WE BREATHE FASTENERS®

polska pgb

Environmental Product Declaration

According to ISO14025+EN15804+A2

This declaration is for:
Plastic fixings (PA6 and PP) with metal expansion element

Provided by:
pgb-Polska

MRPI® registration:
1.1.00867.2025

Program operator:
Stichting MRPI®
Publisher:
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www.mrpi.nl

Date of first issue:
26-6-2025
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ECO PLATFORM EPD VERIFIED

MRPI milieu relevante product informatie

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.00867.2025

DATE OF THIS ISSUE

26-6-2025

EXPIRY DATE

26-6-2030

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Gert-Jan Vroege, Eco Intelligence. The LCA study has been done by Maria Haneveer and Brienne Wiersema, Ecomatters B.V.. The certificate is based on an LCA-dossier according to ISO14025+EN15804+A2. It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. 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

Plastic fixings (PA6 and PP) with metal expansion element

DECLARED UNIT / FUNCTIONAL UNIT

1 Mass (kg)

DESCRIPTION OF PRODUCT

Polyamide or Polypropylene fixings for usage in different base materials for the fixing of ETICS and façade applications.

VISUAL PRODUCT

MORE INFORMATION

https://www.pgb-polska.com/en-gb

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 an data according to ISO14025+EN15804+A2 Internal: External: X
	Third party verifier: Gert-Jan Vroege, Eco Intelligence
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION (PART 1)

This EPD is representative of several fixing products of polyamide or Polypropylene for usage in different base materials for the fixing of ETICS and façade applications, for which S-IPH 10mm (with a metal nail) is the representative product. The products included within the EPD were grouped based on function and similarities in their raw material composition. The representative product was then selected based on an evaluation of the environmental performance of all variations included in the study.

Representative product description
The S-IPH 10mm with metal nail is a hammered-in insulation fixing with very good pullout resistance, small embedment depth and a very short installation time. It is also approved for all base materials and is available with a plastic and metal pin with an over-injected plastic cap. The plate offers a very good stiffness for optimal holding of the insulation material.
Short description: Polyamide or Polypropylene fixings for usage in different base materials for the fixing of ETICS and façade applications

Detailed description per variation
S-IPH/ S-IPL
The insulation plug type S-IPH and S-IPL 10mm is a hammered-in insulation fixing with very good pullout resistance, small embedment depth and a very short installation time. It is approved for all base materials and is available with a plastic and metal pin with an over-injected plastic cap. The plate offers a very good stiffness for optimal holding of the insulation material.
S-IPT
The insulation plug type S-IPT 8mm is a screwed-in insulation fixing with very good pullout resistance, small embedment depth and a very short installation time. It is approved for all base materials and is available with a plastic and metal pin with an over-injected plastic cap. The plate offers a very good stiffness for optimal holding of the insulation material.
S-IPW
The insulation plug type S-IPW 8mm is a plastic plug with a steel wall tie as expansion element for fixing of insulation on masonry and concrete. The wall tie anchor has a corrugated profile to be grouted into the brickwork of the façade.
S-RPT
Frame fixing plug of 8mm and 10mm with a countersunk collar and countersunk head screw. Thanks to the long expansion zone of the plug, it can be used in solid building materials as well as hollow materials such as bricks and less pressure-resistant materials like aerated concrete.
S-RPC
Frame fixing plug of 8mm and 10mm with a cylindrical collar and hexagon head screw with pressed-on washer. Thanks to the long expansion zone of the plug, it can be used in solid building materials as well as hollow materials such as bricks and less pressure-resistant materials like aerated concrete.
S-RPF
Frame fixing plug of 8mm and 10mm with a countersunk collar and hexagon head screw with pressed-on washer. Thanks to the long expansion zone of the plug, it can be used in solid building materials as well as hollow materials such as bricks and less pressure-resistant materials like aerated concrete.
S-PKK
Hammer nail plug of 5-6-8 and 10mm with countersunk head for use in concrete and masonry
S-PCK
Hammer nail plug of 5-6 and 8mm with cylindrical head for use in concrete and masonry
S-SP
Hammer nail plug of 6 and 8mm with mushroom head for use in concrete and masonry
S-PFK
Hammer nail plug of 8mm with large cylindrical head for use in concrete and masonry
S-SPM
Hammer nail plug of 6 and 8mm with countersunk head and screw nail metric thread end for use in concrete and masonry

Product description and application												
Fixing products of polyamide or Polypropylene for usage in different base materials for the fixing of ETICS and façade applications												
Commercial name per variation	S-IPH/ S-IPL	S-IPT	S-IPW	S-RPT	S-RPC	S-RPF	S-RPT	S-PKK	S-PCK	S-SP	S-PFK	S-SPM
Main purpose	Insulation fixing	Frame Fixing Plug	Frame Fixing Plug	Frame Fixing Plug	Frame Fixing Plug	Frame Fixing Plug	Frame Fixing Plug	Hammer nail plug	Hammer nail plug	Hammer nail plug	Hammer nail plug	Hammer nail plug
Geographic region of intended sales	European market	European market	European market	European market	European market	European market	European market	European market	European market	European market	European market	European market

Characteristics representative product S-IPH/ 10x260		
Weight excl. packaging	0,0406	kg
Diameter	10	mm
Length	70-260	mm

Component (> 1%)	(kg / %)
Ferrous metal	60%
Plastic	40%

SCOPE AND TYPE

The system boundaries of this EPD are defined as Cradle-to-Grave. All major steps from the extraction of natural resources to the final disposal of the product are included in the environmental performance of the manufacturing phase, except those that are not relevant to the environmental performance of the product. This declaration does not imply an indicator result of zero.

This EPD is representative for products produced in Zabrze, Poland. The application market is for customers in Europe. Likewise, for the end-of-life, the fate of the product is described within an European context.

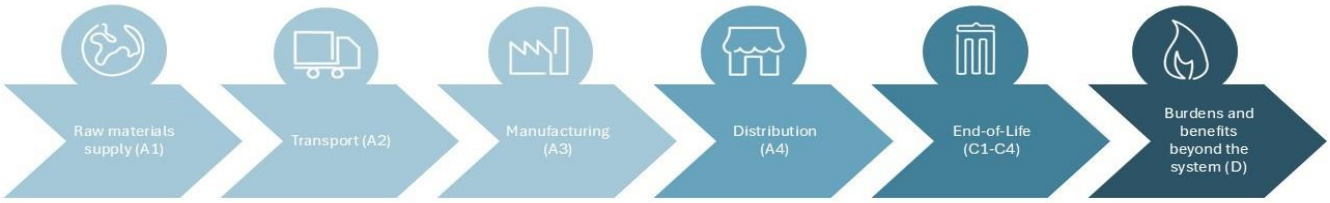
The software LCA for Experts (GaBi) 10.7.0.183 is used to perform the LCA. Background processes are sourced from Ecoinvent 3.10 (2023).

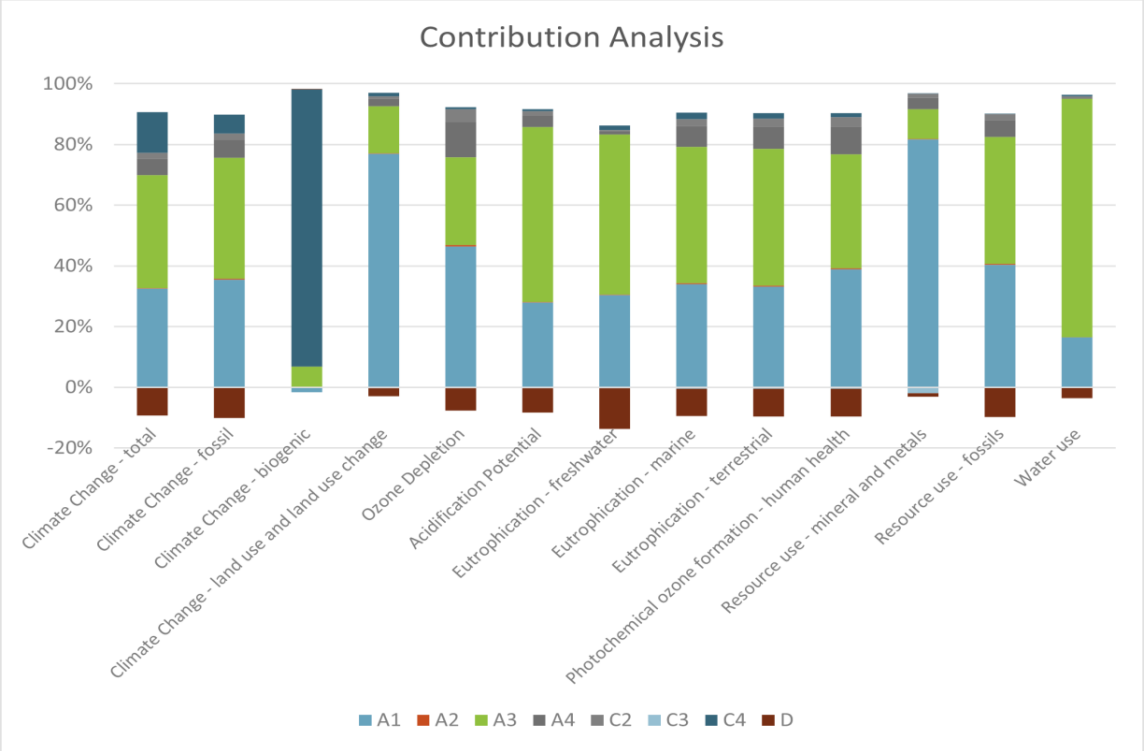
The validity of this EPD is in correspondence with the specifications of the LCA project report.

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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X

X = Modules Assessed

ND = Not Declared





REPRESENTATIVENESS

This EPD is representative for the following anchors:
1. Insulation plug S-IPH with metal nail (Ø10) L70-260 (representative product)
2. Insulation plug S-IPL with metal nail (Ø10) L140-300
3. Insulation plug S-IPT with metal screw (Ø8) L95-295
4. Insulation plug S-IPT with metal screw (Ø8) L315-455
5. Insulation plug S-IPW (Ø8) L120-260
6. Frame fixing S-RPT (Ø8) L80-140
7. Frame fixing S-RPT (Ø10) L80-300
8. Frame fixing S-RPC (Ø8) L80-140
9. Frame fixing S-RPC (Ø10) L80-300
10. Frame fixing S-RPF (Ø8) L80-140
11. Frame fixing S-RPF (Ø10) L80-300
12. Frame fixing S-PKK (Ø5) L30-50
13. Frame fixing S-PKK (Ø6) L35-80
14. Frame fixing S-PKK (Ø8) L45-80
15. Frame fixing S-PKK (Ø10) L80-160
16. Frame fixing S-PCK (Ø5) L30-50
17. Frame fixing S-PCK (Ø6) L25-80
18. Frame fixing S-PCK (Ø8) L45-140
19. Frame fixing S-SPM (Ø6-8) L40-50
20. Frame fixing S-PFK (Ø8) L45

All products are manufactured at the same production facility in Zabrze, Poland. The products are sold in Europe.

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.	3,30E+00	2,53E-02	3,78E+00	7,11E+00	5,58E-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	1,94E-01	-1,55E-02	1,36E+00	-9,34E-01
GWP-fossil	kg CO2 eq.	3,31E+00	2,53E-02	3,72E+00	7,06E+00	5,58E-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	1,94E-01	-1,57E-02	5,67E-01	-9,35E-01
GWP-biogenic	kg CO2 eq.	-1,39E-02	1,73E-05	5,93E-02	4,54E-02	3,82E-04	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	1,33E-04	2,03E-04	7,95E-01	1,30E-03
GWP-luluc	kg CO2 eq.	5,92E-03	8,27E-06	1,20E-03	7,12E-03	1,82E-04	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	6,33E-05	-2,21E-05	9,22E-05	-2,03E-04
ODP	kg CFC11 eq.	4,38E-08	5,03E-10	2,73E-08	7,16E-08	1,11E-08	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	3,85E-09	-2,15E-10	5,39E-10	-7,07E-09
AP	mol H+ eq.	1,29E-02	7,92E-05	2,66E-02	3,96E-02	1,75E-03	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	6,06E-04	-1,72E-04	3,33E-04	-3,66E-03
EP-fresh water	kg PO4 eq.	1,05E-03	1,69E-06	1,83E-03	2,88E-03	3,72E-05	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	1,29E-05	-8,95E-06	5,02E-05	-4,65E-04
EP-marine	kg N eq.	2,94E-03	2,69E-05	3,88E-03	6,85E-03	5,92E-04	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	2,05E-04	-4,02E-05	1,80E-04	-7,78E-04
EP-terrestrial	mol N eq.	2,89E-02	2,90E-04	3,91E-02	6,83E-02	6,40E-03	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	2,22E-03	-4,50E-04	1,54E-03	-7,97E-03
POCP	kg NMVOC eq.	1,16E-02	1,24E-04	1,12E-02	2,30E-02	2,73E-03	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	9,49E-04	-1,35E-04	4,01E-04	-2,73E-03
ADP-minerals & metals	kg Sb eq.	3,91E-05	8,09E-08	4,73E-06	4,39E-05	1,78E-06	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	6,19E-07	-9,65E-07	8,25E-08	-5,28E-07
ADP-fossil	MJ, net calorific value	5,70E+01	3,57E-01	5,89E+01	1,16E+02	7,86E+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	2,73E+00	-2,25E-01	3,86E-01	-1,35E+01
WDP	m3 world eq. Deprived	1,33E+00	2,09E-03	6,33E+00	7,67E+00	4,61E-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	1,60E-02	-4,45E-03	5,14E-02	-2,80E-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	1,68E-07	1,61E-09	4,91E-08	2,19E-07	3,56E-08	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	1,23E-08	-2,29E-09	3,08E-09	-4,66E-08
IRP	kBq U235 eq.	1,64E-01	4,56E-04	5,12E-02	2,16E-01	1,01E-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	3,49E-03	-1,58E-03	5,35E-04	-1,47E-02
ETP-fw	CTUe	9,49E+01	9,55E-02	9,71E+00	1,05E+02	2,11E+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	7,31E-01	-1,54E-01	2,21E+00	-5,79E+01
HTP-c	CTUh	3,08E-07	1,78E-10	4,62E-09	3,13E-07	3,91E-09	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	1,36E-09	-1,39E-10	6,63E-10	-2,18E-07
HTP-nc	CTUh	4,77E-08	2,13E-10	4,36E-08	9,15E-08	4,69E-09	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	1,63E-09	-8,60E-10	6,54E-09	-1,69E-08
SQP	-	1,07E+01	2,11E-01	1,14E+01	2,23E+01	4,66E+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	1,62E+00	-3,81E-01	2,44E-01	-1,93E+00

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	0,00E+00	0,00E+00	1,92E-03	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
NHWD	kg	0,00E+00	0,00E+00	7,70E-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	0,00E+00	4,93E-01	0,00E+00
RWD	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
CRU	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
MFR	kg	0,00E+00	0,00E+00	5,11E-03	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
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	4,93E-01	0,00E+00
EEE	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
ETE	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

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	3,26E+00	6,04E-03	3,49E+00	6,75E+00	1,33E-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	4,62E-02	-3,44E-02	1,22E-02	-3,69E-01
PERM	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
PERT	MJ	3,26E+00	6,04E-03	3,49E+00	6,75E+00	1,33E-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	4,62E-02	-3,44E-02	1,22E-02	-3,69E-01
PENRE	MJ	5,70E+01	3,57E-01	5,89E+01	1,16E+02	7,86E+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	2,73E+00	-2,25E-01	3,86E-01	-1,35E+01
PENRM	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
PENRT	MJ	5,70E+01	3,57E-01	5,89E+01	1,16E+02	7,86E+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	2,73E+00	-2,25E-01	3,86E-01	-1,35E+01
SM	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
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	3,10E-02	4,87E-05	1,47E-01	1,78E-01	1,07E-03	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	3,72E-04	-1,04E-04	1,20E-03	-6,52E-03

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	-3,95E-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	0,00E+00	3,95E-02	0,00E+00

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

CALCULATION RULES (PART 1)

Data quality and data collection period
Data quality requirements follow EN15804+A2:2019. Used datasets are complete according to the system boundary, and are as current as possible. Foreground data is of reference period 2023, representing 1-year averaged data. Processes used in the background modelling are referring to Ecoinvent 3.10, the most recent version of the widely used database and are consistent with the foreground modelling in system limits and allocation procedures. The technological and geographical coverage reflects the physical reality as far as possible taking into account the technology mix, location, and representativeness of technologies, input materials, and input energies for the region. Data quality is assessed as good on average and adequate to the goal and scope of the study.

CALCULATION RULES (PART 2)

Cut-off criteria and allocation procedures
No cut-offs or allocation procedures were intentionally applied to inputs and outputs within the system boundaries in the models. Cut-off and allocation procedures in the background processes are according to the respective methodologies and estimated to be methodologically consistent with the foreground system.

CALCULATION RULES (PART 3)

Allocation procedure
To allocate the emissions and inputs to the manufactured products, mass allocation is used. This approach assigns the utilities needed to produce 1kg of the product based on the utilities needed for the entire production site and the total production volume of the raw materials processed there. That means that mass allocation was done on the processing of raw materials and not on the output of the product. This approach was followed for all raw materials apart from steel and the packaging materials, since they are produced externally. For those raw materials, a market dataset was used. In addition to that, they were included in allocating the production waste to 1kg of representative product.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION (PART 1)

The product stage is reported in life cycle stages A1-A3. This life cycle stage includes the extraction and processing of raw materials for the product and the packaging, their transportation to the production site by road, and the manufacturing process. The manufacturing stage (A3) includes all processes related to assembling the product, including energy consumption and waste treatment, for which specific data is available. Electricity consumption is modelled using primary data on the amount and datasets for the Polish electricity mix and self-generated solar electricity from the Ecoinvent 3.10 database. The installation stage (A4) includes transport of the product to the customer. No additional inputs are required for the installation of the product. The use stage is not applicable as the products under study do not require any energy, maintenance or repair to be used. For the end-of-life stage (C), a scenario is used which is based on Ecoinvent 3.10 datasets and default values. To calculate the benefits and loads beyond the system boundaries (D), Formula D.6. from EN1504+A2 was used.

Transportation parameters	Transport to customer
Vehicle type used for transport	Lorry, 16-32t
Distance production site to point of sale, km	2637
Capacity utilisation	64%

Waste treatment scenario (C3, C4)	Reuse	Recycling	Incineration (no energy recovery)	Landfill
Low-alloyed steel	11%	89%	0%	0%
Non-hazardous waste	0%	0%	100%	0%

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”, or they do not exceed the threshold with the European Chemicals Agency.

REFERENCES

•EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

•prEN 17662 (Draft) Execution of steel structures and aluminium structures – Environmental Product Declarations – Product category rules complementary to EN 15804 for Steel, Iron and Aluminium structural products for use in construction works.

•European Commision (2020). Annex C V2.1 of Product Environmental Footprint (PEF) calculations, https://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml [Accessed 26 05 2023]

•ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework

•ISO 14044:2006 Environmental management — Life cycle assessment — Requirements and guidelines

•Wernet, G., Bauer, C., Steubing, B., Reinhard, J., Moreno-Ruiz, E., and Weidema, B. (2016). The ecoinvent database version 3 (part I): overview and methodology. The International Journal of Life Cycle Assessment, [online] 21(9), pp.1218–1230. Available at: <http://link.springer.com/10.1007/s11367-016-1087-8> [Accessed 14 02 2020].

•Eurostat (2023) Recovery rates for packaging waste. Available at: https://ec.europa.eu/eurostat/databrowser/view/ten00062/default/table?lang=en

•Eurostat (2023) Recycling rates for packaging waste. Available at: https://ec.europa.eu/eurostat/databrowser/view/ten00063/default/table?lang=en

•Eurostat (2023) Treatment of waste by waste category, hazardousness and waste management operations. Available at: https://ec.europa.eu/eurostat/databrowser/view/env_wastrt/default/table?lang=en

REMARKS

There are no further remarks.