

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Firebreather Cavity Barrier 23mm 1130mm



The Norwegian EPD Foundation

Owner of the declaration:

Securo AS

Product:

Firebreather Cavity Barrier 23mm 1130mm

Declared unit:

1 pcs

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-5507-4806-EN

Registration number:

NEPD-5507-4806-EN

Issue date: 05.12.2023

Valid to: 05.12.2028

EPD Software:

LCA.no EPD generator ID: 152801

General information

Product

Firebreather Cavity Barrier 23mm 1130mm

Program operator:

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

Declaration number: NEPD-5507-4806-EN

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

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.

Declared unit:

1 pcs Firebreather Cavity Barrier 23mm 1130mm

Declared unit with option:

A1-A3,A4,A5,C1,C2,C3,C4,D

Functional unit:

Fire separation in ventilated facade systems - 23 mm Cavity depth, CC120 - rated EI30 to EI90 (EN 13501-2).

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

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)

Owner of the declaration:

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

Manufacturer:

Securo AS

Place of production:

Securo AS
Industriveien 10
7652 Verdal , Norway

Management system:

Organisation no:

990 590 079

Issue date: 05.12.2023

Valid to: 05.12.2028

Year of study:

2023

Comparability:

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

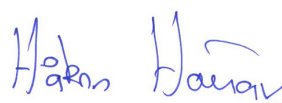
Development and verification of EPD:

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

Approved:



Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

Ventilated Cavity barrier with EI 30 to EI 90 rating that instantly blocks flames, sparks and burning embers. The product enables ventilation and drainage of water in ventilated facade systems and ventilated eaves.

For more information see our website: <https://securonorway.com/products/cavity-barrier/>

Product specification

The Firebreather ventilated cavity barrier stops fire & flames from entering and propagating in the cavity found in ventilated facade systems, and ventilated eaves. The product utilizes a flame arrester principle, in combination with an intumescent material - to rapidly block the air cavity in the event of a fire. In its normal state, the product allows air and water to pass, thus enabling ventilation and outlet of vapor and moisture from the construction.

The product is entirely passive, and normally requires little to no maintenance over its life cycle.

The product may be returned to Securo after decommissioning for evaluation, testing and documentation to re-enter the product on the market if found suitable.

Materials	kg	%
Fire retardant	0,13	24,76
Metal - Stainless steel	0,39	75,24
Total	0,52	

Packaging	kg	%
Packaging - Wood	0,16	95,64
Recycled cardboard	0,01	4,36
Total incl. packaging	0,68	

Technical data:

Length: 1 130 mm

Width: 23 mm

Height: 112 mm

Fire rating: EI 30 to EI 90 following EN 13501-2

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 pcs Firebreather Cavity Barrier 23mm 1130mm

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.

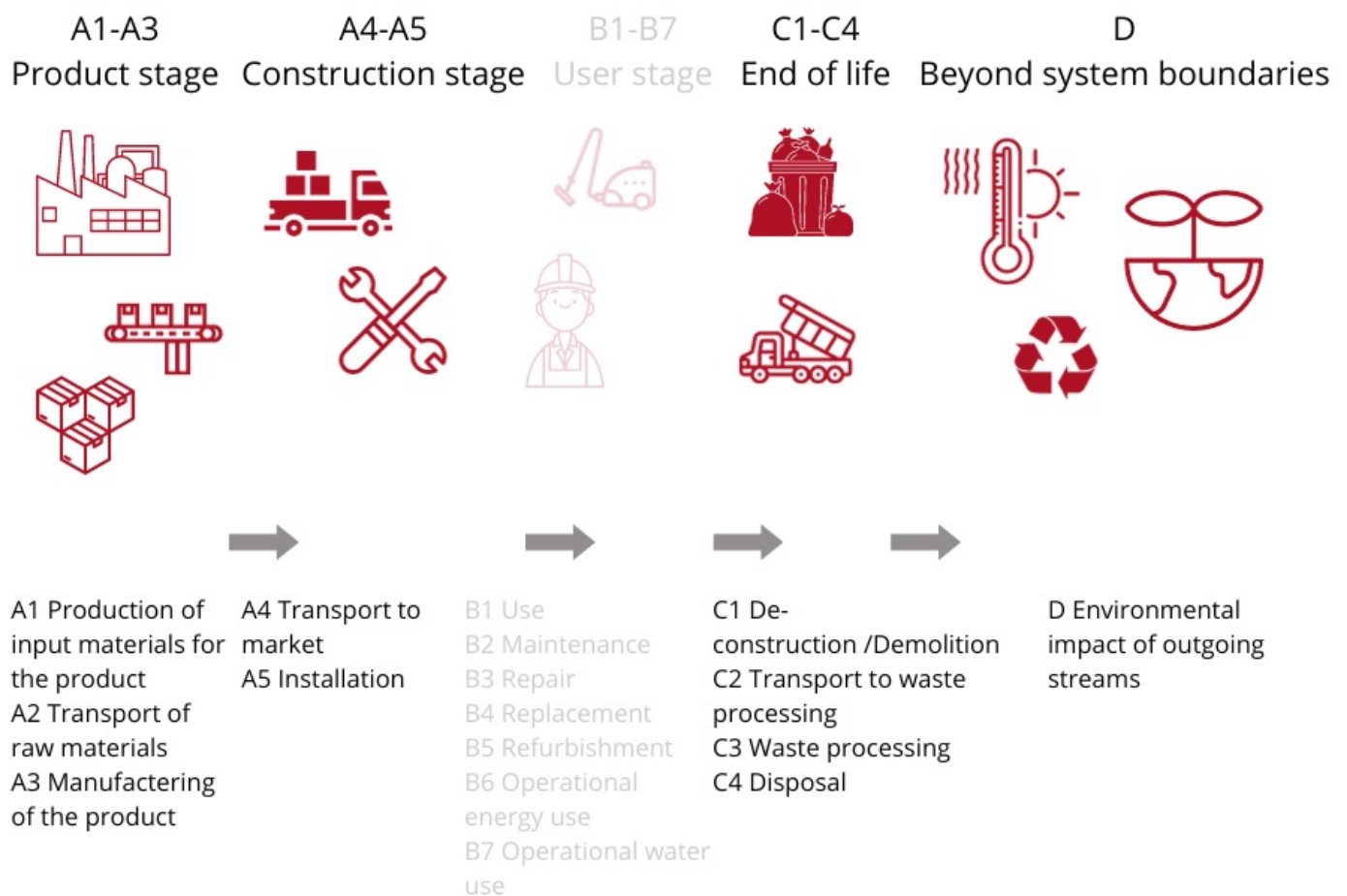
Materials	Source	Data quality	Year
Fire retardant	ecoinvent 3.6	Database	2019
Packaging - Wood	ecoinvent 3.6	Database	2019
Metal - Stainless steel	Modified ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.6	Database	2019

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	X	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.



Additional technical information:

Given the system boundary of 1 pc, the Assembly is based on the assumed use of regular plasterboard or concrete screws for fixing the product. A total of 3 screws is used pr. product.

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.














A5 & C1: installation using 3 generic metal fasteners. The power consumption of the fixing is considered negligible.

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
Assembly (A5)					
	Unit	Value			
Fasteners, steel screws (kg)	kg/DU	0,02			
Waste, Packaging cardboard, corrugated, 100 % recycled, to average treatment (kg)	kg	0,01			
Waste, Packaging pallet, wood, walls (kg)	kg	0,13			
Waste, packaging, pallet, EUR wooden pallet, single use, to average treatment (kg)	kg	0,03			
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 Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,12			
Waste, Materials to recycling (kg)	kg	0,36			
Disposal (C4)					
	Unit	Value			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,03			
Waste, non-hazardous waste, to landfill (kg)	kg	0,01			
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	0,07			
Substitution of primary steel with net scrap	kg	0,32			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	1,04			

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	A5	C1	C2	C3	C4	D	
 GWP-total	kg CO ₂ -eq	3,46E+00	3,35E-02	3,39E-01	0	9,48E-03	2,70E-01	1,06E-02	-3,61E-01	
 GWP-fossil	kg CO ₂ -eq	3,66E+00	3,34E-02	6,25E-02	0	9,47E-03	2,70E-01	9,08E-04	-3,61E-01	
 GWP-biogenic	kg CO ₂ -eq	-2,08E-01	1,38E-05	2,76E-01	0	3,92E-06	0,00E+00	9,70E-03	-2,08E-04	
 GWP-luluc	kg CO ₂ -eq	1,36E-02	1,19E-05	3,88E-05	0	3,37E-06	4,53E-06	1,13E-07	-3,66E-04	
 ODP	kg CFC11 -eq	2,46E-07	7,57E-09	4,79E-09	0	2,15E-09	1,79E-09	1,52E-10	-4,37E-04	
 AP	mol H+ -eq	2,44E-02	9,61E-05	3,19E-04	0	2,72E-05	3,85E-05	3,92E-06	-1,81E-03	
 EP-FreshWater	kg P -eq	1,41E-04	2,67E-07	3,66E-06	0	7,57E-08	1,79E-07	6,63E-08	-2,24E-05	
 EP-Marine	kg N -eq	4,42E-03	1,90E-05	7,11E-05	0	5,39E-06	1,44E-05	1,70E-05	-3,81E-04	
 EP-Terrestrial	mol N -eq	4,95E-02	2,13E-04	7,67E-04	0	6,02E-05	1,43E-04	1,42E-05	-3,90E-03	
 POCP	kg NMVOC -eq	1,63E-02	8,15E-05	2,80E-04	0	2,31E-05	3,50E-05	6,77E-06	-1,83E-03	
 ADP-minerals&metals ¹	kg Sb -eq	1,23E-04	9,23E-07	1,45E-06	0	2,62E-07	7,14E-08	4,15E-09	-6,18E-06	
 ADP-fossil ¹	MJ	4,35E+01	5,05E-01	7,47E-01	0	1,43E-01	4,63E-02	1,09E-02	-3,07E+00	
 WDP ¹	m ³	-2,39E+00	4,89E-01	2,96E+00	0	1,39E-01	-7,87E-01	1,05E-01	1,73E+01	

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	A5	C1	C2	C3	C4	D
 PM	Disease incidence	2,82E-07	2,05E-09	4,42E-09	0	5,80E-10	2,17E-10	6,70E-11	-3,24E-08
 IRP ²	kgBq U235 -eq	1,05E-01	2,21E-03	2,71E-03	0	6,26E-04	1,81E-04	5,55E-05	7,25E-04
 ETP-fw ¹	CTUe	1,50E+02	3,75E-01	2,48E+00	0	1,06E-01	7,09E-01	4,25E-02	-2,02E+01
 HTP-c ¹	CTUh	3,94E-08	0,00E+00	3,62E-10	0	0,00E+00	2,20E-11	0,00E+00	-1,71E-09
 HTP-nc ¹	CTUh	1,03E-07	4,09E-10	2,38E-09	0	1,16E-10	4,69E-10	1,20E-11	3,66E-08
 SQP ¹	dimensionless	2,91E+01	3,54E-01	3,01E-01	0	1,00E-01	9,26E-03	3,42E-02	-7,97E-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	A5	C1	C2	C3	C4	D	
 PERE	MJ	9,03E+00	7,24E-03	7,95E-02	0	2,05E-03	4,51E-03	5,62E-04	-7,73E-01	
 PERM	MJ	1,28E+00	0,00E+00	-1,28E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
 PERT	MJ	1,03E+01	7,24E-03	-3,68E-01	0	2,05E-03	4,51E-03	5,62E-04	-7,73E-01	
 PENRE	MJ	4,15E+01	5,05E-01	7,47E-01	0	1,43E-01	5,82E-02	1,09E-02	-3,07E+00	
 PENRM	MJ	2,02E+00	0,00E+00	0,00E+00	0	0,00E+00	-2,02E+00	0,00E+00	0,00E+00	
 PENRT	MJ	4,35E+01	5,05E-01	7,47E-01	0	1,43E-01	-1,96E+00	1,09E-02	-3,07E+00	
 SM	kg	4,99E-02	0,00E+00	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
 RSF	MJ	4,26E-02	2,59E-04	3,05E-03	0	7,33E-05	1,13E-04	1,18E-05	1,27E-02	
 NRSF	MJ	8,81E-03	9,26E-04	3,31E-02	0	2,62E-04	0,00E+00	9,21E-06	3,41E-01	
 FW	m ³	3,22E-02	5,41E-05	4,64E-04	0	1,53E-05	8,10E-05	1,31E-05	-1,39E-03	

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	A5	C1	C2	C3	C4	D	
 HWD	kg	3,87E-02	2,61E-05	4,73E-04	0	7,39E-06	0,00E+00	2,35E-02	-1,85E-03	
 NHWD	kg	2,87E+00	2,46E-02	1,85E-01	0	6,96E-03	1,15E-01	5,71E-02	-1,47E-01	
 RWD	kg	1,05E-04	3,44E-06	2,43E-06	0	9,76E-07	0,00E+00	6,91E-08	5,29E-07	

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	A5	C1	C2	C3	C4	D	
 CRU	kg	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
 MFR	kg	4,07E-02	0,00E+00	1,06E-02	0	0,00E+00	3,64E-01	0,00E+00	0,00E+00	
 MER	kg	5,79E-09	0,00E+00	1,58E-01	0	0,00E+00	1,15E-01	0,00E+00	0,00E+00	
 EEE	MJ	6,79E-04	0,00E+00	1,11E-01	0	0,00E+00	4,00E-05	0,00E+00	0,00E+00	
 EET	MJ	1,03E-02	0,00E+00	1,68E+00	0	0,00E+00	6,05E-04	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	7,51E-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 CO ₂ -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	A5	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	3,74E+00	3,35E-02	6,35E-02	0	9,48E-03	1,45E-01	1,08E-02	-5,37E-01

GWPI-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






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 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.
 ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
 ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.
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 Graafland and Iversen (2022) EPD generator for NPCR 030 Ventilation components, Background information for EPD generator application and LCA data, LCA.no report number: 12.22
 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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