Global Program Operator
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Environmental Product Declaration

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

SH – Lyssand 105, outward opening side hung window wood

from

Lyssand

Programme:	The International EPD® System, www.environdec.com
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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)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Construction products and construction services. Version 1.1.
PCR review was conducted by: PCR Committee: IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB Moderator: Martin Erlandsson, IVL Swedish Environmental Research Institute.
Life Cycle Assessment (LCA)
LCA accountability: *Carla Coelho & Sofia Lindroth, Miljögiraff 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: Martyna Mikusinska, Sweco 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 from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Lyssand-Frekhaug AS, Ulsmågveien 7, 5224 Nesttun
Contact: Christian Tollefsen
Description of the organisation: Lyssand AB, is one the largest window manufacturers in Norway, the windows are sold nation-wide and are made for the demanding climate of the long Norwegian coastline. Lyssand has produced windows since 1947 and is part of the Inwido group.
Average or specific EPD: **Average**
This EPD is averaged for the production in regard to the production sites. Production is done by Elitfönster which are part of the same group as Lyssand, the Inwido group. Production is taking place in both Vetlanda and Lenhovda. An average weighted number is presented in the results table based on the production volume from the different sites. This difference is within +/-10%, for all impact categories.

Product information

An outward opening side-hung window in wood and an insulating glass with 3 glass planes. The windows casement is hung via hinges on the side piece and opens outwards. The weight of the finished window is 37,23 kg per m².

According to the Construction Products Regulation CPR (EU) no. 305/2011, the essential properties of products must be declared in the CE marking and Declaration of Performance. The technical properties of the window are reported in the following Declaration of performance, which can be accessed on Elitfönster's website or by scanning the QR code on the product.
DoP nr 61-29-CE1040201

Insulating glass:
The glass consists of a float glass that is coated with a thin film of metal oxide that lets through short-wave solar energy and reflects long-wave room heat. The coating is almost completely transparent, but there is some difference in light input between coated glass and uncoated glass. Coated glass is used to achieve better insulating performance.

An insulating glass consists of glasses that are separated from each other by spacers, these spaces can be filled with argon to give the insulating glass a better insulating ability. Argon does not affect sunlight radiation but improves the insulating ability of the insulating glass.

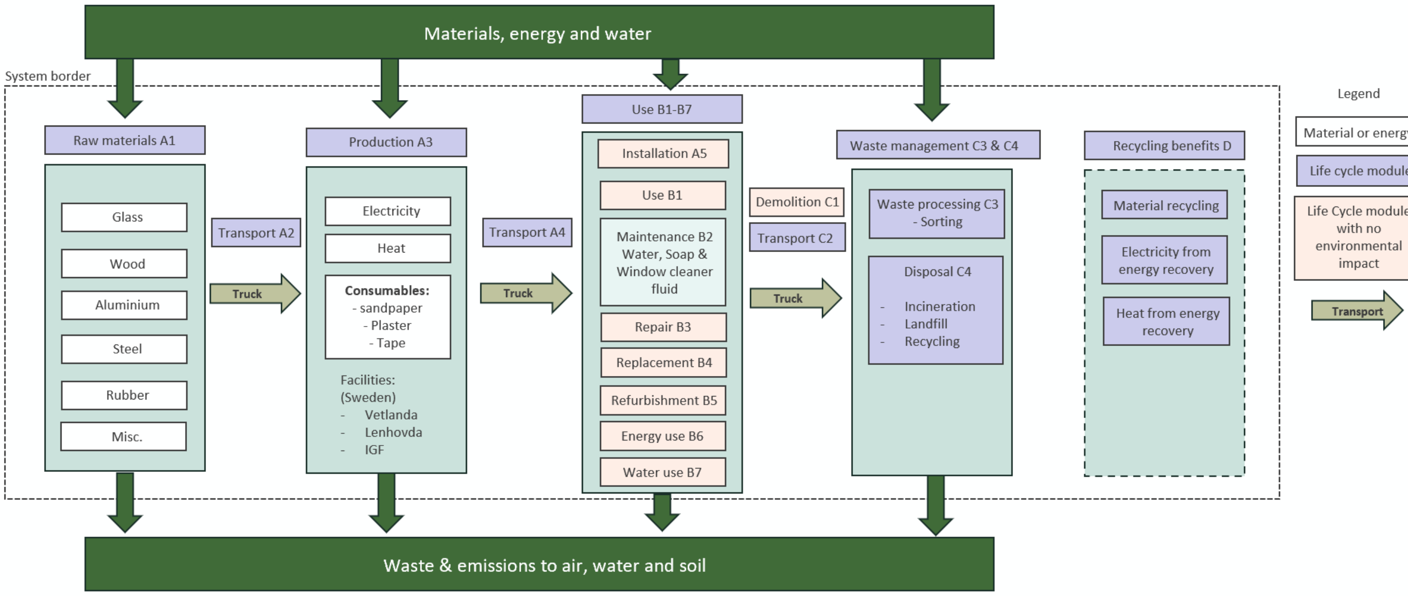
This EPD regards:
Lyssand 105 is a 3-layer window with high insulating capacity on a 105 mm deep frame. The three glasses are separated by two spacers made of plastic (hot edge). The inner and outer glass are coated and both glass spaces are filled with argon.

LCA information

Functional Unit	The functional unit used in this report is 1 m². The weight of the finished window is 37.23 kg per m². Standard size for the window is 1230 x 1480mm.
Reference Service Life (RSL)	The RSL is set to 40 years. For the windows expected life length to be realised, it is paramount that instructions for assembly and care provided by the manufacturer are followed.
Product group classification	UN CPC 42120
Goal and Scope	The result will be used to understand where the environmental burden for the product occurs during the life cycle and aim to lay a road map for development to reduce this burden. The result will be communicated by the International EPD system. All site-specific data refers to the period between 2019 and 2022. Scope is cradle-to-grave and module D.
Manufacturing Sites	Brogårdsgatan 1, 574 38, Vetlanda, Sweden Industrigatan, 360 73, Lenhovda, Sweden
Geographical Area	Europe
Compliant with	This EPD follows the "accounting" LCA approach which is defined as an attributional LCA in the ISO 14040 standard (ISO, 2006b). The EPD is compliant with: • ISO 14025 (ISO, 2006a) • ISO 14044 (ISO, 2006c) • General Programme Instructions for the International EPD® System, version 4.0 (EPD International, 2021a) • EN 15804:2012+A2:2019 (CEN, 2019) • Product Category Rules PCR 2019:14. Construction products and construction services. Version 1.11(EPD International, 2021b) • Sub-PCR-007 Windows and doors EN 17231 (CEN, 2020)
Cut-Off Rules	The procedure below is followed for the exclusion of inputs and outputs according to the EN 15804:2012+ A2:2019 standard: - In the case of insufficient input data or data gaps for a unit process, the cut-off criterion is 1 % of renewable and non-renewable primary energy usage and 1 % of the total mass input to that unit process. - The maximum neglected input flows per declared module (A1- A3) is 5 % of energy usage and mass. The environmental aspects related to using electrical machines such as screwdrivers during installation and demolition have been excluded. Transport of the packaging waste to waste treatment facility is expected to fall under the cut-off rule, and therefore excluded.
Background Data	The background data is from ecoinvent 3.8. For some materials previously published EPDs have been utilised. The materials and EPDs are presented later in this report under More information.
Electricity data	Electricity consumption in the A3 module comes from 100% wind power certified by Guarantee of Origin, Electricity is represented by data in ecoinvent 3.8 regionalised for Sweden. For waste management steps Norwegian electricity data from ecoinvent was used.
Assumptions	Recycled content of the steel is representative of European average dataset available in ecoinvent 3.8. When installing and uninstalling the window no environmental aspects in addition to using of electrical machines is assumed according to installation instructions from Lyssand.

	The product is assumed to require 10 ml/m² of soap, 200 ml/m² of cleaning solution, 10 liters/m² of water and 5 ml/m² of lubrication oil per year. The used window is assumed to be transported 75km to the closest waste management facility. There it is disassembled, and the following waste treatment activities performed: - Aluminium and steel are recycled with a spillage of 3%. - Glass is landfilled at 100% landfilling rate - Wood, paint, plastic, rubber and misc. is assumed to be incinerated with energy recovery at a municipal incineration plant at 90% efficiency rate. Waste not recycled or incinerated is assumed to go to landfill.
Allocations	As the manufacturing site produces different products, allocation of energy and inputs required in the fabrication of the product was based on its manufacturing complexity. Therefore a simple product would be allocated less resources than a more complex product.
Impact Assessment methods	Potential environmental impacts are calculated with Environmental Footprint 3.0 method as implemented in SimaPro 9.4.0.2. Resource use values are calculated from Cumulative Energy Demand V1.11.
Based on LCA Report	Life Cycle Assessment of Windows from Lyssand, Miljögiraff report 1121
LCA Practitioner	Carla Coelho & Sofia Lindroth, Miljögiraff AB
Software	SimaPro 9.4.0.2

System diagram:



More information:
Lyssand is part of Inwido Group with among others Elitfönster, which do the production of the windows for Lyssand. Elitfönster has its production in Sweden with the following manufacturing procedure:

The wood raw material used is pine supplied by FSC-labelled and / or PEFC-labelled suppliers that glues and finger joins the wood raw material. The wood is cut and planed and processed at the production site in Vetlanda, the finished wood details are surface treated with a water-based paint system. Elitfönster's own glass factory, IGF in Lenhovda, uses flat glass from Europe's largest glass manufacturer. IGF cuts the glass and manufactures the insulating glass. The glass is installed in the product in the manufacturing unit in Vetlanda. Aluminium profiles are delivered by Hydro in Vetlanda, they are processed and powder coated on A-paint in Sävsjö, then transported to the manufacturing unit in Vetlanda or Lenhovda for final assembly. The finished windows are packed on a wooden pallet with plywood slats and cardboard corners and plasticised with shrink plastic. The windows are transported on pallets by truck to the customer.

To produce 1 m² product, 18,4 kWh of electricity is used as well as 13,1 kWh of heat from own combustion of wood waste created during production and 0,017 kg biogas. Electricity is certified wind power electricity. In total, around 20% of the total incoming raw materials becomes production waste. A large part of the waste is wood.

During usage, no indoor emissions arise. The paint used is water based and all the other raw materials do not cause any emissions.

This EPD uses input data from other EPDs, the used EPDs can be viewed below:

Material	EPD name	EPD specifications
Uncoated glass by Pilkington	Flat glass, toughened safety glass and laminated safety glass	Sector-EPD for flat plane glas Manufacturer: Pilkington AB EPD Owner: Bundesverband Flachglas e.V. EPD Author: ift Rosenheim GmbH EPD Platform: ift Rosenheim GmbH Geography: Germany Publication number: M-EPD-FEV-GB-002000 Publication date: 2017-12-18
Uncoated glass by Guardian	Uncoated flat glass, laminated safety glass and coated flat glass	Manufacturer: Guardian Europé S.a.r.l. EPD Owner: Guardian Europé S.a.r.l. EPD Author: ift Rosenheim GmbH EPD Platform: ift Rosenheim GmbH Geography: Germany Publication number: EPD-GFEV-GB-19.2 Publication date: 2021-06-29
Distance ledge	TGI-Spacer M	Manufacturer: Technoform EPD Owner: Technoform EPD Author: Technoform EPD platform: INIES Geography: France Publication number: 7-333:2019 Publication date: 2019-06-15
Pine by Stora Enso	Industrial Components	Manufacturer: Stora Enso EPD Owner: Stora Enso EPD Author: Stora Enso EPD platform: The International EPD® System Geography: Sweden, Finland, Estonia, Lithuania Publication number: S-P-02154 Publication date: 2020-08-03

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

	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	X	MND	X	MND	MND	MND	MND	MND	MND	X	X	X	X
Geography	EUR	EUR	SE	SE	NO		NO							NO	NO	NO	NO
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products						-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	<10%					-	-	-	-	-	-	-	-	-	-	-	-

Modules declared: (X = included MND = module not declared)

Content information

Product content for SH size 1230 mm x 1480 mm, weight and share recycled (post-consumer) material for the raw material and packaging:

Products components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Glass	40,76	9%	0%
Argon	0,02	0%	0%
Distance list	0,39	0%	0%
Edge sealing compound	0,79	0%	0%
Butyl	0,19	0%	0%
Desiccant	0,30	0%	0%
Pinewood	16,99	0%	100%
Wood board	0,00	0%	0%
Surface treatment for pine	3,66	0%	0%
Aluminum	0,43	0%	0%
Powder coating aluminum	0,01	0%	0%
Metal handle & Miscellaneous steel parts	2,78	23%	0%
Plastic	0,83	0%	0%
Rubber EPDM	0,40	0%	0%
Silikonlist	0,00	0%	0%
Rubber TPE	0,16	0%	0%
Glue	0,04	0%	0%
Sealant	0,05	0%	0%
Waterproof agent	0,01	0%	0%
Packaging	**Weight, kg**	**Post-consumer material, weight-%**	**Renewable material, weight-%**
Plastic film (stretch film)	0,05	0%	0%
Plywood	0,36	0%	100%
Screw	0,02	0%	0%
Edge protection (cardboard)	0,19	0%	100%
Cardboard angle	0,06	0%	100%
Top cover (plastic film)	0,06	0%	0%
Pallet (wooden)	2,60	0%	100%

The product documented within this EPD contains no substances in the REACH Candidate list or from the candidate list of SVHC for Authorisation. Furthermore, the product does not contain any substances from the Norwegian priority list.

Environmental Information

Disclaimers about results for the environmental impact: Note that the LCIA results are relative expressions, which means that they do not predict impacts on category endpoints or the exceeding of thresholds, safety margins or risk.

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit												
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**A4**	**A5**	**B2**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	4,48E+01	6,20E+00	2,48E+00	**5,35E+01**	2,71E+00	1,59E-01	2,37E+00	4,64E-01	1,93E-02	7,20E+00	-4,95E+00
GWP-biogenic	kg CO_2 eq.	-2,38E+01	5,28E-03	8,51E+00	**-1,53E+01**	2,34E-03	2,59E+00	-4,80E-01	3,96E-04	8,13E-04	1,34E+01	-2,36E-02
GWP-luluc	kg CO_2 eq.	9,24E-02	2,44E-03	6,39E-03	**1,01E-01**	1,08E-03	1,08E-05	1,48E-01	1,82E-04	1,11E-04	1,43E-03	-4,78E-02
GWP-total	kg CO_2 eq.	2,12E+01	6,21E+00	1,11E+01	**3,85E+01**	2,71E+00	2,74E+00	2,04E+00	4,65E-01	2,03E-02	2,06E+01	-5,04E+00
ODP	kg CFC 11 eq.	2,36E-06	1,43E-06	2,52E-07	**4,05E-06**	6,28E-07	3,62E-09	3,74E-07	1,07E-07	6,85E-10	2,03E-07	-3,82E-07
AP	mol H^+ eq.	2,63E-01	2,54E-02	1,83E-02	**3,07E-01**	7,70E-03	5,95E-04	1,60E-02	1,88E-03	7,44E-05	7,01E-03	-3,37E-02
EP-freshwater	kg PO_4^{3-} eq.	3,12E-02	1,23E-03	2,50E-03	**3,49E-02**	5,45E-04	3,51E-05	2,53E-03	9,18E-05	2,37E-05	5,23E-04	-7,44E-03
EP-freshwater	kg P eq.	1,02E-02	3,99E-04	8,15E-04	**1,14E-02**	1,78E-04	1,14E-05	8,24E-04	2,99E-05	7,71E-06	1,70E-04	-2,42E-03
EP-marine	kg N eq.	2,74E-02	7,64E-03	5,45E-03	**4,05E-02**	1,56E-03	2,96E-04	4,58E-03	5,67E-04	1,52E-05	2,88E-03	-7,16E-03
EP-terrestrial	mol N eq.	3,10E-01	8,35E-02	5,89E-02	**4,52E-01**	1,70E-02	3,14E-03	3,39E-02	6,20E-03	1,63E-04	2,94E-02	-9,27E-02
POCP	kg NMVOC eq.	1,06E-01	2,55E-02	1,79E-02	**1,50E-01**	6,55E-03	8,19E-04	1,10E-02	1,90E-03	4,39E-05	8,22E-03	-2,57E-02
ADP-minerals&metals*	kg Sb eq.	4,20E-04	2,15E-05	1,16E-04	**5,58E-04**	9,61E-06	9,98E-08	3,78E-05	1,61E-06	5,57E-07	3,22E-06	-3,78E-05
ADP-fossil*	MJ	7,04E+02	9,37E+01	3,08E+01	**8,29E+02**	4,11E+01	2,11E-01	4,14E+01	7,02E+00	3,28E-01	1,48E+01	-6,50E+01
WDP	m^3	1,08E+01	2,81E-01	8,42E-01	**1,19E+01**	1,25E-01	8,10E-03	1,95E+01	2,10E-02	2,00E-02	1,16E-02	-1,22E+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.*

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit												
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**A4**	**A5**	**B2**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	44,59	6,15	2,47	**53,21**	2,69	0,16	2,34	0,46	0,02	7,19	-4,85
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017												

Use of resources

Results per functional or declared unit												
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**A4**	**A5**	**B2**	**C2**	**C3**	**C4**	**D**
PERE	MJ	30,05	1,32	82,63	**114,00**	0,59	0,01	12,05	0,10	3,35	0,29	-189,75
PERM	MJ	319,20	0,00	30,72	**349,92**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PERT	MJ	349,25	1,32	113,35	**463,93**	0,59	0,01	12,05	0,10	3,35	0,29	-189,75
PENRE	MJ	677,30	99,53	30,34	**807,17**	43,62	0,23	44,58	7,45	0,34	15,81	-68,47
PENRM	MJ.	45,41	0,00	2,44	**47,85**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PENRT	MJ	722,71	99,53	32,78	**855,02**	43,62	0,23	44,58	7,45	0,34	15,81	-68,47
SM	kg	6,30	0,00	0,00	**6,30**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
RSF	MJ	0,00	0,00	61,56	**61,56**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
NRSF	MJ	0,00	0,00	0,00	**0,00**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
FW	m^3	0,33	0,02	0,02	**0,37**	0,01	0,00	1,13	0,00	0,00	0,02	-0,08
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] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Waste production and output flows

Waste production

Results per functional or declared unit												
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**A4**	**A5**	**B2**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	0,43	0,00	0,00	**0,43**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Non-hazardous waste disposed	kg	14,79	0,00	0,00	**14,79**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Radioactive waste disposed	kg	0,00	0,00	0,00	**0,00**	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Output flows

Results per functional or declared unit												
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**A4**	**A5**	**B2**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00	0,00	0,00	**0,00**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Material for recycling	kg	0,04	0,00	4,29	**4,33**	0,00	0,00	0,00	0,00	0,00	1,16	0,00
Materials for energy recovery	kg	0,00	0,00	0,99	**0,99**	0,00	1,51	0,00	0,00	0,00	12,18	0,00
Exported energy, electricity	MJ	0,04	0,00	0,00	**0,04**	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Exported energy, thermal	MJ	0,06	0,00	0,00	**0,06**	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Information on biogenic carbon content

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	**8,4**
Biogenic carbon content in packaging	kg C	**0,8**

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

Additional information

Harmonisation with EPD Norway

This scenario for module A4 is added for the harmonisation of EPD International and EPD Norway. The requirement of the Norwegian EPD Foundation (Nordic MRA) for the mutual recognition of product category rules (PCRs) and environmental product declarations (EPDs) of all product categories is that a declaration of additional scenario information and LCA results for module A4-transport from production site to central warehouse in Oslo must be assessed. The results for the A4 module being transported from the production site to Oslo are presented in tables below. A transport scenario was assessed for transport from Lenhovda to Oslo (527 km) instead of to Rolvsøy (447 km), using a truck EURO6.

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit		
Indicator	**Unit**	**A4**
GWP-fossil	kg CO_2 eq.	3,18E+00
GWP-biogenic	kg CO_2 eq.	2,75E-03
GWP-luluc	kg CO_2 eq.	1,27E-03
GWP-total	kg CO_2 eq.	3,19E+00
ODP	kg CFC 11 eq.	7,38E-07
AP	mol H^+ eq.	9,04E-03
EP-freshwater	kg PO_4^{3-} eq.	6,40E-04
EP-freshwater	kg P eq.	2,09E-04
EP-marine	kg N eq.	1,84E-03
EP-terrestrial	mol N eq.	2,00E-02
POCP	kg NMVOC eq.	7,70E-03
ADP-minerals&metals*	kg Sb eq.	1,13E-05
ADP-fossil*	MJ	4,83E+01
WDP	m^3	1,47E-01

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit		
Indicator	**Unit**	**A4**
GWP-GHG[2]	kg CO_2 eq.	3,16

[2] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Use of resources

Results per functional or declared unit		
Indicator	**Unit**	**A4**
PERE	MJ	0,69
PERM	MJ	0,00
PERT	MJ	0,69
PENRE	MJ	51,23
PENRM	MJ.	0,00
PENRT	MJ	51,23
SM	kg	0,00
RSF	MJ	0,00
NRSF	MJ	0,00
FW	m^3	0,01

References

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ANNEX 1

ANNEX 1: Self declaration from EPD owner

Specific requirements

1 Applied electricity data set used in the manufacturing phase

The electricity mix for the electricity used in manufacturing (A3) is the electricity grid mix:

100% wind power certified by guarantee of origin, i.e. A3 footprint is 1,20E+01 kg CO2/ FU for S-P-08016. The windpower footprint is calculated using ecoinvent data, so it is treated as background data and we did not use any specific emissions factor of kg CO2/MJ. The following electricity dataset from ecoinvent 3,8 was used:

Electricity, high voltage {SE}| electricity production, wind, >3MW turbine, onshore | Cut-off, U

I believe this should provide sufficient transparency allowing full reproducability that is required in an EPD documentation. The other energy sources are presented in table 13 of the LCA report, which presents the weighted consumption values.

2 Transport from the place of manufacture to a central warehouse

Transport distance, and CO_2-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:

See table 1 on page 12 of each individual EPD for specific data for each product.

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy use	Unit	Value (l/t)	Kg CO2-eqv./DU
Boat							
Truck	<xx>	<Truck xx tonn, EURO4,?>	<xxxx>	<xxxx>	l/tkm	<xxxx>	
Railway							
Rail							
Air							
Total							

3 Impact on the indoor environment

- ☐ Indoor air emission testing has been performed; specify test method and reference;
  M1, ____
- ☐ No test has being performed
- ☐ Not relevant; **During usage, no indoor emissions arise. The paint used is water based and all the other raw materials do not emit any emissions.**