Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Stainless steel screws A2 and A4

from

ESSVE

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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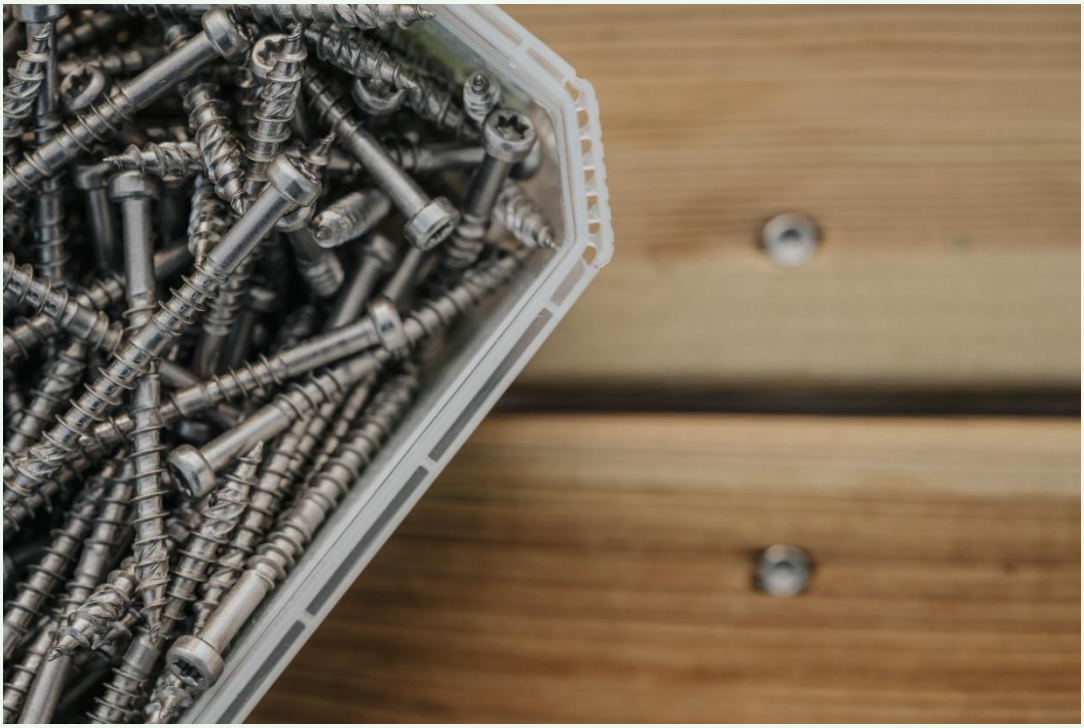
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com
EPD of multiple products, based on the average results of the product group, a list of the included products can be found on page 14.



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
The CEN standard EN 15804 serves as the core PCR. In addition, the Int'l EPD System PCR 2019:14 Construction products, version 1.3.2 (Preverified) is used. Product specific complementary category rules have not been applied in this EPD
Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.2 (Preverified), 42944
PCR review was conducted by: *<name and organisation of the review chair, and information on how to contact the chair through the programme operator>*
Life Cycle Assessment (LCA)
LCA accountability: Anna Ouchterlony and Susanna Olsson, Goodpoint AB
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Bárbara M. Civit, Universidad Tecnológica Nacional Facultad Regional Mendoza, signature of the third-party verifier Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, 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. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:
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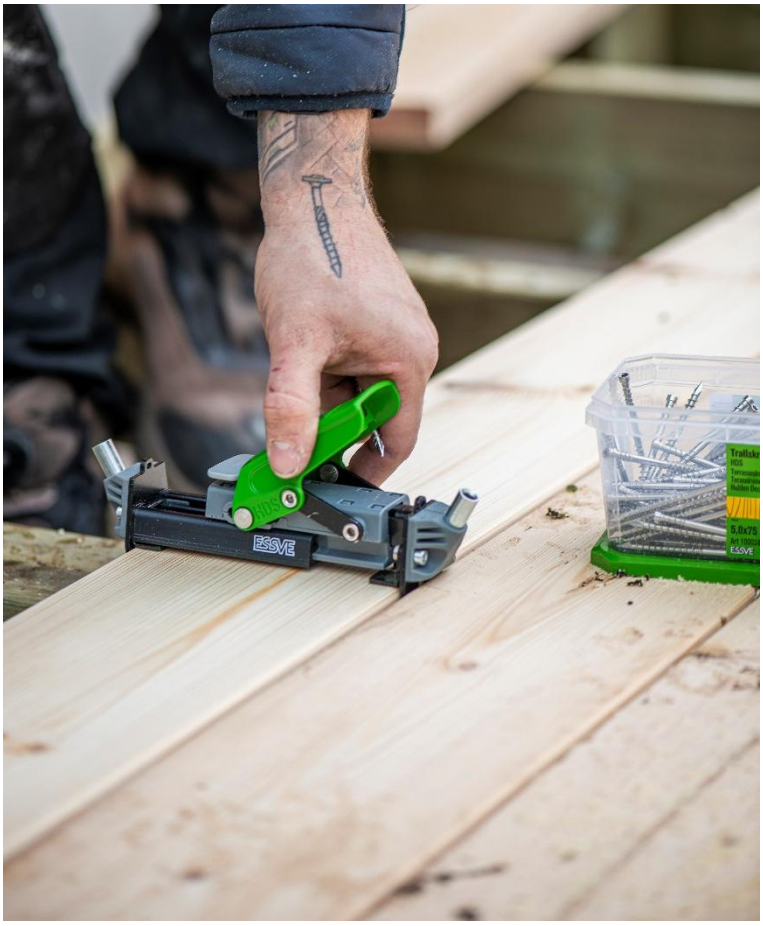
Website: www.essve.com

Description of the organisation:
Since 1970, ESSVE has been creating fastening products that have become indispensable in craftsmen's toolboxes, securing us a leading position in Northern Europe. We aim to make everyday life easier, safer, and more profitable for professional craftsmen. We achieve this by providing the products and services they need to get the job done, ranging from screws and adhesives to woodworking expertise and engineering support.

It is in our DNA to deliver products and solutions that stand the test of time and enables efficient installations without unnecessary resource wastage. Our goal is simply to leave behind sustainable installations as our legacy.

ESSVE is proactively substituting substances in our products according to new regulations and environmental assessments.

Product-related or management system-related certifications:
Our management system is certified according to ISO 9001 and ISO 14001 and describes our way of operating the business.



Name and location of production site(s): China and Taiwan

Product information

Product name: Stainless steel screws A2 and A4
Product identification: Stainless steel screws of corrosion class C4 and C5
UN CPC code: 42944
Geographical scope: Wuxi (CN), Kaohsiung (TW) and EU

Product description:
The screws covered by this EPD are stainless steel screws that can be used for many applications. Included in this group are wood screw construction screws, skirting screws, concrete screws, sheet metal screws, façade screws, roofing screws, wafer head screws and wood connector screws. The are four different types of screw head; countersunk, cylindrical, pan and wafer head. Since the results vary <10% for GWP-GHG (A1-A3), the screws are represented by an average screw based on weight.

There are two types of stainless steel screw grades, A2 and A4. Of the two, A4 stainless steel screws have the highest corrosion protection (corrosion class C5), A2 screws have slightly lower corrosion protection (C4). If you choose A4 stainless steel screws, you can't go wrong. In some constructions, A4 screws are the only sustainable choice. Below we list some constructions that require you to build with stainless steel A4 screws.

Building decking on the coast/salt water
Wooden decks with a coastal (saltwater) location must be built with A4 quality stainless steel decking screws. It resists both salt attack and the constant moisture.

Building decking by the pool
Pool water can lead to red rust and oxidation on the screw, A4 screw resists these attacks. What's more, the screw is flexible enough to follow the movements caused by the constant humidity.

Building decking from exotic wood
Exotic woods such as Cumaru and teak have greater torsional force and expansion than, for example, ordinary pressure-treated wood. Torsional force and expansion generate more movement in the wood. A flexible A4 screw is required to keep up with the movements.

However, in many cases it is sufficient to use screws of the slightly lower quality stainless steel A2. Below we have listed when you can use A2 stainless steel screws.

Building decking on inland/brackish water
Decking located in fresh/brackish water is not exposed to the same salinity as coastal locations. But it requires a stainless steel screw that can withstand a humid environment with a lot of movement. Therefore, you can use A2 stainless steel screws.

Building decking directly on the ground
If you are building a decking where the load-bearing structure is directly on the ground, moisture can penetrate and risk corrosion. In this case, you need a screw of at least A2 stainless steel quality.

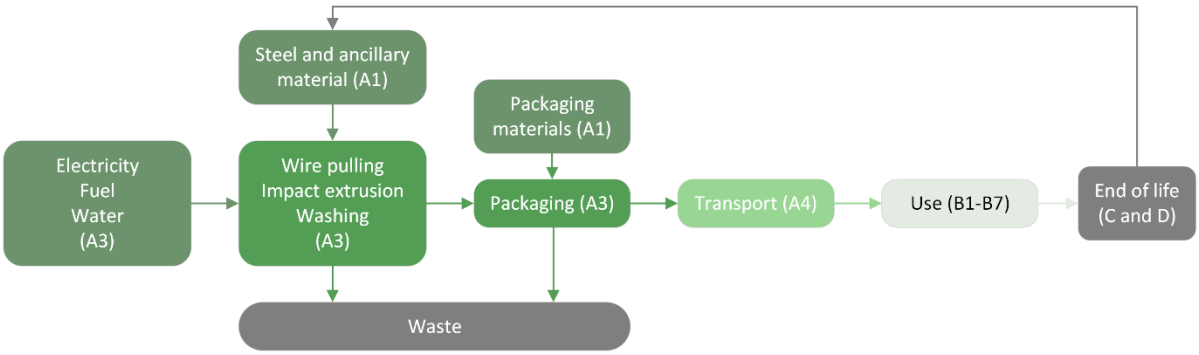
Build a large or tall decking
Movement of the timber is greater in large and/or high decks than in low, small decks. Therefore, a decking screw that can withstand movement is required; A2 screws can be used in these constructions.

	Environmental data summary					
Indicator (unit)	**A1**	**A2**	**A3**	**A1-A3**	**C1-C4**	**D**
GWP-GHG (kg CO2 eq.)	5,58 E+00	3,39 E-02	2,05 E+00	7,67 E+00	1,76 E-01	-5,70 E+00
WDP (m^3)	1,50 E+00	2,28 E-03	9,59 E-01	2,46 E+00	1,54 E-2	-1,70 E+00
PERT (MJ)	1,42 E+01	5,73 E-03	1,88 E+01	3,30 E+01	2,97 E-02	-5,89 E+01
PENRT (MJ)	6,09 E+01	5,09 E-01	2,42 E+01	8,56 E+01	2,94 E-01	-6,46 E+01

LCA information

Functional unit / declared unit: 1kg
Reference service life: 25 years
Time representativeness: 2022
Database(s) and LCA software used:
This EPD is based on Ecoinvent 3.8 (Allocation, cut-off, EN15804) and One Click LCA databases. The LCA and EPD have been created using One Click LCA Pre-Verified EPD Generator for Construction products.

System diagram:



Description of system boundaries:

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 production occurs in Asia with raw material extraction, transport to manufacturing and packaging of the products being modelled for the production sites. Energy in A3 is represented by the regional mix based on production site. The carbon emission factor for the electricity is 1,12 kg CO_2e / kWh.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The transport starts in Asia with the products being transported to Sweden for all products.

The results in this EPD are based on main markets for the product. Transportation distances has been calculated for 3 likely scenarios. Transport within Sweden and Norway, which is the main scenario, and transport to the Baltics and transport to Poland, as alternative scenarios, with the parameters described in the following table. All scenarios also include the additional initial transport from the place of production. This EPD does not cover the Installation phase (A5).

Scenario	Distance, km	Value kgCO2/tkm
Sweden-Norway		
Truck	800	0,16
The Baltics		
Truck	390	0,16
Ship	500	0,0094
Truck	310	0,17
Poland		
Truck	1245	0,16

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

PRODUCT END OF LIFE (C1-C4, D)

The deconstruction/demolition of the product is assumed to be negligible and therefore not taken into account. It is possible to re-use the product during the reference service life of 25 years as long as it has not been significantly damaged and it can be moved from one place to another. In the end of life stage the screws are recycled, the pallets are reused and the paper and plastic packaging is incinerated. The potential benefits from recycling and energy recovery are presented in module D.

More information: The result for the different screws and production sites differs less than 10% between GWP-GHG for A1-A3. The different screws are represented by an average screw, the results of the average screw are presented in this EDP.

Key assumptions are that transport by truck within Sweden is assumed to be with a truck 16-32 tons, EURO6. Other truck transports are assumed to be with trucks 16- 32 tons, EURO5. A conservative estimate of 200 km has been adopted for transport of the input materials to the manufacturing site (A2). As the majority of screws are distributed in Sweden and Norway, a waste scenario in this region has been adopted.

Allocation: Allocation is required 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. Allocation used in Ecoinvent 3.6 environmental data sources follows the methodology 'allocation, cut-off by classification'. This methodology is in line with the requirements of the EN 15804-standard. Allocation to coproducts, is made by weight. It is most suitable because the environmental impact is mostly related to the weight and the products are made from similar materials. Mass allocation between Essve's different products has been made for the energy, input materials and waste for their manufacturing.

Cut-off: Cut-offs in this study has been:

1. End of life stage for the EU-pallets, due to them being reused.
2. Deconstruction/demolition of the product

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	CN, TW	CN, TW	CN, TW	CN, TW, EU	-	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Specific data used	>90%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	<10%				-	-	-	-	-	-	-	-	-	-	-	-	-

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Stainless steel	1	-	-
TOTAL	1	-	-
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Plastic	0,061	-	-
Cardboard	0,057	-	-
Pallet	0,048	-	-
TOTAL	0,166	-	-

SUBSTANCES, REACH - VERY HIGH CONCERN

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

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per declared unit																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	7,67 E+00	3,62 E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	5,70 E-03	1,70 E-01	5,27 E-05	-5,70 E+00
GWP-biogenic	kg CO_2 eq.	1,29 E-05	1,09 E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	2,31 E-06	0,00 E+00	0,00 E+00	3,41 E+00
GWP-luluc	kg CO_2 eq.	1,02 E-02	2,28 E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	2,28 E-06	2,06 E-05	4,97 E-08	-6,45 E-03
GWP-total	kg CO_2 eq.	7,68 E+00	3,62 E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	5,70 E-03	1,59 E-01	5,27 E-05	-2,29 E+00
ODP	kg CFC 11 eq.	1,33 E-06	6,06 E-08	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,32 E-09	1,49 E-09	2,13 E-11	-2,75 E-07
AP	mol H^+ eq.	5,28 E-02	8,73 E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,62 E-05	1,55 E-04	4,95 E-07	-3,33 E-02
EP-freshwater	kg P eq.	6,29 E-04	1,70 E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	4,07 E-08	9,38 E-07	5,52 E-10	-2,17 E-04
EP-marine	kg N eq.	9,86 E-03	2,15 E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	3,23 E-06	6,36 E-05	1,71 E-07	-5,59 E-03
EP-terrestrial	mol N eq.	1,25 E-01	2,38 E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	3,59 E-05	5,09 E-04	1,89 E-06	-6,37 E-02
POCP	kg NMVOC eq.	2,88 E-02	6,27 E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,38 E-05	1,34 E-04	5,48 E-07	-1,99 E-02
ADP-minerals&metals*	kg Sb eq.	2,51 E-04	6,39 E-07	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	2,06 E-08	7,17 E-07	1,21 E-10	-1,50 E-04
ADP-fossil*	MJ	8,94 E+01	4,87 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	8,48 E-02	2,08 E-01	1,44 E-03	-6,36 E+01
WDP*	m^3	2,46 E+00	1,70 E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	3,97 E-04	1,50 E-02	4,58 E-06	-1,70 E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Additional mandatory and voluntary impact category indicators

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	7,67 E+00	3,62 E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	5,70 E-03	1,70 E-01	5,27 E-05	-5,70 E+00

Resource use indicators

Results per declared unit																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	3,30 E+01	4,28 E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,23 E-03	2,85 E-02	1,25 E-05	-2,87 E+01
PERM	MJ	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	-3,02 E+01
PERT	MJ	3,30 E+01	4,28 E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,23 E-03	2,85 E-02	1,25 E-05	-5,89 E+01
PENRE	MJ	8,56 E+01	4,87 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	8,48 E-02	2,08 E-01	1,44 E-03	-6,26 E+01
PENRM	MJ	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	-1,99 E+00
PENRT	MJ	8,56 E+01	4,87 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	8,48 E-02	2,08 E-01	1,44 E-03	-6,46 E+01
SM	kg	7,34 E-01	1,96 E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	2,89 E-05	3,43 E-04	3,03 E-07	-6,47 E-01
RSF	MJ	4,01 E-01	8,69 E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	3,18 E-07	2,53 E-05	7,93 E-09	-4,00 E-01
NRSF	MJ	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
FW	m^3	7,23 E-02	4,17 E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,08 E-05	3,69 E-04	1,58 E-06	-5,29 E-02
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Waste indicators

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	6,14 E+00	6,31 E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	9,65 E-05	0,00 E+00	0,00 E+00	-5,32 E+00
Non-hazardous waste disposed	kg	1,82 E+01	6,79 E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	1,71 E-03	0,00 E+00	1,00 E-02	-9,31 E+00
Radioactive waste disposed	kg	2,20 E-04	3,40 E-05	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	5,84 E-07	0,00 E+00	0,00 E+00	-1,49 E-04

Output flow indicators

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	4,80 E-02	0,00 E+00	0,00 E+00
Material for recycling	kg	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	1,00 E+00	0,00 E+00	0,00 E+00
Materials for energy recovery	kg	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
Exported energy, electricity	MJ	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	3,70 E-02	0,00 E+00	0,00 E+00
Exported energy, thermal	MJ	0,00 E+00	0,00 E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00 E+00	0,00 E+00	4,130 E-01	0,00 E+00	0,00 E+00

Additional environmental information

Scenario assumptions: Impact of alternative transport scenarios in module A4

	Results per declared unit			
Indicator	Unit	Initial transport	Scenario	
			The Baltics	Poland
ODP	kg CFC11 eq.	5,46E-08	1,94E-09	2,57E-10
ADP-minerals&metals*	kg Sb eq.	5,46E-07	2,36E-08	3,18E-09
ADP-fossil*	MJ	4,37E+00	1,57E-01	2,08E-02
GWP-GHG	kg CO_2 eq.	3,41E-01	1,02E-02	1,30E-03
GWP-total	kg CO_2 eq.	3,41E-01	1,02E-02	1,30E-03
GWP-fossil	kg CO_2 eq.	3,41E-01	1,02E-02	1,30E-03
GWP-biogenic	kg CO_2 eq.	9,28E-05	4,02E-06	5,40E-07
GWP-luluc	kg CO_2 eq.	2,36E-04	4,00E-06	4,87E-07
AP	mol H+ eq.	9,93E-03	5,75E-05	4,14E-06
EP-freshwater	kg P eq.	1,40E-06	6,87E-08	9,28E-09
EP-marine	kg N eq.	2,45E-03	1,47E-05	9,14E-07
EP-terrestrial	mol N eq.	2,72E-02	1,64E-04	1,01E-05
POCP	kg NMVOC eq.	7,07E-03	5,15E-05	3,99E-06
WDP	m^3	1,38E-02	7,09E-04	9,58E-05
PERE	MJ	3,32E-02	1,98E-03	2,69E-04
PERM	MJ	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	3,32E-02	1,98E-03	2,69E-04
PENRE	MJ	4,37E+00	1,57E-01	2,08E-02
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00

PENRT	MJ	4,37E+00	1,57E-01	2,08E-02
SM	kg	1,92E-03	4,57E-05	5,85E-06
RSF	MJ	6,90E-06	3,79E-07	5,16E-08
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00
FW	m^3	3,15E-04	2,02E-05	2,75E-06
Hazardous waste disposed	kg	5,96E-03	1,71E-04	2,23E-05
Non hazardous waste disposed	kg	5,50E-02	2,86E-03	3,87E-04
Radioactive waste disposed	kg	3,07E-05	1,08E-06	1,43E-07
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00
Exported Energy, electricity and thermal	MJ	0,00E+00	0,00E+00	0,00E+00

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption; PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

References

General Programme Instructions of the International EPD® System. Version 4.0.
PCR 2019:14. Construction products. Version 1.3.2

Screw types

Stainless steel grade	Application	Screw head
A2	Decking screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Wood screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Construction screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Skirting screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Concrete screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Sheet metal screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Façade screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Roofing screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Wafer head screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head
A2	Wood connector screw	Countersunk
		Cylindrical
A4		Pan
		Wafer head

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