epd-global
Powered by EPD-Norway

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Floor box

EPD-Global

Owner of the declaration:
SG Armaturen AS

Product:
Floor box

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019, EN 50693:2019 and PCR EPD Italy 007.
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Program operator:
EPD-Global

Declaration number:
NEPD-15015-15830

Issue date:
03.03.2026

Valid to:
03.03.2031

EPD software:
LCAno EPD generator ID: 1328588

General information

Product

Floor box

Owner of the declaration:

SG Armaturen AS
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Program operator:

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Manufacturer:

SG Armaturen AS
Skytterheia 25
4790 Lillesand, Norway

Declaration number:

NEPD-15015-15830

Place of production:

SG Armaturen production site FT (China)
China

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019, EN 50693:2019 and PCR EPD Italy 007.
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Management system:

Statement of liability:

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

Organisation no:

958560931

Declared unit:

1 pcs Floor box

Issue date:

03.03.2026

Declared unit with option:

A1, A2, A3, A4, A5, C1, C2, C3, C4, D

Valid to:

03.03.2031

Year of study:

2024

Functional unit:

1 pc Floor surface box manufactured and installed, including waste treatment at end-of-life.

Comparability:

EPD for electronic and electrical products and systems may not be comparable if they do not comply with similar PCR standards.

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-Global'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-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global'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-Global. NEPDT63

Developer of EPD: Benedikte Ruud Andersen

Reviewer of company-specific input data and EPD: Audun Skare

Verification of EPD tool:

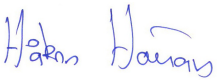
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools. Approval number: NEPDT78.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

Floor box for mounting sockets or other standard equipment. Installation is made easy by attaching the back plate with mounting tower before the base box and selected product are terminated and mounted. The Floor box is made of halogen-free polycarbonate which provides increased color-resistant white color.

IP Class: IP31. Material: Polycarbonat (PC). Colour: White (RAL 9003). Mounting: Surface, indoor. Length (mm): 169. Width (mm):87. Height (mm): 36. EAN: 7021987855011.

The EPD also covers the following products:

EAN: 7021987855110 - FLOOR SURFACE BOX BLACK

Product specification

Materials	kg	%
Metal - Steel low alloy	0.0007	0.7315
Plastic - Polycarbonate (PC)	0.095	99.27
Total	0.0957	100.00

Packaging	kg	%
Packaging - Cardboard	0.009999	58.79
Packaging - Plastic	0.000998	5.87
Packaging - Recycled paper	0.006011	35.34
Total incl. packaging	0.1127	100.00

Technical data:

Link to product data on our website:
https://www.sg-as.com/int/en/pdf/article/78550/702390/specification_78550.pdf

Market:

Nordic + Northwestern Europe.

Reference service life, product

20 years. Estimated based on the characteristics of the product and the intended application.

Reference service life, building or construction works

60 years. Standard service life for buildings to the PCR Part A of EPD Norway.

LCA: Calculation rules

Declared unit:

1 pcs Floor box

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. Incoming energy and 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:

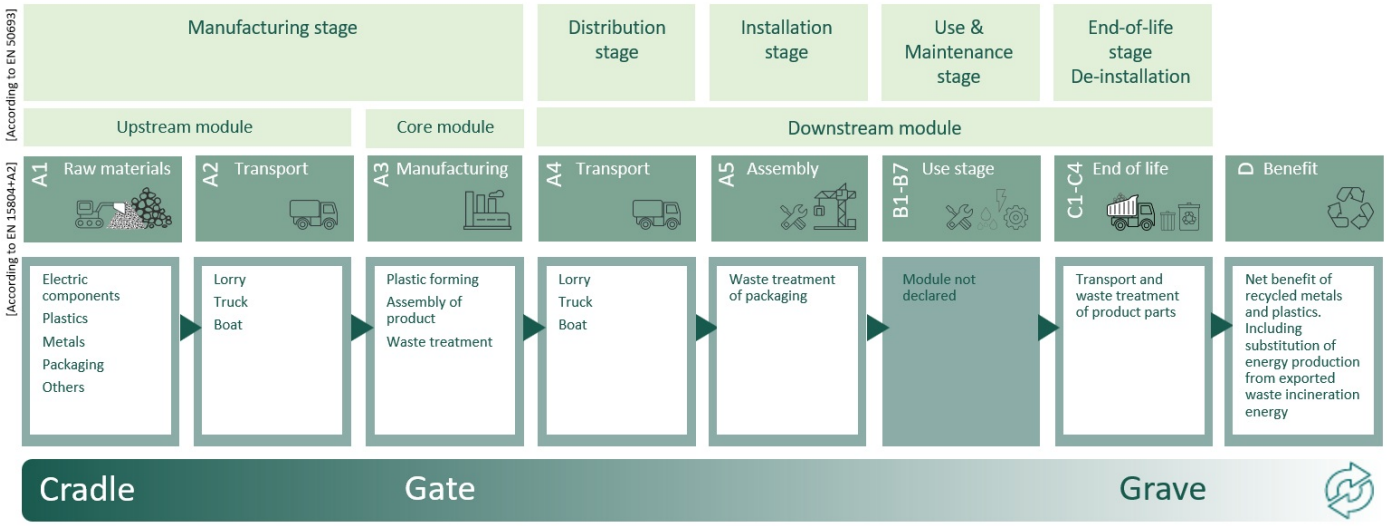
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the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

Materials	Source	Data quality	Year
Metal - Steel low alloy	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Packaging - Recycled paper	Modified ecoinvent 3.6	Database	2019
Plastic - Polycarbonate (PC)	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	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

System boundary:



Additional technical information:

Link to Mounting instruction on our website:
https://www.sg-as.com/int/en/file/techfile/K0I8/Floor%20Box_user%20manual.pdf

LCA: Scenarios and additional technical information

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

Module A4 = Transportation by truck (160 km) from the production site in Shunde, China to the harbor in Shenzhen, China. After this the goods are transported by ship (19330 km) from Shenzhen, China to Hamburg, Germany. Then with a truck (650 km) from Hamburg, Germany to the warehouse in Lillesand, Norway + 800 km for Nordic / Northwestern Europe Market.

Modules A5 = Installation is performed in the Nordic / Northwestern Europe Market and done by manual labor. The use of portable electrical devices such as drills usually have low energy requirements falling under the cut-off criterion of 1% and are therefore neglected (especially for small retail switches). No product scraps are generated during installation, but the end-of-life treatment of packaging is systematically accounted for in this module.

Module B1-B7 have been excluded since the product(s) covered by this EPD do not contain electronic components.

Module C1 = De-installation is done by manual labor. The use of portable electrical devices such as drills usually have low energy requirements falling under the cut-off criterion of 1% and are therefore neglected (especially for small retail switches).

Module C2 = Transportation from building site to the waste treatment facility with an average distance of 300km.

Modules C3 and C4 = Waste treatment of the product follows the default values provided in EN 50693, Product Category Rules for life cycle assessments of electronic and electrical products and systems, table G.4. This table specified how different types of raw materials used in A1 will likely be treated during the end-of-life of the product. Waste treatments in C3 include material recycling and incineration with energy recovery and fly ash extraction. Disposal in C4 consist of landfilling of different waste fractions and of ashes.

Module D = The recyclability of metals, plastics, and electronic components allows the producers a credit for the net scrap that is produced at the end of a product's life. The benefits from recycling of net scrap are described in formula from EN 15804:2012+A2:2019. Substitution of heat and electricity generated by the incineration with energy recovery of plastic insulation and other parts is also calculated in module D.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Freight, Transoceanic (km)	65.0 %	19330.00	0.003	l/tkm	57.99
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36.7 %	1450.00	0.043	l/tkm	62.35
Truck, 16-32 tonnes, EURO 6 (km) - Rest of World	38.8 %	160.00	0.044	l/tkm	7.04

Assembly (A5)	Unit	Value			
Waste, packaging, paper printed, 100% recycled content, to average treatment (kg) - Global - A5, incl. 85 km transp	kg	0.006011			
Waste, packaging, corrugated board box, with recycled content, to average treatment (kg) - A5 including transport	kg	0.009999			
Waste, packaging, plastic film (LDPE), to average treatment (kg)	kg	0.000998			

Waste processing (C3)	Unit	Value			
Steel to recycling (kg)	kg	0.00056			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0.0475			

Disposal (C4)	Unit	Value			
Landfilling of steel (kg)	kg	0.00014			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0.001661			
Landfilling of plastic mixture (kg)	kg	0.0475			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary steel with net scrap (kg)	kg	-0.00014			
Substitution of electricity (MJ)	MJ	0.07389			
Substitution of thermal energy, district heating (MJ)	MJ	1.12			

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	A2	A3	A4	A5	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	7.22E-01	2.97E-04	2.45E-01	5.03E-02	2.66E-02	0	0	1.12E-01	5.43E-03	-6.56E-03
	GWP-fossil	kg CO_2 -eq	7.44E-01	2.96E-04	2.45E-01	5.03E-02	3.38E-04	0	0	1.12E-01	5.43E-03	-6.33E-03
	GWP-biogenic	kg CO_2 -eq	-2.27E-02	1.15E-07	7.33E-05	1.79E-05	2.63E-02	0	0	2.44E-06	4.86E-07	-1.33E-05
	GWP-luluc	kg CO_2 -eq	7.05E-04	1.08E-07	3.13E-05	2.48E-05	9.17E-08	0	0	4.56E-07	1.07E-07	-2.23E-04
	ODP	kg CFC11 -eq	1.97E-08	6.50E-11	2.07E-09	1.11E-08	5.90E-11	0	0	2.45E-10	1.49E-10	-4.72E-04
	AP	mol H+ -eq	3.02E-03	8.86E-07	1.28E-03	7.53E-04	1.32E-06	0	0	2.46E-05	3.71E-06	-5.26E-05
	EP-FreshWater	kg P -eq	1.71E-05	2.78E-09	5.34E-06	3.27E-07	2.29E-09	0	0	2.17E-08	4.97E-09	-5.66E-07
	EP-Marine	kg N -eq	5.13E-04	1.75E-07	2.62E-04	1.81E-04	4.95E-07	0	0	1.18E-05	6.97E-06	-1.73E-05
	EP-Terrestial	mol N -eq	5.61E-03	1.95E-06	2.88E-03	2.01E-03	4.74E-06	0	0	1.21E-04	1.47E-05	-1.87E-04
	POCP	kg NMVOC -eq	2.30E-03	7.31E-07	7.48E-04	5.45E-04	1.38E-06	0	0	2.91E-05	5.36E-06	-5.13E-05
	ADP-minerals&metals[1]	kg Sb-eq	5.06E-06	7.95E-09	6.47E-07	9.72E-07	6.72E-09	0	0	1.23E-08	3.63E-09	-6.18E-08
	ADP-fossil[1]	MJ	8.94E+00	4.38E-03	2.15E+00	7.11E-01	3.95E-03	0	0	1.55E-02	1.10E-02	-9.14E-02
	WDP[1]	m^3	2.12E+00	1.43E-03	1.82E-01	4.57E-01	5.74E-03	0	0	1.12E-01	9.36E-02	-1.16E+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"

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

The LCA results in the EPD are calculated using a specific methodological approach for accounting energy resources, see the additional requirements section for more information. In this EPD the following approach was used: Location-based approach.

The product is compliant with the European RoHS Directive 2011/65/EU on Restriction of the use of certain Hazardous Substances in Electrical and Electronic equipment and with the European REACH regulation (EC) no 1907/2006 on Registration, Evaluation, Authorization and Restriction of Chemicals.

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
	PM	Disease incidence	4.88E-08	1.80E-11	1.73E-08	1.83E-09	2.00E-11	0	0	1.08E-10	7.50E-11	-3.22E-09
	IRP[2]	kgBq U235 -eq	9.06E-03	1.82E-05	1.51E-03	3.08E-03	1.70E-05	0	0	3.89E-05	5.32E-05	-5.93E-04
	ETP-fw[1]	CTUe	2.47E+01	3.55E-03	6.46E+00	4.88E-01	5.14E-03	0	0	2.38E-01	9.98E-02	-4.96E-01
	HTP-c[1]	CTUh	2.84E-10	0.00E+00	6.10E-11	0.00E+00	0.00E+00	0	0	7.00E-12	0.00E+00	-9.00E-12
	HTP-nc[1]	CTUh	1.30E-08	3.00E-12	2.72E-09	3.63E-10	6.00E-12	0	0	2.97E-10	8.00E-12	-4.97E-10
	SQP[1]	dimensionless	1.36E+00	3.00E-03	4.58E-01	3.48E-01	3.00E-03	0	0	2.82E-03	4.15E-02	-6.20E-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"

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	A2	A3	A4	A5	C1	C2	C3	C4	D
	PERE	MJ	5.15E-01	4.95E-05	2.19E-01	8.06E-03	6.79E-05	0	0	8.60E-04	5.13E-04	-5.72E-01
	PERM	MJ	1.43E-01	0.00E+00	0.00E+00	0.00E+00	-1.43E-01	0	0	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	6.59E-01	4.95E-05	2.19E-01	8.06E-03	-1.43E-01	0	0	8.60E-04	5.13E-04	-5.72E-01
	PENRE	MJ	6.47E+00	4.38E-03	2.15E+00	7.11E-01	3.95E-03	0	0	1.55E-02	1.10E-02	-9.14E-02
	PENRM	MJ	2.47E+00	0.00E+00	0.00E+00	0.00E+00	-4.24E-02	0	0	-2.42E+00	0.00E+00	0.00E+00
	PENRT	MJ	8.94E+00	4.38E-03	2.15E+00	7.11E-01	-3.84E-02	0	0	-2.41E+00	1.10E-02	-9.14E-02
	SM	kg	4.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	3.02E-02	9.69E-07	9.80E-05	2.60E-04	2.19E-06	0	0	1.85E-05	1.06E-05	-1.06E-04
	NRSF	MJ	9.96E-06	8.23E-06	1.24E-03	1.42E-03	8.72E-06	0	0	0.00E+00	2.30E-05	-3.41E-02
	FW	m^3	5.56E-03	4.90E-07	1.98E-03	6.19E-05	1.88E-06	0	0	1.31E-04	1.37E-05	-6.89E-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"

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
	HWD	kg	1.47E-03	3.96E-07	2.01E-04	3.61E-05	0.00E+00	0	0	0.00E+00	5.03E-05	-3.56E-06
	NHWD	kg	3.75E-02	2.10E-04	2.55E-02	2.24E-02	1.70E-02	0	0	0.00E+00	4.77E-02	-2.13E-03
	RWD	kg	8.14E-06	2.87E-08	1.31E-06	4.87E-06	0.00E+00	0	0	0.00E+00	7.25E-08	-4.86E-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"

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	1.01E-02	0.00E+00	1.54E-02	0	0	5.60E-04	4.26E-06	0.00E+00
	MER	kg	0.00E+00	0.00E+00	9.04E-04	0.00E+00	4.20E-04	0	0	4.75E-02	1.04E-07	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	1.26E-03	0.00E+00	9.16E-04	0	0	7.30E-02	6.76E-06	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	1.90E-02	0.00E+00	1.39E-02	0	0	1.10E+00	1.02E-04	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"

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	7.46E-03

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

The table below presents GWPtotal values for energy resources used in the manufacturing phase (A3), calculated with both the location-based and market-based approach. This information is provided for transparency, allowing EPD users to understand the impact of these methodological choices. In this EPD, the following methodology was used in the main results: Location-based approach.

Energy source	Data source	Amount	Unit	GWP-total [kg CO_2-eq/unit]	SUM [kg CO_2-eq]
Location based approach					
Electricity, China (kWh)	ecoinvent 3.6	0.2189	kWh	1.10	0.2414
Market based approach					

Dangerous substances

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

Indoor environment

No effect on indoor environment.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products											
Indicator	**Unit**	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	7.49E-01	2.97E-04	2.31E-01	5.03E-02	3.38E-04	0	0	1.12E-01	5.43E-03	-6.47E-03

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.

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