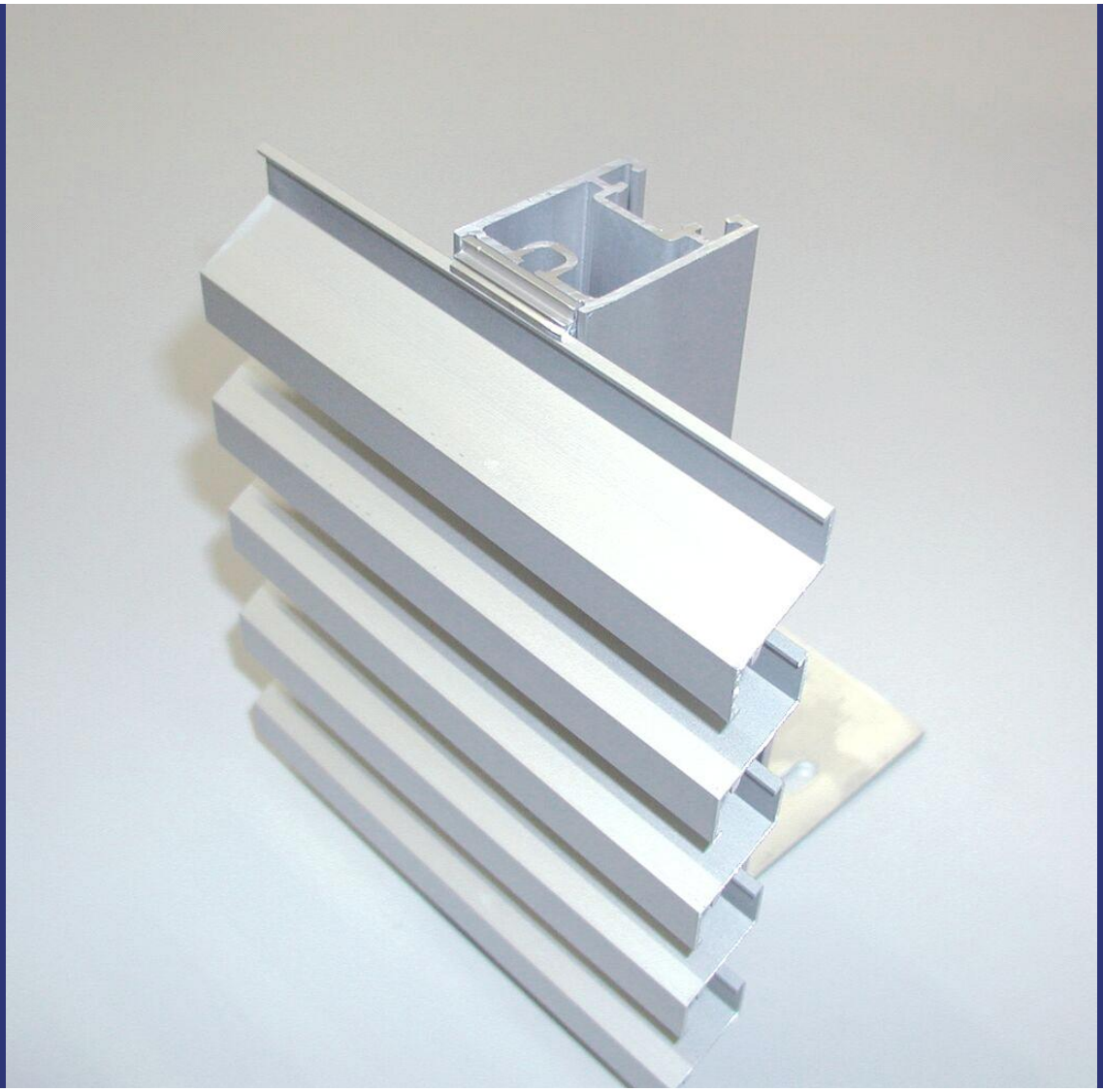
RENSON®

Environmental Product Declaration

According to EN15804+A2

This declaration is for:
LINIUS

Provided by:
RENSON NV



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Expiry date:
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ECO PLATFORM EPD VERIFIED

Nationale MILIEUDATABASE

MRPI milieu relevante product informatie

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.01173.2026

DATE OF THIS ISSUE

21-4-2026

EXPIRY DATE

21-4-2031

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Jeannette Levels-Vermeer, LBP SIGHT. The LCA study has been done by Léa Roulleau, CSTB. The certificate is based on an LCA-dossier according to EN15804+A2. It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 21th of May 2025, V. 5.2'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
Kingsfordweg 151
1043 GR
Amsterdam

PRODUCT

LINIUS

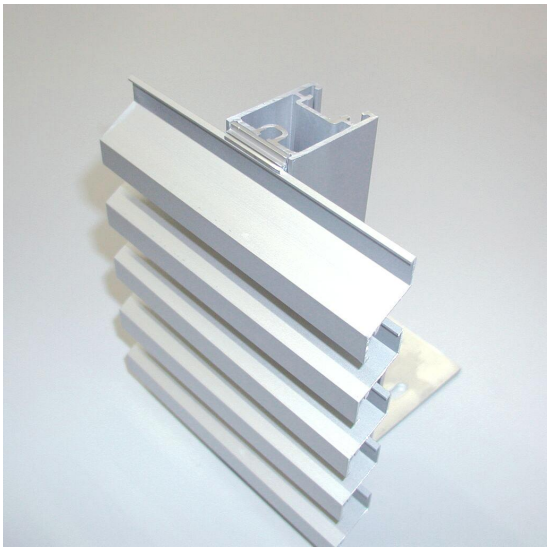
DECLARED UNIT / FUNCTIONAL UNIT

1 m^2

DESCRIPTION OF PRODUCT

The product Linius® is a cladding system consisting of an aluminium support structure to which aluminium ventilating blades are fixed by means of aluminium blade supports. The blades come in various thicknesses, lengths and widths.

VISUAL PRODUCT



MORE INFORMATION

https://renson.net/en-gb/products/cladding/horizontal

Ing. L. L. Oosterveen MSc. MBA **Managing Director MRPI**	DEMONSTRATION OF VERIFICATION
	CEN standard EN15804 serves as the core PCR [1]
	Independent verification of the declaration and data according to EN15804+A2 Internal: External: X
	Third party verifier: Jeannette Levels-Vermeer, LBP SIGHT
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

Product description

The product Linius® is a cladding system consisting of an aluminium support structure to which aluminium blades are fixed by means of aluminium ventilating blades supports. The blades vary in thicknesses (from 33 to 120mm), lengths and widths. This EPD represents an average EPD of the following references: L.033.01, L.050.00, L.050.25, L.050HF, L.060HF, L.066.01, L.066.06, L.066P, L.075HF, L.120.01, L.033.08, L.033CL, L.050WS. Optionally, blades may be perforated. Aluminium mullion and aluminium blade supports are included in the scope of the study. Complementary products include aluminium mounting or sliding brackets and stainless steel screws. Elements not included in the scope of the study are wooden supporting structure, finishing strips, sectional door option. The final product is packaged in cardboard, PE film, wooden panels and wooden pallets.

Application

The Linius system can be used to clad non-supporting façades or parts of façades that form a uniform plane with a strong horizontal accent.

Service life

The products has an assumed service life of 50 years (SBR publication Service Life of Construction Products [SBR, 2011]).

Production processes

The aluminium profiles arrive at the factory and are then cut and sawn manually. After any pre-assembly, the profiles are powder-coated in the colour chosen by the customer. The profiles are packed in wooden crates, ready for dispatch.

The certificate is based on an LCA-dossier accoring to ISO 14025:2011 and EN 15804+A2:2019/AC:2021. It is verified according to the 'Verification Protocol for MRPI LCA project report & EPD May 2025". EPD of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

Parameters	Value	Unit
Declared unit		
Minimum mass density	6,81	kg/m²
Maximum mass density	9,78	kg/m²
Average mass density	8,28	kg/m²

Biogenic carbon content

Biogenic carbon content	Value	Unit
Biogenic carbon content in product	0	kg C
Biogenic carbon content in accompanying packaging	0,368	kg C

Component (> 1%)	(kg / %)
Aluminium blades	7,74 / 88%
Powder coating	0,54 / 6%
Screws (stainless steel) - Complementary product	0,4 / 5%
Mounting brackets (aluminium) - Complementary product	0,068 / 1%

SCOPE AND TYPE

This EPD follows the EPD type "cradle-to-grave" with module D.

Linius product are produced in Belgium in Waregem factory and selled in the Netherlands.

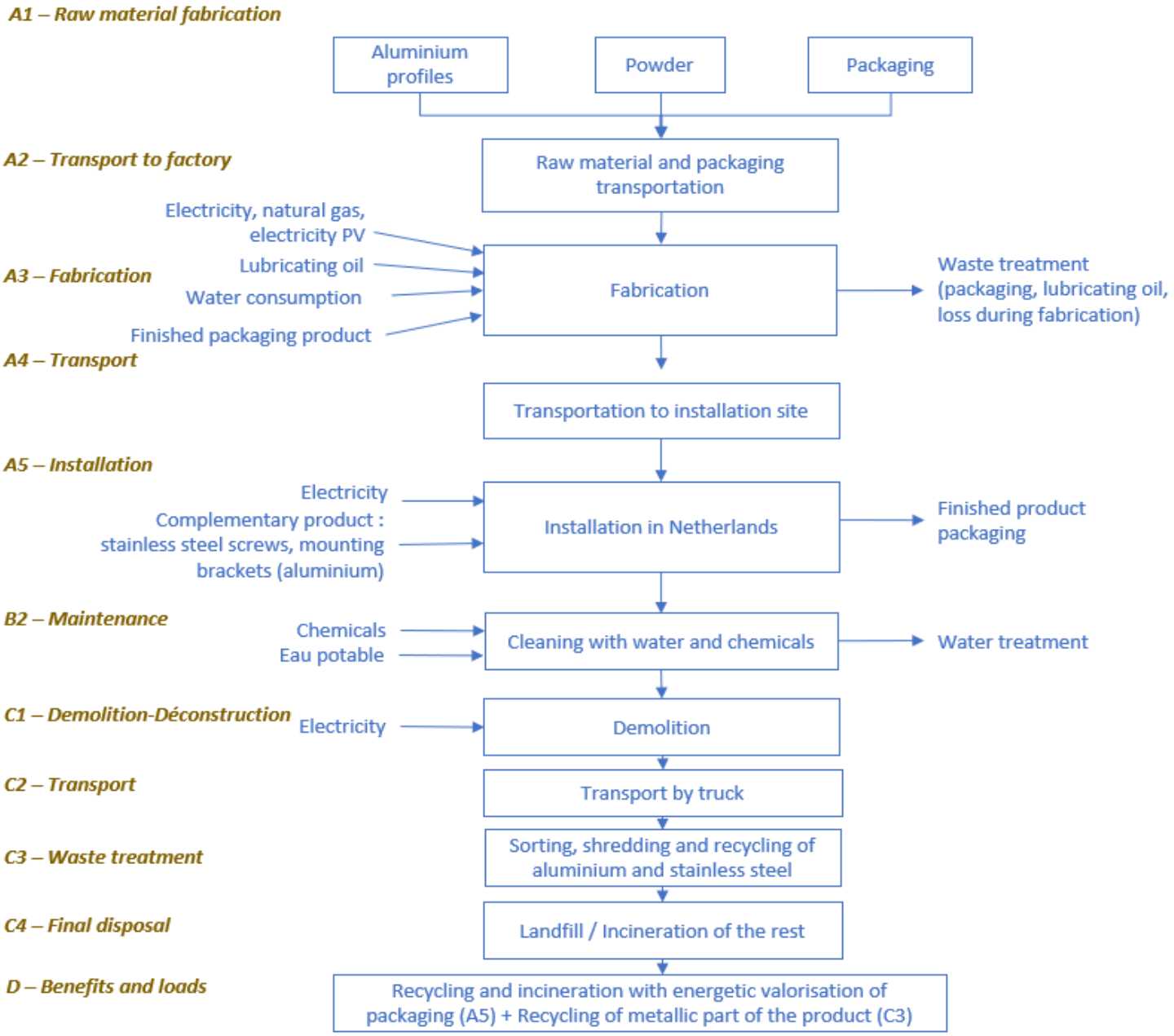
The software used is Simapro v10.2.0.3. All background data was considered using data from the Ecoinvent 3.9.1 database (December 2022, cut-off by classification) or EPDs from suppliers published in 2022 for powder coating and in 2024 for aluminium.

It is an average EPD, covering different blades with various thicknesses, lenghts and widths (L.033.01, L.050.00, L.050.25, L.050HF, L.060HF, L.066.01, L.066.06, L.066P, L.075HF, L.120.01, L.033.08, L.033CL, L.050WS).
No deviation of more than 20% from the average per environmental impact indicator was observed, except 2 environmental categories (Water use and Ozone Depletion). However these deviations were not significant at the level of the weighted ECI.

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse - Recovery - Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

X = Modules Assessed

ND = Not Declared



REPRESENTATIVENESS

This EPD refers to a single-manufacturer, single-factory. The environmental indicators are calculated for an average product.
Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Netherlands.

ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	3,11E+01	4,06E-01	1,15E+01	4,30E+01	1,97E-01	2,83E+00	0,00E+00	3,17E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,83E-02	9,24E-02	1,25E+00	2,88E-01	-1,76E+01
GWP-fossil	kg CO2 eq.	3,07E+01	4,05E-01	1,26E+01	4,37E+01	1,97E-01	1,48E+00	0,00E+00	2,83E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,82E-02	9,23E-02	1,21E+00	2,88E-01	-1,71E+01
GWP-biogenic	kg CO2 eq.	3,99E-02	1,36E-04	-1,13E+00	-1,09E+00	6,58E-05	1,33E+00	0,00E+00	3,44E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,43E-05	2,98E-05	3,84E-02	3,16E-05	-1,46E-01
GWP-luluc	kg CO2 eq.	3,67E-01	2,00E-04	5,50E-02	4,23E-01	9,68E-05	1,27E-02	0,00E+00	4,14E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,78E-05	4,59E-05	1,10E-03	9,20E-06	-2,86E-01
ODP	kg CFC11 eq.	9,93E-07	9,20E-09	4,31E-07	1,43E-06	4,46E-09	4,57E-08	0,00E+00	6,07E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,49E-09	2,01E-09	1,48E-08	9,81E-10	-4,30E-07
AP	mol H+ eq.	1,86E-01	1,00E-03	5,01E-02	2,37E-01	4,87E-04	7,53E-03	0,00E+00	1,68E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,57E-04	2,02E-04	5,07E-03	2,04E-04	-9,80E-02
EP-fresh water	kg P eq.	9,05E-03	3,40E-06	1,18E-03	1,02E-02	1,65E-06	3,10E-04	0,00E+00	5,67E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,98E-06	7,50E-07	2,59E-05	3,93E-07	-8,31E-04
EP-marine	kg N eq.	2,75E-02	2,68E-04	9,08E-03	3,68E-02	1,30E-04	1,22E-03	0,00E+00	9,19E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,45E-05	4,97E-05	9,83E-04	8,81E-05	-1,42E-02
EP-terrestrial	mol N eq.	2,78E-01	2,81E-03	9,20E-02	3,73E-01	1,36E-03	1,23E-02	0,00E+00	4,31E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,38E-04	5,17E-04	1,08E-02	9,17E-04	-1,53E-01
POCP	kg NMVOC eq.	1,06E-01	1,64E-03	3,79E-02	1,46E-01	7,95E-04	4,75E-03	0,00E+00	1,10E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,17E-04	3,13E-04	3,53E-03	2,58E-04	-5,93E-02
ADP-minerals & metals	kg Sb eq.	1,35E-04	1,16E-06	1,16E-04	2,53E-04	5,64E-07	9,00E-06	0,00E+00	1,62E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,40E-07	3,09E-07	2,63E-05	7,93E-08	9,86E-05
ADP-fossil	MJ, net calorific value	4,95E+02	6,15E+00	2,01E+02	7,02E+02	2,98E+00	2,24E+01	0,00E+00	4,50E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E-01	1,31E+00	9,36E+00	3,15E-01	-2,41E+02
WDP	m3 world eq. Deprived	3,36E+01	2,98E-02	4,13E+00	3,77E+01	1,44E-02	1,15E+00	0,00E+00	-4,74E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,66E-03	5,48E-03	1,04E-01	3,38E-02	-9,52E-01

GWP-total	=	Global Warming Potential total
GWP-fossil	=	Global Warming Potential fossil fuels
GWP-biogenic	=	Global Warming Potential biogenictotal
GWP-luluc	=	Global Warming Potential land use and land use change
ODP	=	Depletion potential of the stratospheric ozone layer
AP	=	Acidification Potential, Accumulated Exceedence
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 Exceedence
POCP	=	Formation potential of tropospheric ozone photochemical oxidants
ADP-minerals & metals	=	Abiotic Depletion Potential for non-fossil resources [1]
ADP-fossil	=	Abiotic Depletion for fossil resources potential [1]
WDP	=	Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

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

ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease inci-dence	1,66E-06	4,01E-08	5,21E-07	2,23E-06	1,94E-08	7,26E-08	0,00E+00	1,57E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,63E-10	6,86E-09	8,19E-08	2,68E-09	-1,25E-06
IRP	kBq U235 eq.	4,81E+00	2,96E-03	9,91E-01	5,81E+00	1,44E-03	1,76E-01	0,00E+00	2,88E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,67E-04	6,65E-04	2,56E-02	4,48E-04	-1,19E+00
ETP-fw	CTUe	1,67E+02	2,96E+00	4,88E+01	2,19E+02	1,43E+00	7,25E+00	0,00E+00	2,34E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,46E-01	6,48E-01	6,51E+00	3,40E+00	-5,76E+01
HTP-c	CTUh	7,09E-08	1,80E-10	2,72E-08	9,83E-08	8,75E-11	3,03E-09	0,00E+00	9,19E-11	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,75E-11	4,21E-11	8,26E-10	8,89E-11	-4,69E-08
HTP-nc	CTUh	6,14E-07	4,40E-09	1,85E-07	8,03E-07	2,13E-09	2,63E-08	0,00E+00	4,24E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,58E-10	9,31E-10	3,13E-08	2,80E-09	-2,82E-07
SQP	-	1,44E+02	6,24E+00	1,45E+02	2,95E+02	3,03E+00	1,01E+01	0,00E+00	1,41E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,25E-01	7,93E-01	1,12E+01	3,32E-01	-5,16E+01

PM = Potential incidence of disease due to PM emissions

IRP = Potential Human exposure efficiency relative to U235 [1]

ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]

HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]

HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]

SQP = Potential soil quality index [2]

Disclaimer [1]:

- 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.

Disclaimer [2]:

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

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	3,52E+00	5,95E-03	2,81E+00	6,34E+00	2,88E-03	2,16E-01	0,00E+00	2,10E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,05E-04	1,27E-03	4,55E-01	3,52E-01	-4,14E+00
NHWD	kg	2,22E+01	5,86E-01	6,87E+00	2,97E+01	2,84E-01	1,03E+00	0,00E+00	2,40E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,79E-02	7,57E-02	1,10E+00	2,51E-01	-3,00E+00
RWD	kg	4,66E-03	1,87E-06	8,66E-04	5,52E-03	9,09E-07	1,67E-04	0,00E+00	2,30E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,86E-07	4,31E-07	1,95E-05	2,70E-07	-9,53E-04
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,50E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	9,83E-01	9,83E-01	0,00E+00	3,86E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,74E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,68E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,89E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

HWD = Hazardous Waste Disposed
NHWD = Non Hazardous Waste Disposed
RWD = Radioactive Waste Disposed
CRU = Components for reuse
MFR = Materials for recycling
MER = Materials for energy recovery
EEE = Exported Electrical Energy
ETE = Exported Thermal Energy

RESOURCE USE per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1,27E+02	9,00E-02	4,80E+01	1,76E+02	4,36E-02	5,56E+00	0,00E+00	6,31E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,46E-01	2,06E-02	1,05E+00	2,08E-02	-8,61E+01
PERM	MJ	1,55E+00	0,00E+00	1,02E+01	1,18E+01	0,00E+00	-1,03E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,29E+02	9,00E-02	5,99E+01	1,89E+02	4,36E-02	3,91E+00	0,00E+00	6,31E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,46E-01	2,06E-02	1,05E+00	2,08E-02	-8,61E+01
PENRE	MJ	4,94E+02	6,15E+00	2,00E+02	7,00E+02	2,98E+00	2,23E+01	0,00E+00	4,50E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E-01	1,31E+00	9,36E+00	3,15E-01	-2,41E+02
PENRM	MJ	1,73E+01	0,00E+00	1,25E-01	1,74E+01	0,00E+00	-2,66E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,95E+02	6,15E+00	1,98E+02	6,99E+02	2,98E+00	2,23E+01	0,00E+00	4,50E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E-01	1,31E+00	9,36E+00	3,15E-01	-2,41E+02
SM	kg	8,45E+00	5,90E+00	0,00E+00	1,44E+01	0,00E+00	2,01E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,56E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NSRF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	8,61E-01	9,62E-04	1,36E-01	9,98E-01	4,67E-04	3,07E-02	0,00E+00	-1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	1,88E-04	5,08E-03	6,60E-04	-5,17E-01

PERE = Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable 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 resources
SM = Use of secondary materials
RSF = Use of renewable secondary fuels
NSRF = Use of non-renewable secondary fuels
FW = Use of net fresh water

BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BBCpr	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
BCCpa	kg C	0,00E+00	0,00E+00	-3,72E-01	-3,72E-01	0,00E+00	3,87E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BCCpr = Biogenic carbon content in product
BCCpa = Biogenic carbon content in packaging

CALCULATION RULES

Estimates and assumptions
Some assumptions were made to model the raw materials production. For example, EPD of powder used in this study is not for the exact reference of powder used in the product. A lot of references of powder are used in Linius product and differs depending on the color. Electricity consumption for painting workshop per m² was also estimated, based on product expertise from painting workshop supplier. Electricity for machines was estimated based on machines power and time needed per machine. Natural gas consumption and water consumption were estimated based on economic allocation. Scenario for installation was also elaborated with hypothesis, with common practice.

Cut-off rules
Cut-off criteria follow EN15804 ("1% for renewable and nonrenewable primary energy consumption and non-renewable primary energy consumption and 1% of the total mass input for this elementary process, The total of input flows per module, e.g. per modules A1-A3, A4-A5, B1-B5, B6-B7, C1-C4 and module D must be equal to a maximum of 5% of energy consumption and mass") and PCR Part A v1.4. No flows have been deliberately omitted from the system boundaries.

Data quality
The upstream and downstream processes have been modelled based on environmental data from databases ecoinvent (version 3.9.1, December 2022) and from EPDs. The background datasets from ecoinvent database used for the calculation are not older than 10 years. Background data quality assessment has shown a good rating for this EPD in terms of technological, geographical representativeness.
Regarding geographical coverage, most datasets used have a European scope, rather than Belgium scope, which could be improved by changing electricity mix of datasets. Average Netherlands and Belgium specific electricity mix were used. In cases where no average European data was available, the most approximate dataset was used.

Data collection period
Site-specific production data has been collected for 2022 from the production site. The collected data was reviewed in terms of consistency, technological, geographical, temporal and accuracy representativity and it is estimated as good quality. The electricity consumption do not vary significatively from 2022 to 2024 (less than 1%).

Allocations
The provision of raw materials to factory did not require any allocation.
Electricity and natural gas are allocated by economic allocation (year 2022) and then by surface allocation.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Module A1-A3
The aluminium profiles arrive at the factory and are then cut and sawn by hand. After any pre-assembly, the profiles are powder-coated in the colour chosen by the customer. The profiles are packed in wooden crates, ready for dispatch.
This stage takes into account:
• The production of the aluminium slats (modelled using the supplier's EPD);
• Powder production;
• The production of raw material and finished product packaging and their end-of-life;
• Transport of raw materials and packaging;
• Energy and water consumption;
• Production, transport and end-of-life of consumables (lubricating oil);
• Production, transport and end-of-life of consumables (lubricating oil);
• Production, transport and end-of-life of raw material losses.

Module A4
This stage takes into account the distribution from production site to installation place by truck (215km, EURO6 >32 ton).

Module A5
Linius product are installed in the building using screwing, drilling or sawing machines.
There are 3% product losses during installation (default value). Once installed, the product is constantly exposed to the outdoor environment.
Noise production during installation is limited, since the product is mainly made-to-measure.

Installation stage in the building includes:
• Energy consumption (1,0E-01 kWh "Electricity, low voltage {NL}| market for electricity, low voltage, residual | Cut-off, U", based on machines of 2kW, with average power of 50%, for drilling, sawing, screwing activities).
• End-of-life of finished product packaging.

Module B1
The product does not need any consumption, does not have any emision during its use.

Module B2
Linius products are cleaned with water once a year (1 L/year/m² over the lifetime of the product).

Module B3-B7
Linius systems do not require any repair (B3), replacement (B4), nor rehabilitation (B5). No energy (B6) nor water (B7) is required to use the products.

Module C1
Linius products are deinstalled (based on same assumption as installation with 1,00E-01 kWh of electricity).

Module C2
A hypothetical transport distance of 50 km by truck was applied to model the transport of product and complementary product from the demolition site to the sorting site and/or crushing plant for recycling, and 100 km for the transportation distance from the demolition site to the landfill site.

Module C3/C4
Aluminium is recycled at 94%, landfilled at 3% and incinerated at 3% (scenarios from Forfaitaire waarden voor verwerking).
Stainless steel is recycled at 99% (“staal, bevestigingsmiddelen”) and landfilled at 1%.
Powder is incinerated (100%).

Module D
This stage takes into account:
• Recycling of packaging (wood, cardboard, plastic) (A5)
• Energy recovery of packaging (wood, cardboard,plastic) (A5)
• Metals recycling (C3)

Waste treatment scenario	Recycling (%)	Landfill (%)	Incineration (%)
Aluminium	94%	3%	3%
Stainless steel	99%	1%	0%
Powder	0%	100%	100%

DECLARATION OF SVHC

None of the substances contained in the product are listed in the "Candidate List of Substances of Very High Concern for authorisation".
The products do not emit any contaminants or substances that are harmful to the environment or health during the manufacturing phase nor during the use phase.
No changes observed during the use phase compared to the manufacturing state.

REFERENCES

EN 15804:2012-04+A2 2019, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products
EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures
EN ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
EN ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
Ecoinvent 3.9.1 Database on Life cycle inventories (Life Cycle Inventory data), ecoinvent Association, Zürich, 2021
SimaPro 10.2.0.3 version. Software for life cycle engineering.