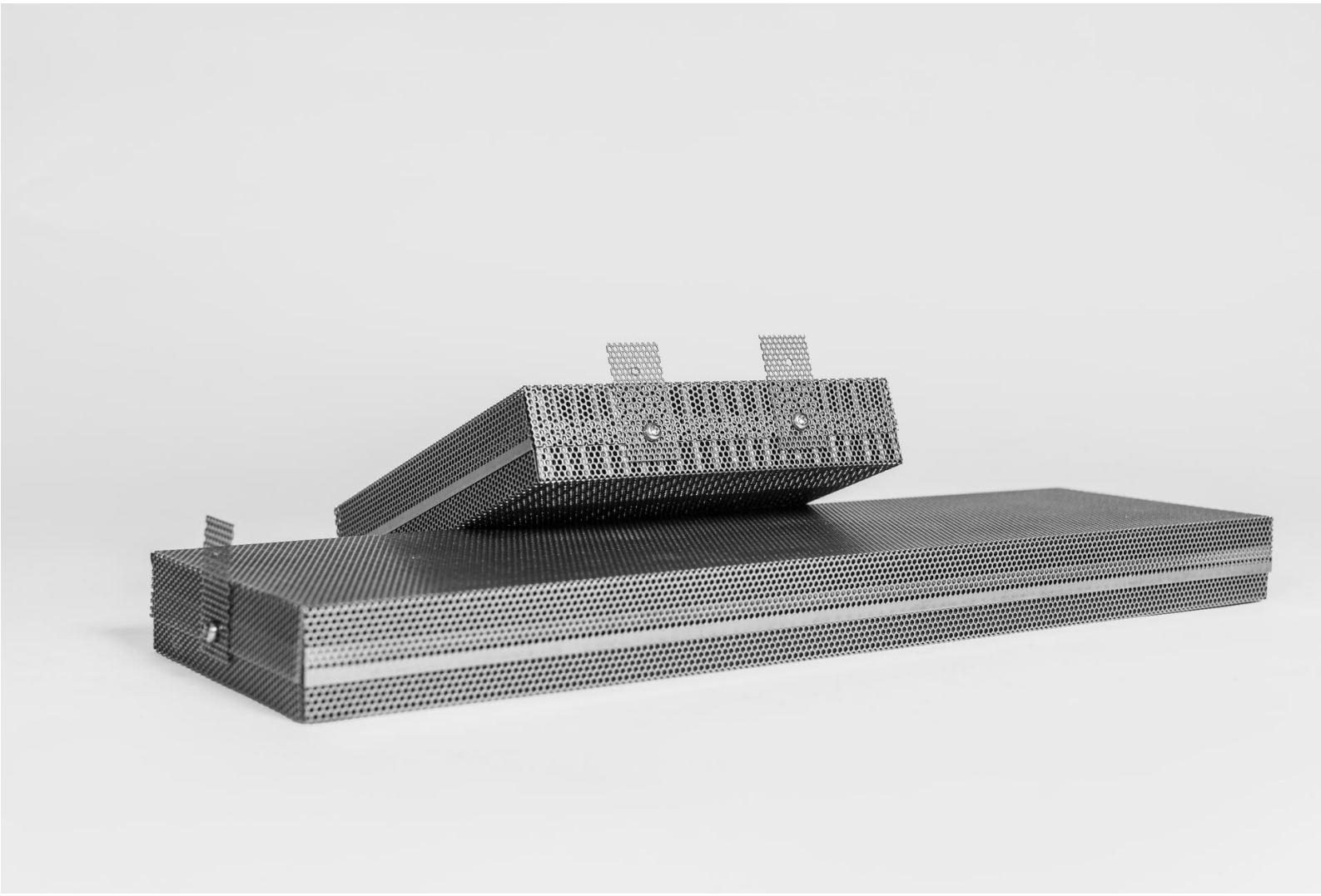
epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Firebreather Air Transfer Grille



SECURO
www.securo.no

The Norwegian EPD Foundation

Owner of the declaration:
Securo AS

Product:
Firebreather Air Transfer Grille

Declared unit:
1 kg

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 030:2021 Part B for ventilation components

Program operator:
The Norwegian EPD Foundation

Declaration number:

NEPD-6002-5266-EN

Registration number:

NEPD-6002-5266-EN

Issue date: 06.02.2024

Valid to: 06.02.2029

Updated 29.02.2024

EPD software:
LCAno EPD generator ID: 247199

General information

Product

Firebreather Air Transfer Grille

Owner of the declaration:

Securo AS
Contact person: Ole Øivind Skjetne
Phone: +47 994 19 000
e-mail: post@securo.no

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway
The Norwegian EPD Foundation
Phone: +47 23 08 80 00
web: post@epd-norge.no

Manufacturer:

Securo AS

Declaration number:

NEPD-6002-5266-EN

Place of production:

Securo AS
Industriveien 10
7652 Verdal , Norway

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 030:2021 Part B for ventilation components

Management system:

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Organisation no:

990 590 079

Declared unit:

1 kg Firebreather Air Transfer Grille

Issue date: 06.02.2024

Declared unit with option:

A1-A3,A4,C1,C2,C3,C4,D

Valid to: 06.02.2029

Year of study:

2023

Functional unit:

Fire separation in fire rated walls, 150 x 150mm to 600 x 600mm, EI 30 to EI 90 following EN 13501-2.
The product has an open vent area in it's quiescent state, which closes automatically at fire temperatures - providing insulation and maintaining integrity for the rated period.

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Norway's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Norway, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system and has been approved by EPD Norway.

Developer of EPD: Ole Øivind Skjetne

Reviewer of company-specific input data and EPD: Bengt Are Zakariassen

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Alexander Borg, Asplan Viak AS

(no signature required)

Approved:

Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

Ventilating Air Transfer Grille with rated fire resistance of EI 30 to EI 90, tested to EN 1364-5.

For more info, see our website: https://securonorway.com/products/air-transfer-grilles/

Product specification

The FB Air Transfer Grilles solves the need for venting through fire rated exterior or interior walls without compromising with the strict requirements of a fire rated construction.

With FB Air Transfer Grilles installed, there will be no flame penetration or no leaking of hot gases to the unexposed side, both instantly and throughout the fire rating period.

FB Air Transfer Grilles have a fully passive vent design, i.e. it contains no moving parts, no detector activating system and no cabling.
The technology allows the air transfer grilles to perform in fires as required from a fire rated wall construction: Instant action, integrity (E), insulation (I).
It offers a passive substitute for mechanical fire damper air terminals and in ductwork application.
The solution require no detectors or activation and thus no expensive installation or maintenance costs.

Materials	kg	%
Fire retardant	0,67	67,10
Metal - Stainless steel	0,30	30,30
Metal - Steel	0,03	2,60
Total	1,00	

Packaging	kg	%
Packaging - Recycled cardboard	0,01	6,88
Packaging - Wood	0,15	93,13
Total incl. packaging	1,16	

Technical data:

Standard sizes:
150 x 150 x 40 mm
200 x 200 x 40 mm
500 × 100 x 40 mm
500 x 150 x 40 mm
600 x 600 x 40 mm

Other sizes on request.

Fire rating following EN 13501-2:
EI30, EI60 or EI90.

Tested to:
EN 1364-5:2017

Flow rates in m3/h by pressure differential:

Market:

Construction Onshore, Norway.

Reference service life, product

The reference service life of the product varies with the application environment.

Reference service life, building or construction works

Approx. 60 years.

LCA: Calculation rules

Declared unit:

1 kg Firebreather Air Transfer Grille

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Energy, water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Fire retardant	ecoinvent 3.6	Database	2019
Metal - Stainless steel	Modified ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Metal - Steel	SSAB	EPD (EN15804A1) + company dataset (EN15804A2)	2020
Packaging - Recycled cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Wood	ecoinvent 3.6	Database	2019

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

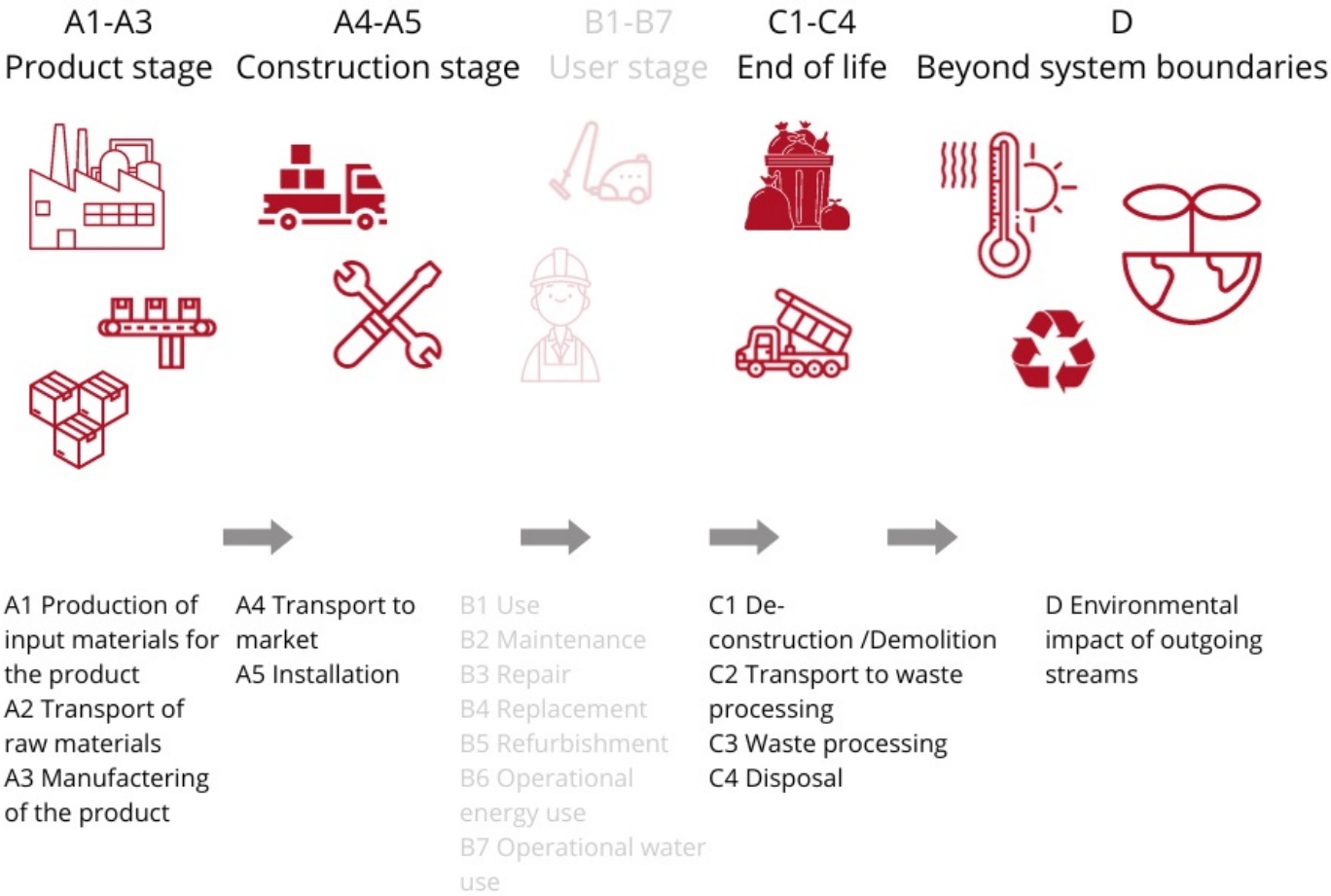
Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	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	MND	MNR	MNR	MNR	MNR	MNR	MNR	MNR	X	X	X	X	X

System boundary:

The use stage has not been considered for the product, as there normally is no actions related to the use of the product after Assembly until deconstruction.

The Assembly stage has not been declared, as the declared unit is pr. kg and the number of fasteners is static regardless of element size.

Fire mastic for installation of the product is not considered, due to the vast range and variation of fire mastic's composition.



Additional technical information:

Attentive and careful decommissioning of the product allows the product to undergo an inspection and performance test at Securo - to verify and document its suitability for re-use as-is.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

A4 & C2: Generic distances for transport in Norway

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	300	0,043	l/tkm	12,90

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	85	0,043	l/tkm	3,66

Waste processing (C3)	Unit	Value			
Waste treatment per kg Hazardous waste, incineration (kg)	kg	0,62			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,04			
Waste, Materials to recycling (kg)	kg	0,30			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Hazardous waste, from incineration (kg)	kg	0,12			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,01			
Waste, non-hazardous waste, to landfill (kg)	kg	0,00			
Waste, scrap steel, to landfill (kg)	kg	0,04			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	0,03			
Substitution of primary steel with net scrap	kg	0,08			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	0,41			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact									
	Indicator	**Unit**	A1-A3	A4	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	5,17E+00	5,69E-02	0	1,61E-02	1,49E+00	5,56E-02	-8,59E-02
	GWP-fossil	kg CO_2 -eq	5,38E+00	5,68E-02	0	1,61E-02	1,48E+00	5,18E-02	-8,57E-02
	GWP-biogenic	kg CO_2 -eq	-2,28E-01	2,35E-05	0	6,67E-06	3,46E-03	3,73E-03	-5,09E-05
	GWP-luluc	kg CO_2 -eq	9,88E-03	2,02E-05	0	5,73E-06	3,50E-04	5,01E-06	-1,19E-04
	ODP	kg CFC11 -eq	7,30E-07	1,29E-08	0	3,65E-09	1,59E-07	2,60E-09	-1,72E-04
	AP	mol H+ -eq	2,98E-02	1,63E-04	0	4,63E-05	2,04E-03	1,04E-04	-4,34E-04
	EP-FreshWater	kg P -eq	1,91E-04	4,54E-07	0	1,29E-07	3,32E-05	5,24E-07	-5,34E-06
	EP-Marine	kg N -eq	5,61E-03	3,23E-05	0	9,16E-06	4,24E-04	3,33E-05	-9,21E-05
	EP-Terrestial	mol N -eq	6,15E-02	3,62E-04	0	1,02E-04	4,77E-03	3,19E-04	-9,46E-04
	POCP	kg NMVOC -eq	1,89E-02	1,39E-04	0	3,92E-05	1,34E-03	9,00E-05	-4,37E-04
	ADP-minerals&metals[1]	kg Sb-eq	1,73E-04	1,57E-06	0	4,45E-07	4,84E-06	8,96E-08	-1,46E-06
	ADP-fossil[1]	MJ	7,64E+01	8,59E-01	0	2,44E-01	5,80E+00	2,47E-01	-7,36E-01
	WDP[1]	m^3	1,83E+02	8,31E-01	0	2,36E-01	2,11E+01	6,19E+00	3,90E+00

GWP-total = Global Warming Potential total; 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

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

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 experienced with the indicator

Remarks to environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1-A3	A4	C1	C2	C3	C4	D
	PM	Disease incidence	3,53E-07	3,48E-09	0	9,86E-10	3,12E-08	7,31E-10	-8,10E-09
	IRP[2]	kgBq U235 -eq	2,36E-01	3,76E-03	0	1,06E-03	2,64E-02	1,37E-03	8,35E-05
	ETP-fw[1]	CTUe	1,32E+02	6,37E-01	0	1,81E-01	2,83E+01	7,15E-01	-4,83E+00
	HTP-c[1]	CTUh	3,95E-08	0,00E+00	0	0,00E+00	1,33E-09	3,70E-11	-4,05E-10
	HTP-nc[1]	CTUh	1,97E-07	6,96E-10	0	1,97E-10	8,27E-09	1,37E-09	8,54E-09
	SQP[1]	dimensionless	4,59E+01	6,01E-01	0	1,70E-01	2,29E+00	7,05E-01	-2,79E-01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

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 experienced with the indicator
2. 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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use									
Indicator		Unit	A1-A3	A4	C1	C2	C3	C4	D
	PERE	MJ	1,75E+01	1,23E-02	0	3,49E-03	1,05E+00	2,97E-02	-2,66E-01
	PERM	MJ	1,21E+00	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	1,87E+01	1,23E-02	0	3,49E-03	1,05E+00	2,97E-02	-2,66E-01
	PENRE	MJ	7,13E+01	8,60E-01	0	2,44E-01	5,81E+00	2,47E-01	-7,35E-01
	PENRM	MJ	5,16E+00	0,00E+00	0	0,00E+00	-4,91E+00	0,00E+00	0,00E+00
	PENRT	MJ	7,64E+01	8,60E-01	0	2,44E-01	8,94E-01	2,47E-01	-7,35E-01
	SM	kg	2,75E-01	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	1,60E-01	4,40E-04	0	1,25E-04	2,31E-02	5,39E-04	2,97E-03
	NRSF	MJ	7,31E-02	1,57E-03	0	4,46E-04	0,00E+00	5,28E-03	7,53E-02
	FW	m^3	1,07E-01	9,19E-05	0	2,60E-05	5,39E-03	4,35E-04	-4,27E-04

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 resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1-A3	A4	C1	C2	C3	C4	D
	HWD	kg	4,84E-02	4,43E-05	0	1,26E-05	0,00E+00	8,98E-03	-4,35E-04
	NHWD	kg	5,46E+01	4,18E-02	0	1,18E-02	6,66E-01	1,64E-01	-3,49E-02
	RWD	kg	2,05E-04	5,85E-06	0	1,66E-06	0,00E+00	2,64E-08	5,30E-08

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1-A3	A4	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	5,15E+01	0,00E+00	0	0,00E+00	2,96E-01	0,00E+00	0,00E+00
	MER	kg	2,95E-03	0,00E+00	0	0,00E+00	6,66E-01	0,00E+00	0,00E+00
	EEE	MJ	2,41E-03	0,00E+00	0	0,00E+00	6,31E-04	0,00E+00	0,00E+00
	EET	MJ	3,65E-02	0,00E+00	0	0,00E+00	9,55E-03	0,00E+00	0,00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	7,28E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Data source	Amount	Unit
Electricity	ecoinvent 3.6	24,33	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products								
Indicator	**Unit**	A1-A3	A4	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	5,43E+00	5,69E-02	0	1,61E-02	1,44E+00	5,57E-02	-1,27E-01

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.
EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.
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NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.
NPCR 030 Part B for Ventilation components, Ver. 1.0, 18.05.2021, EPD Norway.

Securo AS, founded in 2006, is right in the center of Verdal Industrial Park, Norway. Our setup includes offices, warehousing, R&D and production facilities, and we're proud to say that our products are "Made in Norway."

We're not just about great products; we're also all about being eco-friendly. Our products are made using clean, green energy, and we're committed to supporting our local workforce. We're all in when it comes to sustainability.

Fire safety is a serious matter, and we take it seriously. We're always working on making things better, and that's why we're into continuous Research and Development (R&D). Our goal is to keep pushing the boundaries and providing you with top-notch fire safety solutions. Your safety is what drives us!

As of 2023, you'll find 12 dedicated people working here, striving for a more fire safe future.

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