Environmental Product Declaration

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

Aluminium profile, primary

from

Purso Oy

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-03312
Publication date:	2021-06-09
Valid until:	2026-04-16

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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CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction products. Version 1.0. 2019-12-20. UN CPC code: 429 - Other fabricated metal products
PCR review was conducted by: The Technical Committee of the International EPD® System. Chair: Claudia A. Peña. Contact via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: Hannu Karppi, Ramboll Finland Oy      Approved by: The International EPD® System

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.

Company information

Owner of the EPD:
Timo Tuohimaa
Purso Oy
timo.tuohimaa@purso.fi
www.purso.fi

Name and location of production site:
Alumiinitie 1
37200 Siuro, Finland

Product information

Product: Aluminium profile

Product identification: Extruded aluminium profiles made from primary aluminium.

Product description: Some of the delivered profiles are also surface treated, either by anodization or painting. The profiles are used by the construction industry in facade constructions or as components for e.g. doors, windows, glass roofs and louvre slats. Other uses are also possible.
The profiles are manufactured at the Siuro factory in Finland.

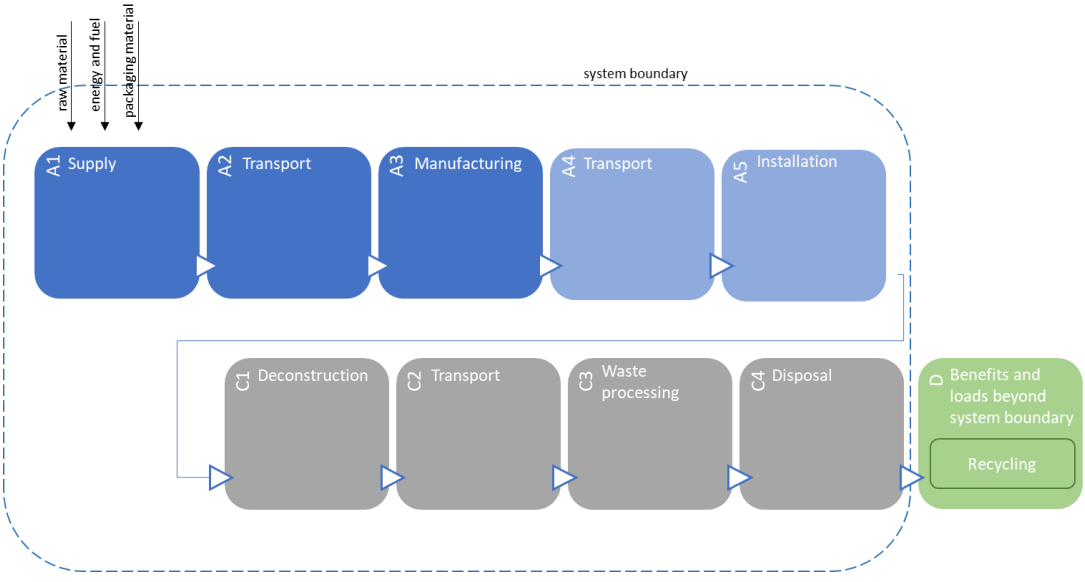
More information available at www.purso.fi.

UN CPC code: 429
Geographical scope: Europe

LCA information

Functional unit / declared unit: The declared unit is 1 kg of aluminium profile.
Reference service life: N/A
Time representativeness: reference year for data 2019, data used for LCA calculations 2019.
Database(s) and LCA software used: SimaPro (Release 9.1.0.11), ecoinvent 3.6.

System diagram:



	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	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography	EU27	EU27	EU27	EU27	EU27	-	-	-	-	-	-	-	EU27	EU27	EU27	EU27	EU27
Specific data	>90 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	not relevant					-	-	-	-	-	-	-	-	-	-	-	-

Description of system boundaries: cradle-to-gate with options (A1-A5, C1-C4 and D).

Excluded lifecycle stages: Modules B1-B5, B6 and B7 are considered not relevant. If properly installed, the service life time of the aluminium profile is equal to the lifetime of the building, and 50 years as a default.

LCA practitioner: Ecobio Oy, info@ecobio.fi

Explanatory material can be obtained from the EPD owner and/or LCA practitioner.

Allocation: Environmental impacts were allocated to the produced aluminium scrap based on economic allocation. The economic allocation is based on the total revenue of the products, and the impacts are allocated separately for the aluminium scrap and primary aluminium profile.

Cut-off rule: 1% cut-off rule was applied for input flows in the inventory. The material used is as up-to-date as possible and at most five years old for producer specific data and at most ten years old for generic data.

Content declaration

Product

Product components		Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Aluminium		1	0	0
TOTAL		**1**	**0**	**0**
Product variation	**Packaging materials**	**Weight, kg**	**Weight-% (versus the product)**	
Extruded aluminium profile	Cardboard	0,002	0,2	
	Plastic	0,0003	0,03	
	Wood	0,006	0,6	
	Steel	0,0001	0,01	
	TOTAL	**0,0084**	**0,84**	
Anodized aluminium profile	Carboard	0,004	0,4	
	Plastic	0,0007	0,07	
	Wood	0,012	1,2	
	Steel	0,0002	0,02	
	TOTAL	**0,0169**	**1,69**	
Painted aluminium profile	Carboard	0,004	0,4	
	Plastic	0,0007	0,07	
	Wood	0,01	1	
	Steel	0,0002	0,02	
	TOTAL	**0,0149**	**1,49**	

The main material of the profile is aluminium (> 99 weight-%).

The aluminium profiles do not contain substances which exceed the limits for registration with the European Chemicals Agency regarding the “Candidate List of Substances of Very High Concern for Authorisation”.

Manufacturing

There are three different manufacturing stages: extrusion, anodization and painting. Every profile is extruded, but there can also be anodization or painting added for surface finishing.

Results

The aluminium profiles are extruded and treated with either anodization or painting. The EPD includes 3 versions of primary aluminium profiles: extruded primary aluminium, extruded and anodized primary aluminium, and extruded and painted primary aluminium.

Environmental performance

Potential environmental impact – primary aluminium; extruded

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1,07E+01	3,18E-01	5,53E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,00E+00
GWP-biogenic	kg CO_2 eq.	1,59E-01	1,39E-03	3,72E-02	5,66E-06	5,39E-05	9,80E-03	3,21E-04	-2,19E-02
GWP-luluc	kg CO_2 eq.	1,58E-01	1,27E-04	7,89E-03	2,38E-07	2,96E-06	1,88E-04	5,69E-07	-1,19E-01
GWP-total	kg CO_2 eq.	1,11E+01	3,19E-01	5,98E-01	2,11E-03	8,32E-03	3,19E-01	1,73E-03	-7,14E+00
ODP	kg CFC 11 eq.	1,18E-06	5,49E-08	6,18E-08	3,56E-10	1,51E-09	1,39E-08	3,42E-10	-7,47E-07
AP	mol H^+ eq.	7,06E-02	2,32E-03	3,65E-03	2,18E-05	3,41E-05	1,41E-03	1,11E-05	-3,64E-02
EP-freshwater	kg P eq.	4,47E-03	2,54E-05	2,25E-04	1,20E-07	6,15E-07	9,99E-05	2,94E-07	-2,34E-03
EP-freshwater	kg PO_4^{3-} eq.	1,37E-02	7,81E-05	6,90E-04	3,69E-07	1,89E-06	3,07E-04	9,03E-07	-7,17E-03
EP-marine	kg N eq.	1,10E-02	6,31E-04	5,85E-04	9,54E-06	1,02E-05	2,55E-04	4,06E-06	-5,57E-03
EP-terrestrial	mol N eq.	1,10E-01	6,95E-03	5,88E-03	1,04E-04	1,12E-04	2,82E-03	4,50E-05	-5,15E-02
POCP	kg NMVOC eq.	3,12E-02	1,94E-03	1,67E-03	2,84E-05	3,34E-05	7,81E-04	1,25E-05	-1,52E-02
ADP-minerals&metals*	kg Sb eq.	4,94E-05	7,76E-06	2,86E-06	3,69E-09	2,26E-07	5,30E-06	1,09E-08	1,50E-05
ADP-fossil*	MJ	1,30E+02	4,60E+00	6,76E+00	2,89E-02	1,23E-01	1,96E+00	2,81E-02	-8,61E+01
WDP	m^3	-2,40E+01	-6,41E-04	-1,20E+00	-2,18E-07	-1,89E-05	-3,87E-03	1,87E-06	1,85E+01
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 – primary aluminium; extruded and anodized

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1,09E+01	3,18E-01	5,63E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,00E+00
GWP-biogenic	kg CO_2 eq.	2,00E-01	1,39E-03	3,93E-02	5,66E-06	5,39E-05	9,80E-03	3,21E-04	-2,19E-02
GWP-luluc	kg CO_2 eq.	1,59E-01	1,27E-04	7,94E-03	2,38E-07	2,96E-06	1,88E-04	5,69E-07	-1,19E-01
GWP-total	kg CO_2 eq.	1,13E+01	3,19E-01	6,10E-01	2,11E-03	8,32E-03	3,19E-01	1,73E-03	-7,14E+00
ODP	kg CFC 11 eq.	1,22E-06	5,49E-08	6,37E-08	3,56E-10	1,51E-09	1,39E-08	3,42E-10	-7,47E-07
AP	mol H^+ eq.	7,24E-02	2,32E-03	3,74E-03	2,18E-05	3,41E-05	1,41E-03	1,11E-05	-3,64E-02
EP-freshwater	kg P eq.	4,55E-03	2,54E-05	2,29E-04	1,20E-07	6,15E-07	9,99E-05	2,94E-07	-2,34E-03
EP-freshwater	kg PO_4^{3-} eq.	1,40E-02	7,81E-05	7,02E-04	3,69E-07	1,89E-06	3,07E-04	9,03E-07	-7,17E-03
EP-marine	kg N eq.	1,12E-02	6,31E-04	5,96E-04	9,54E-06	1,02E-05	2,55E-04	4,06E-06	-5,57E-03
EP-terrestrial	mol N eq.	1,12E-01	6,95E-03	5,98E-03	1,04E-04	1,12E-04	2,82E-03	4,50E-05	-5,15E-02
POCP	kg NMVOC eq.	3,18E-02	1,94E-03	1,70E-03	2,84E-05	3,34E-05	7,81E-04	1,25E-05	-1,52E-02
ADP-minerals&metals*	kg Sb eq.	5,11E-05	7,76E-06	2,94E-06	3,69E-09	2,26E-07	5,30E-06	1,09E-08	1,50E-05
ADP-fossil*	MJ	1,32E+02	4,60E+00	6,85E+00	2,89E-02	1,23E-01	1,96E+00	2,81E-02	-8,61E+01
WDP	m^3	-2,40E+01	-6,41E-04	-1,20E+00	-2,18E-07	-1,89E-05	-3,87E-03	1,87E-06	1,85E+01
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								

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Potential environmental impact – primary aluminium; extruded and painted

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1,09E+01	3,18E-01	5,60E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,00E+00
GWP-biogenic	kg CO_2 eq.	1,82E-01	1,39E-03	3,84E-02	5,66E-06	5,39E-05	9,80E-03	3,21E-04	-2,19E-02
GWP-luluc	kg CO_2 eq.	1,58E-01	1,27E-04	7,91E-03	2,38E-07	2,96E-06	1,88E-04	5,69E-07	-1,19E-01
GWP-total	kg CO_2 eq.	1,12E+01	3,19E-01	6,07E-01	2,11E-03	8,32E-03	3,19E-01	1,73E-03	-7,14E+00
ODP	kg CFC 11 eq.	1,20E-06	5,49E-08	6,28E-08	3,56E-10	1,51E-09	1,39E-08	3,42E-10	-7,47E-07
AP	mol H^+ eq.	7,17E-02	2,32E-03	3,71E-03	2,18E-05	3,41E-05	1,41E-03	1,11E-05	-3,64E-02
EP-freshwater	kg P eq.	4,48E-03	2,54E-05	2,25E-04	1,20E-07	6,15E-07	9,99E-05	2,94E-07	-2,34E-03
EP-freshwater	kg PO_4^{3-} eq.	1,38E-02	7,81E-05	6,92E-04	3,69E-07	1,89E-06	3,07E-04	9,03E-07	-7,17E-03
EP-marine	kg N eq.	1,10E-02	6,31E-04	5,83E-04	9,54E-06	1,02E-05	2,55E-04	4,06E-06	-5,57E-03
EP-terrestrial	mol N eq.	1,11E-01	6,95E-03	5,95E-03	1,04E-04	1,12E-04	2,82E-03	4,50E-05	-5,15E-02
POCP	kg NMVOC eq.	3,17E-02	1,94E-03	1,69E-03	2,84E-05	3,34E-05	7,81E-04	1,25E-05	-1,52E-02
ADP-minerals&metals*	kg Sb eq.	5,08E-05	7,76E-06	2,93E-06	3,69E-09	2,26E-07	5,30E-06	1,09E-08	1,50E-05
ADP-fossil*	MJ	1,33E+02	4,60E+00	6,86E+00	2,89E-02	1,23E-01	1,96E+00	2,81E-02	-8,61E+01
WDP	m^3	-2,40E+01	-6,41E-04	-1,20E+00	-2,18E-07	-1,89E-05	-3,87E-03	1,87E-06	1,85E+01
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								

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Potential environmental impact – additional mandatory and voluntary indicators

Potential environmental impact; primary aluminium; extruded

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	1,09E+01	3,18E-01	5,61E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,12E+00

Potential environmental impact; primary aluminium; extruded and anodized

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO_2 eq.	1,11E+01	3,18E-01	5,71E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,12E+00

Potential environmental impact; primary aluminium; extruded and painted

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO_2 eq.	1,10E+01	3,18E-01	5,68E-01	2,11E-03	8,26E-03	3,09E-01	1,41E-03	-7,12E+00

[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 equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Use of resources

Use of resources; primary aluminium; extruded (unit MJ, net calorific value)

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4,29E+01	4,99E-02	2,15E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PERM	MJ	1,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	4,31E+01	4,99E-02	2,15E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PENRE	MJ	1,89E+02	4,74E+00	9,68E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
PENRM	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	1,89E+02	4,74E+00	9,68E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m^3	3,00E-01	4,87E-04	1,50E-02	1,80E-06	1,32E-05	1,00E-03	4,34E-05	-2,12E-01
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								

Use of resources; primary aluminium; extruded and anodized (unit MJ, net calorific value)

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4,43E+01	4,99E-02	2,22E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PERM	MJ	3,38E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	4,46E+01	4,99E-02	2,22E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PENRE	MJ	1,93E+02	4,74E+00	9,88E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
PENRM	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	1,93E+02	4,74E+00	9,88E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m^3	3,03E-01	4,87E-04	1,52E-02	1,80E-06	1,32E-05	1,00E-03	4,34E-05	-2,12E-01
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								

Use of resources; primary aluminium; extruded and painted (unit MJ, net calorific value)

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4,39E+01	4,99E-02	2,20E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PERM	MJ	3,62E-01	0	0	0	0	0	0	0
PERT	MJ	4,43E+01	4,99E-02	2,20E+00	2,33E-04	1,77E-03	2,17E-01	4,63E-03	-3,06E+01
PENRE	MJ	1,92E+02	4,74E+00	9,83E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
PENRM	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	1,92E+02	4,74E+00	9,83E+00	2,94E-02	1,27E-01	2,48E+00	3,40E-02	-1,25E+02
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m^3	3,02E-01	4,87E-04	1,51E-02	1,80E-06	1,32E-05	1,00E-03	4,34E-05	-2,12E-01
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								

Waste production

Waste production: primary aluminium; extruded

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3,14E-02	1,15E-05	1,57E-03	8,05E-08	3,29E-07	6,60E-03	3,84E-08	8,34E-03
Non-hazardous waste disposed	kg	3,45E+00	2,00E-01	1,92E-01	5,31E-05	6,01E-03	1,08E+00	1,01E-01	-1,94E+00
Radioactive waste disposed	kg	8,74E-04	3,08E-05	4,52E-05	1,98E-07	8,57E-07	7,05E-06	2,31E-07	-5,01E-04

Waste production: primary aluminium; extruded and anodized

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3,22E-02	1,15E-05	1,61E-03	8,05E-08	3,29E-07	6,60E-03	3,84E-08	8,34E-03
Non-hazardous waste disposed	kg	3,25E+00	2,00E-01	1,82E-01	5,31E-05	6,01E-03	1,08E+00	1,01E-01	-1,94E+00
Radioactive waste disposed	kg	8,19E-04	3,08E-05	4,25E-05	1,98E-07	8,57E-07	7,05E-06	2,31E-07	-5,01E-04

Waste production: primary aluminium; extruded and painted

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3,43E-02	1,15E-05	1,72E-03	8,05E-08	3,29E-07	6,60E-03	3,84E-08	8,34E-03
Non-hazardous waste disposed	kg	3,19E+00	2,00E-01	1,79E-01	5,31E-05	6,01E-03	1,08E+00	1,01E-01	-1,94E+00
Radioactive waste disposed	kg	8,08E-04	3,08E-05	4,19E-05	1,98E-07	8,57E-07	7,05E-06	2,31E-07	-5,01E-04

Output flows

Output flows: primary aluminium; extruded

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0,52	0	0	0	0	0,9	0	0
Materials for energy recovery	kg	0,0055	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

Output flows: primary aluminium; extruded and anodized

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0,38	0	0	0	0	0,9	0	0
Materials for energy recovery	kg	0,0078	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

Output flows: primary aluminium; extruded and painted

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0,37	0	0	0	0	0,9	0	0
Materials for energy recovery	kg	0,0083	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in products	kg C	0
Biogenic carbon content in packaging, extruded	kg C	0,004
Biogenic carbon content in packaging, extruded and anodized	kg C	0,008
Biogenic carbon content in packaging, extruded and painted	kg C	0,007

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

Additional information – Scenarios

Transport to construction site (A4)

Parameter	Unit
Vehicle type	Lorry, 16-32 metric ton
Load capacity	37 % (ecoinvent 3.6)
Distance	275 km
Bulk density	63 kg/m3

Parameter	Unit
Vehicle type	Ferry
Load capacity	65 % (LIPASTO)
Distance	155 km
Bulk density	63 kg/m3

Installation (A5)

Parameter	Unit
Ancillary materials for installation	estimated to very small and hence neglected
Water use	0 m3
Other resource use	0 kg
Energy type and consumption	estimated to very small and hence neglected
Waste materials	5 % material loss
Output materials	packaging materials; material reuse and energy recovery

End-of-life (C)

Parameter	Unit
Collection process	collected separately
Transportation	50 km road
Recovery system	90 % of aluminium recycled
Disposal	10 % to landfill

Recycling (D)

The recycled aluminium substitutes the primary aluminium 1:1.

Differences versus previous versions

The previously published version followed standard EN 15804:2012 + A1:2013. The EPD has been updated to follow the new standard EN 15804:2012 + A2:2019 and its requirements: The impact categories have been updated and results for module D have been calculated for the product. Also, the primary aluminium production and transportation to the factory have been updated to correspond the current areas the aluminium is produced.

References

Ecobio Oy. 2021. LCA Report – Purso Aluminium profiles.
General Programme Instructions of the International EPD® System. Version 3.01.
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