



ENVIRONMENTAL PRODUCT DECLARATION

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



Alcro
Tålig Täckfärg

Beckers
Interio Väggfärg 5+
Scotte GT 20



EPD HUB, HUB-0398

Publishing date 22 April 2023, last updated date 22 April 2023, valid until 22 April 2028



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Tikkurila Group
Address	Heidehofintie 2, 01300 Vantaa, Finland
Contact details	epd-team@tikkurila.com
Website	https://www.tikkurilagroup.com/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Cecilia Prieto Yuraszeck
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	N.C, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Alcro: Tålig Täckfärg Beckers: Interio Väggfärg 5+, Scotte GT 20
Place of production	Nykvarn facility, Sweden
Period for data	Calendar year 2021
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	15 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 Litre
Declared unit mass	1.28 kg
GWP-fossil, A1-A3 (kgCO _{2e})	2.16
GWP-total, A1-A3 (kgCO _{2e})	2.17
Secondary material, inputs (%)	3.81
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	8.99
Total water use, A1-A3 (m ³ e)	0.0419

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Tikkurila offers a broad range of decorative paints for consumers and professionals for surface protection and decoration. The product offering includes, among others, interior paints, lacquers and effect products, exterior products for wood, masonry, and metal surfaces, as well as services related to painting. In addition, Tikkurila produces paints and coatings for the metal and wood industries.

PRODUCT DESCRIPTION

- Alcro Tålig Täckfärg is a topcoat for indoor painting on walls and ceilings of plaster, concrete, wood, wallpaper and wallpaper-fabric. The paint adheres well and provides a durable, dirt-repellent surface that can be washed. Suitable for spaces such as hallways, kitchens, and laundry rooms.

- Beckers Interio Vägghärg 5+ is a water-borne matt paint for walls and ceilings indoors. The paint is suitable for both unpainted and previously painted surfaces such as bedrooms and living rooms. Interio Vägghärg 5+ dries quick, has a high covering capacity and it is easy to apply.

- Beckers Scotte GT 20 is a semi-matte acrylate paint with extra good coverability that makes walls and ceilings scratch-resistant and washable. Thanks to the durable properties of the paint, it can be advantageously used in kitchens, laundry rooms, halls, and stairwells. Scotte GT-20 has very good adhesion to previously painted surfaces making it suitable for repair painting.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	0	
Minerals	28	EU, UK
Fossil materials	27	EU, UK, USA
Bio-based materials	0	
Water	45	EU, UK, USA

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	0.00295

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Litre
Mass per declared unit	1.28 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

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		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

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

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The manufacturing process of paint at Nykvarn consists of four distinct steps. Two steps to produce paint and two for the packaging of the product. First is pre-mixing, where water, powders (pigments, fillers, and thickeners), additives and sometimes binders are dispersed in a dissolver to a smooth paint paste. The second step is finishing the paint, where binders, water, additives including any tinting pastes are mixed with the paint paste to a ready-to use paint. The last two steps include the canning of the paint in metal and/or polypropylene plastic cans and loading to

pallets. The paint is filled in cans of various sizes in filling machines and then loaded to pallets by robots. The pallets are packaged with cardboard, and polyethylene cling film. The full pallets are moved to a warehouse within the site. Eventually, the paint is moved out and transported to the construction site.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurring from final product delivery to construction site cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is defined according to RTS PCR. Average distance of transportation from production plant to building site is assumed as 442 km and the transportation method is assumed to be lorry. Transportation does not cause losses as products are properly packaged.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

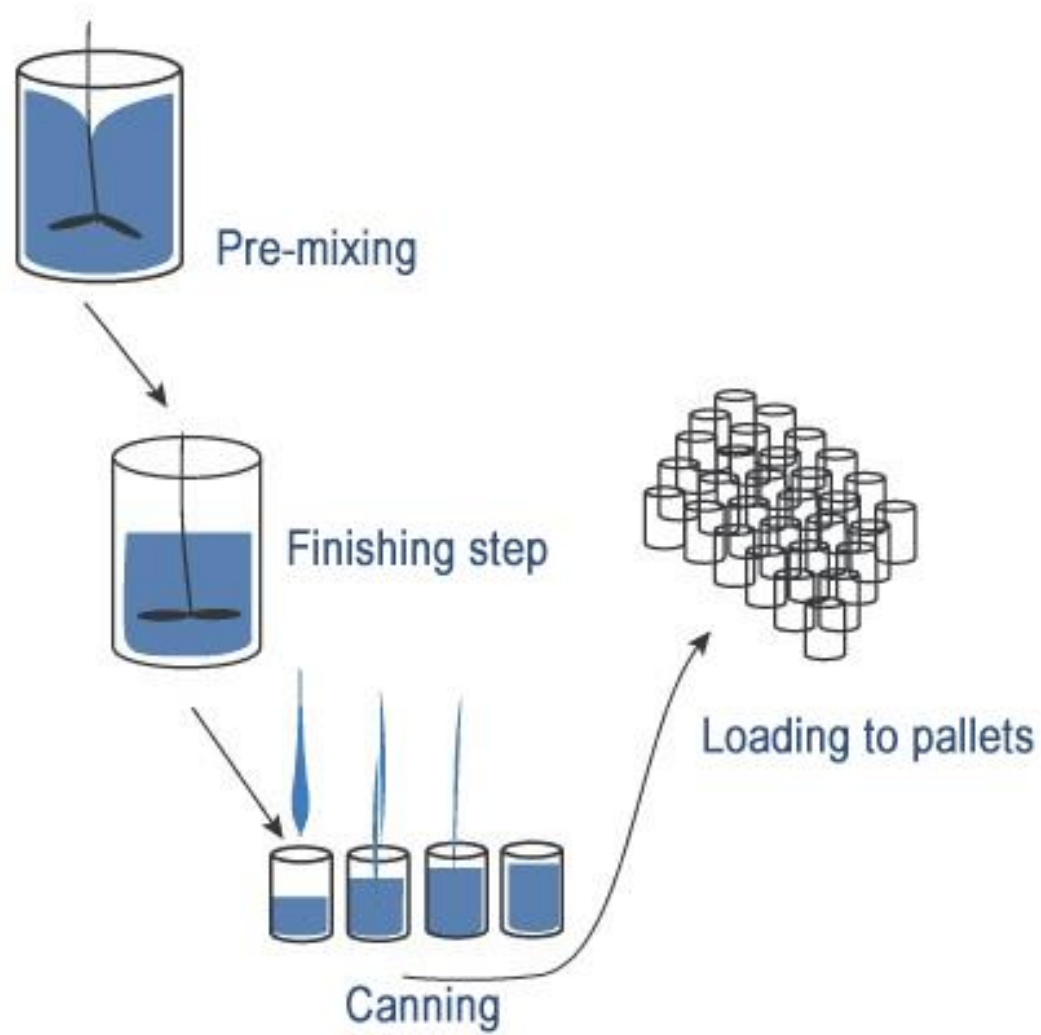
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

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

All of the end-of-life product is assumed to be sent to the closest facilities. About 1,6% of paint is assumed to be disposed of by incineration. The remaining 98,4% of paint is taken to landfill for final disposal. Wooden pallets, which are used for transportation go to reuse/recycling.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material 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.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Averaged by shares of total volume
Variation in GWP-fossil for A1-A3	15 %

This average EPD is made for Interior Wall and ceiling paints manufactured at Nykvarn site. Each product has been added with the individual composition, and only products with in the 50%-range in the GWP fossils calculated for A1 - A3 are included in this average EPD. The GWP fossils calculated for A1 - A3 varies by 15%. The allocation was made based on the sales volumes for 2021.

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	1,95E0	7,38E-2	1,51E-1	2,17E0	8,09E-2	3,12E-2	MND	MND	MND	MND	MND	MND	MND	0E0	4,36E-3	1,16E-2	3,6E-2	9,38E-3
GWP – fossil	kg CO ₂ e	1,93E0	7,37E-2	1,55E-1	2,16E0	8,16E-2	2,03E-2	MND	MND	MND	MND	MND	MND	MND	0E0	4,35E-3	1,16E-2	3,59E-2	-1,65E-2
GWP – biogenic	kg CO ₂ e	1,45E-2	5,34E-5	-1,05E-2	4,07E-3	5E-5	1,09E-2	MND	MND	MND	MND	MND	MND	MND	0E0	1,97E-6	1,21E-5	5,7E-5	2,59E-2
GWP – LULUC	kg CO ₂ e	1,28E-3	2,39E-5	6,17E-3	7,47E-3	3,05E-5	1,18E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,6E-6	5,3E-7	3,38E-6	-3,3E-6
Ozone depletion pot.	kg CFC-11e	2,27E-7	1,8E-8	5,29E-9	2,5E-7	1,9E-8	1,59E-9	MND	MND	MND	MND	MND	MND	MND	0E0	9,56E-10	2,01E-10	2,12E-9	-6,08E-10
Acidification potential	mol H ⁺ e	3,88E-2	2,82E-4	6,33E-4	3,97E-2	2,46E-4	6,04E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,82E-5	5,56E-6	5,87E-5	-8,45E-5
EP-freshwater ²⁾	kg Pe	3,05E-4	6,2E-7	5,2E-6	3,11E-4	7,35E-7	3,45E-7	MND	MND	MND	MND	MND	MND	MND	0E0	4,34E-8	2,46E-8	1,25E-7	-1,01E-6
EP-marine	kg Ne	2,21E-3	6,31E-5	1,26E-4	2,4E-3	5,04E-5	1,65E-5	MND	MND	MND	MND	MND	MND	MND	0E0	5,29E-6	1,61E-6	1,98E-5	-1,45E-5
EP-terrestrial	mol Ne	2,13E-2	7,02E-4	1,38E-3	2,34E-2	5,62E-4	1,81E-4	MND	MND	MND	MND	MND	MND	MND	0E0	5,84E-5	1,8E-5	2,18E-4	-1,69E-4
POCP (“smog”) ³⁾	kg NMVOCe	8,18E-3	2,57E-4	4,99E-4	8,94E-3	2,18E-4	5,86E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,82E-5	4,86E-6	6,98E-5	-8,48E-5
ADP-minerals & metals ⁴⁾	kg Sbe	3,65E-5	1,33E-6	1,78E-6	3,96E-5	2,21E-6	2,69E-7	MND	MND	MND	MND	MND	MND	MND	0E0	1,06E-7	1,99E-8	7,36E-8	-1,89E-7
ADP-fossil resources	MJ	2,96E1	1,19E0	4,49E0	3,52E1	1,27E0	2,04E-1	MND	MND	MND	MND	MND	MND	MND	0E0	6,5E-2	1,14E-2	1,62E-1	-1,82E-1
Water use ⁵⁾	m ³ e depr.	2,18E0	4,36E-3	1,1E-1	2,29E0	4,54E-3	4,15E-3	MND	MND	MND	MND	MND	MND	MND	0E0	2,69E-4	2,2E-3	7,19E-3	-7,19E-3

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,37E-7	6,29E-9	5,96E-9	1,5E-7	5,76E-9	1,04E-9	MND	MND	MND	MND	MND	MND	MND	0E0	3,31E-10	5,32E-11	1,12E-9	-1,09E-9
Ionizing radiation ⁶⁾	kBq U235e	8,43E-2	5,19E-3	5,36E-3	9,49E-2	5,54E-3	6,41E-4	MND	MND	MND	MND	MND	MND	MND	0E0	2,71E-4	4,76E-5	6,37E-4	-4,28E-4
Ecotoxicity (freshwater)	CTUe	5,71E1	9,05E-1	2,3E0	6,03E1	9,97E-1	2,2E-1	MND	MND	MND	MND	MND	MND	MND	0E0	5,56E-2	2,27E-1	5,42E-1	-7,6E-1
Human toxicity, cancer	CTUh	5,65E-9	2,35E-11	7,57E-11	5,74E-9	2,84E-11	2,09E-11	MND	MND	MND	MND	MND	MND	MND	0E0	1,45E-12	1,07E-12	4,32E-12	-6,67E-11
Human tox. non-cancer	CTUh	7,03E-8	1,03E-9	1,75E-9	7,31E-8	1,1E-9	3,05E-10	MND	MND	MND	MND	MND	MND	MND	0E0	5,88E-11	7,3E-11	1,59E-10	1,21E-9
SQP ⁷⁾	-	5,51E0	1,72E0	1,23E-1	7,36E0	1,36E0	1,23E-1	MND	MND	MND	MND	MND	MND	MND	0E0	7,15E-2	1,03E-2	5,73E-1	-3,28E-2

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	2,76E0	1,49E-2	1,36E0	4,14E0	1,86E-2	1,01E-2	MND	MND	MND	MND	MND	MND	MND	0E0	7,46E-4	8,15E-4	2,85E-3	-1,44E-1
Renew. PER as material	MJ	0E0	0E0	1,03E-1	1,03E-1	0E0	-1,03E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	-1,6E-1
Total use of renew. PER	MJ	2,76E0	1,49E-2	1,46E0	4,24E0	1,86E-2	-9,33E-2	MND	MND	MND	MND	MND	MND	MND	0E0	7,46E-4	8,15E-4	2,85E-3	-3,04E-1
Non-re. PER as energy	MJ	2,52E1	1,19E0	1,82E0	2,82E1	1,27E0	2,04E-1	MND	MND	MND	MND	MND	MND	MND	0E0	6,5E-2	1,14E-2	1,62E-1	-1,55E-1
Non-re. PER as material	MJ	2,34E0	0E0	2,49E0	4,83E0	0E0	-2,49E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-3,65E-2	-2,3E0	-2,62E-2
Total use of non-re. PER	MJ	2,75E1	1,19E0	4,31E0	3,3E1	1,27E0	-2,28E0	MND	MND	MND	MND	MND	MND	MND	0E0	6,5E-2	-2,51E-2	-2,14E0	-1,82E-1
Secondary materials	kg	4,76E-2	0E0	1,18E-3	4,88E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	6,69E-3
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m ³	4,07E-2	2,43E-4	9,81E-4	4,19E-2	2,39E-4	6,01E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,24E-5	1,91E-4	1,82E-4	-9,8E-5

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,49E-1	1,16E-3	5,54E-3	3,55E-1	1,35E-3	1,07E-3	MND	MND	MND	MND	MND	MND	MND	0E0	8,56E-5	0E0	3,05E-4	-4,74E-3
Non-hazardous waste	kg	4,32E0	1,24E-1	1,72E-1	4,62E0	1,07E-1	2,79E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,79E-3	0E0	6,47E-1	-4,75E-2
Radioactive waste	kg	7,82E-5	8,16E-6	4,28E-6	9,07E-5	8,65E-6	8,07E-7	MND	MND	MND	MND	MND	MND	MND	0E0	4,3E-7	0E0	9,71E-7	-3,14E-7

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	0E0	0E0	0E0	1,28E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2,7E-2	0E0	0E0

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	1,88E0	7,31E-2	1,36E-1	2,09E0	8,09E-2	1,99E-2	MND	MND	MND	MND	MND	MND	MND	0E0	4,31E-3	1,16E-2	2,66E-2	-1,57E-2
Ozone depletion Pot.	kg CFC ₁₁ e	2,5E-7	1,43E-8	5,26E-9	2,69E-7	1,51E-8	1,32E-9	MND	MND	MND	MND	MND	MND	MND	0E0	7,59E-10	2,33E-10	1,69E-9	-5,61E-10
Acidification	kg SO ₂ e	4,27E-2	1,94E-4	4,81E-4	4,33E-2	1,7E-4	3,84E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,32E-5	4,39E-6	4,35E-5	-6,99E-5
Eutrophication	kg PO ₄ ^{3e}	3,45E-3	3,55E-5	1,65E-4	3,65E-3	3,58E-5	4,15E-5	MND	MND	MND	MND	MND	MND	MND	0E0	3,03E-6	2,07E-6	1,07E-3	-3,97E-5
POCP ("smog")	kg C ₂ H ₄ e	1,62E-3	9,88E-6	2,98E-5	1,66E-3	1E-5	3,48E-6	MND	MND	MND	MND	MND	MND	MND	0E0	5,72E-7	2,35E-7	5,79E-6	-1,41E-5
ADP-elements	kg Sbe	3,65E-5	1,33E-6	1,78E-6	3,96E-5	2,21E-6	2,69E-7	MND	MND	MND	MND	MND	MND	MND	0E0	1,06E-7	1,99E-8	7,36E-8	-1,89E-7
ADP-fossil	MJ	2,96E1	1,19E0	4,49E0	3,52E1	1,27E0	2,04E-1	MND	MND	MND	MND	MND	MND	MND	0E0	6,5E-2	1,14E-2	1,62E-1	-1,82E-1

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	1,78E0	7,3E-2	1,37E-1	1,99E0	8,08E-2	1,99E-2	MND	MND	MND	MND	MND	MND	MND	0E0	4,3E-3	1,16E-2	2,79E-2	-1,52E-2
Ozone Depletion	kg CFC ₁₁ e	2,34E-7	1,9E-8	6,57E-9	2,6E-7	2,01E-8	1,74E-9	MND	MND	MND	MND	MND	MND	MND	0E0	1,01E-9	2,13E-10	2,26E-9	-7,72E-10
Acidification	kg SO ₂ e	3,02E-2	2,38E-4	4,89E-4	3,09E-2	2,07E-4	5,32E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,59E-5	5,28E-6	6,99E-5	-7,01E-5
Eutrophication	kg Ne	1,97E-3	3,55E-5	6,51E-5	2,07E-3	3,63E-5	7,29E-6	MND	MND	MND	MND	MND	MND	MND	0E0	2,21E-6	8,64E-7	8,09E-6	-1,09E-5
POCP ("smog")	kg O ₃ e	1,13E-1	3,99E-3	6,5E-3	1,24E-1	3,17E-3	1,02E-3	MND	MND	MND	MND	MND	MND	MND	0E0	3,35E-4	9,99E-5	1,26E-3	-8,7E-4
ADP-fossil	MJ	2,86E0	1,7E-1	5,82E-1	3,61E0	1,8E-1	2,52E-2	MND	MND	MND	MND	MND	MND	MND	0E0	9,13E-3	1,28E-3	2,22E-2	-1,03E-2

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 reference standard, 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 digital background data for this EPD

Why does verification transparency matter? Read more online

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

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 reference standard.

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.

Neena Chandramathy, as an authorized verifier acting for EPD Hub Limited
22.04.2023

