8,82E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,23E-04	0,00E+00	2,65E-01	-3,04E-02
GWP – biogenic	kg CO <sub>2</sub> e	-7,59E-02	0,00E+00	2,01E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	7,39E-02	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	1,66E-01	2,01E-05	5,97E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,04E-07	0,00E+00	7,13E-07	-1,67E-05
Ozone depletion pot.	kg CFC <sub>11</sub> e	2,00E-08	1,44E-08	1,59E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,71E-10	0,00E+00	2,41E-10	-3,74E-09
Acidification potential	mol H <sup>+</sup> e	1,04E-03	1,87E-04	5,61E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,16E-06	0,00E+00	2,31E-05	-6,88E-05
EP-freshwater	kg Pe	2,36E-05	4,56E-07	8,83E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,48E-09	0,00E+00	2,70E-08	-1,15E-06
EP-marine	kg Ne	5,96E-04	4,12E-05	2,75E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,43E-07	0,00E+00	1,04E-05	-1,21E-05
EP-terrestrial	mol Ne	2,22E-03	4,57E-04	1,48E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,93E-06	0,00E+00	1,15E-04	-1,35E-04
POCP (“smog”) <sup>2)</sup>	kg NMVOCe	8,07E-04	1,80E-04	5,02E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,92E-06	0,00E+00	2,83E-05	-4,19E-05
ADP-minerals & metals <sup>3)</sup>	kg Sbe	1,76E-06	5,91E-07	9,02E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,58E-09	0,00E+00	8,89E-09	-2,70E-08
ADP-fossil resources	MJ	3,62E+00	9,40E-01	1,88E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-02	0,00E+00	2,33E-02	-5,41E-01
Water use <sup>4)</sup>	m <sup>3</sup> e depr.	1,17E-01	3,91E-03	5,52E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,39E-05	0,00E+00	6,19E-03	-4,56E-03

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO<sub>4</sub>e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. 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 experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,01E-08	5,95E-09	7,76E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,58E-11	0,00E+00	1,86E-10	-2,11E-10
Ionizing radiation <sup>5)</sup>	kBq U235e	2,18E-02	4,47E-03	1,07E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,82E-05	0,00E+00	7,61E-05	-4,54E-03
Ecotoxicity (freshwater)	CTUe	6,07E+00	7,50E-01	2,81E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,36E-03	0,00E+00	7,11E-02	-1,22E-01
Human toxicity, cancer	CTUh	1,72E-10	1,92E-11	5,05E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,83E-13	0,00E+00	3,39E-10	-4,87E-12
Human tox. non-cancer	CTUh	4,01E-09	8,08E-10	3,47E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,21E-12	0,00E+00	1,03E-09	-1,31E-10
SQP <sup>6)</sup>	-	9,94E+00	1,26E+00	4,26E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,58E-03	0,00E+00	9,07E-03	-2,48E-01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

## USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>7)</sup>	MJ	1,25E+00	1,20E-02	4,58E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E-04	0,00E+00	6,42E-04	-5,25E-02
Renew. PER as material	MJ	6,26E-01	0,00E+00	-1,31E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-6,13E-01	-3,86E-03
Total use of renew. PER	MJ	1,87E+00	1,20E-02	3,27E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E-04	0,00E+00	-6,12E-01	-5,64E-02
Non-re. PER as energy	MJ	3,15E+00	9,40E-01	1,71E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-02	0,00E+00	2,33E-02	-5,41E-01
Non-re. PER as material	MJ	1,16E+00	0,00E+00	-6,45E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-5,13E-01	0,00E+00
Total use of non-re. PER	MJ	4,31E+00	9,40E-01	-4,74E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-02	0,00E+00	-4,90E-01	-5,41E-01
Secondary materials	kg	1,05E-02	1,31E-04	4,00E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,79E-06	0,00E+00	4,96E-05	-3,29E-05
Renew. secondary fuels	MJ	7,24E-04	1,16E-06	2,62E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,97E-08	0,00E+00	2,02E-07	-1,33E-07
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	3,17E-03	1,61E-04	1,34E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,49E-06	0,00E+00	2,04E-05	-1,53E-04

8) PER = Primary energy resources

## END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,38E-02	9,60E-04	5,53E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E-05	0,00E+00	0,00E+00	-7,19E-04
Non-hazardous waste	kg	2,52E-01	5,96E-02	4,10E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,31E-04	0,00E+00	1,11E-01	-5,19E-02
Radioactive waste	kg	9,90E-06	6,47E-06	7,19E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,58E-08	0,00E+00	0,00E+00	-1,44E-06

## END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	3,39E-03	0,00E+00	1,51E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	-4,39E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	4,87E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	2,05E-01	5,84E-02	8,82E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,23E-04	0,00E+00	2,65E-01	-3,04E-02

10) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO<sub>2</sub> is set to zero.

## ENVIRONMENTAL IMPACTS- EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	3,62E-01	5,78E-02	9,38E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,16E-04	0,00E+00	2,65E-01	-3,00E-02
Ozone depletion Pot.	kg CFC-11e	1,72E-08	1,15E-08	1,32E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,36E-10	0,00E+00	2,10E-10	-3,28E-09
Acidification	kg SO <sub>2</sub> e	8,41E-04	1,37E-04	4,39E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,76E-06	0,00E+00	1,63E-05	-5,72E-05
Eutrophication	kg PO <sub>4</sub> 3e	6,45E-04	2,85E-05	3,54E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,85E-07	0,00E+00	1,85E-05	-4,14E-05
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	1,42E-04	7,08E-06	5,72E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,67E-08	0,00E+00	4,36E-07	-3,17E-06
ADP-elements	kg Sbe	1,73E-06	5,89E-07	8,84E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,52E-09	0,00E+00	7,00E-09	-2,69E-08
ADP-fossil	MJ	3,92E+00	9,40E-01	1,98E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-02	0,00E+00	2,33E-02	-5,41E-01

## Appendix II

### Self-declaration from EPD owner, specific Norwegian requirements

#### 1 Applied electricity data set used in the manufacturing phase

The electricity mix for the electricity used in manufacturing (A3) is presented in the table below:

Electricity mix	Data source	Year	Value	Unit
Electricity, Denmark, residual mix	One Click LCA dataset, Ecoinvent 3.6	2019	0,63	kg CO2e / kWh

#### 2 Content of dangerous substances

**X** The declared products contain no substances given by the REACH Candidate list or the Norwegian priority list.

- The product contains substances that are less than 0.1% by weight given by the REACH Candidate or the Norwegian priority list.
- The product contains dangerous substances more than 0.1% by weight given in the REACH candidate list or the Norwegian Priority List, concentrations is given in the EPD:

Dangerous substances from the REACH candidate list or the Norwegian Priority List	CAS No.	Quantity (concentration, wt%/FU(DU)).
Substance 1		
Substance n		

### 3 Transport from the place of manufacture to a central warehouse

Transport distance, and CO<sub>2</sub>-eqv. /DU from transport of the product from factory gate to central warehouse in Oslo shall be given. The following table shall be included in the EPD:

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy use	Unit	Kg CO <sub>2</sub> -eqv. /tkm
Truck	100	Lorry, Europe, EURO6	537 km (Kolding Denmark → Bollebygd, Sweden) 338 km (Bollebygd, Sweden → Oslo, Norway) 30 km (Construction site in Norway)	0,01078	kg/tkm	0,087

### 4 Impact on the indoor environment

X Indoor air emission testing has been performed; specify test method and reference.

Flügger Dekso Air and Flügger Flutex Pro 2 are emission tested according to the ISO-16000 (2006) series.

Flügger Wood Tex Window and Flügger 01 Wood Tex Oil Primer are not intended to be used indoors.

- No test has been performed
- Not relevant; specify \_\_\_\_\_