

Environmental Product Declaration

In accordance with ISO 14025 and EN 15804 +A2

Foam strip



The Norwegian
EPD Foundation

Owner of the declaration:
Svensk Emballageteknik AB

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-3470-2074-EN

Registration Number:
NEPD-3470-2074-EN

Issue date: 28.04.2022
Valid to: 28.04.2027

Product name:
Foam strip

Manufacturer:
Svensk Emballageteknik AB

General information

Product:

Foam strip

Program Operator:

The Norwegian EPD Foundation
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Declaration Number:

NEPD-3470-2074-EN

This declaration is based on Product Category Rules:

NPCR Part A, ver.1
EN15804:2012+A2:2019 serves as core PCR

Statements:

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

Declared unit:

1 m Foam strip

Declared unit with option:

N/A

Functional unit:

N/A

Verification:

Independent verification of the declaration and data, according to ISO14025:2010

internal

external



Guangli Du, Aalborg University

Independent verifier approved by EPD Norway

Owner of the declaration:

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Manufacturer:

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Åkervägen 15 SE-177 41 JÄRFÄLLA
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Place of production:

Järfälla, Sweden

Management system:

ISO 14001 and ISO 9001

Organisation no:

556324-8250

Issue date:

28.04.2022

Valid to:

28.04.2027

Year of study:

2021

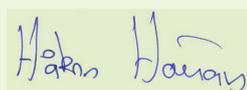
Comparability:

EPDs from other programmes than EPD Norge may not be comparable.

EPD type: Specific EPD

The EPD has been worked out by:

Niclas Silfverstrand,
Yevgeniya Arushnan



Approved (Manager of EPD Norway)

Product

Product description:

Foam strip is a polyurethane strip with a double-sided tape that is used for blocking floor surfaces during filling work. The product comes in 2-meter strips with different dimensions. The width varies from 12 to 50 mm and the thickness from 15 to 80 mm. The product is made from polyurethane foam (PU), 100% virgin material, and tape. The PU is cut to specific dimensions and tape is attached to one of the sides. The production is located at the Emballageteknik site in Järfälla, Sweden.

Product specification:

Materials	g/m	%
Polyurethane foam	4.16-92.0	76-94
Tape	1.32-5.50	6-14

Technical data:

Dimensions: The product comes in 2-meter strips with different dimensions. The width varies from 12 to 50 mm and the thickness from 15 to 80 mm. The weight of a Foam strip with dimensions 30x30 mm (in focus of this EPD) is 24.2 g/m.

More information available at www.et.se

Market:

Sweden

Reference service life, product:

N/A

Reference service life, building:

N/A

LCA: Calculation rules

Declared unit:

1 m Foam strip

The declared unit for the foam strip product is 1 meter of foam strip. The foam strip comes in different dimensions, and the composition of materials vary per meter, which is shown in the product specification table. Results are calculated for all dimensions of the foam strip but only presented for 30x30 mm variant version. A conversion table is made in order to be able to translate the results of the 30x30 mm version of the list to the other dimensions, see Table 1.

Table 1: Conversion factors from 30x30 mm list to other dimensions.

Dimension of list (mm)	12x15	15x15	24x30	30x30	38x50	40x50	50x50	50x80
Core environmental impact indicators								
GWP-total	0.24	0.30	0.81	1.00	1.99	2.07	2.58	4.01
GWP-fossil	0.25	0.30	0.81	1.00	1.99	2.07	2.58	4.00
GWP-biogenic	0.39	0.45	0.83	1.00	1.61	1.67	2.05	2.77
GWP-LULUC	0.29	0.36	0.82	1.00	1.83	1.90	2.36	3.47
ODP	0.20	0.25	0.81	1.00	2.12	2.20	2.75	4.40
AP	0.24	0.29	0.81	1.00	2.01	2.09	2.61	4.08
EP-freshwater	0.21	0.26	0.81	1.00	2.09	2.17	2.71	4.31
EP-marine	0.24	0.30	0.81	1.00	2.01	2.09	2.60	4.05
EP-terrestrial	0.24	0.30	0.81	1.00	2.00	2.08	2.59	4.04
POCP	0.25	0.30	0.81	1.00	1.99	2.07	2.58	4.01
ADP-M&M	0.21	0.26	0.81	1.00	2.10	2.18	2.73	4.35
ADP-fossil	0.27	0.32	0.82	1.00	1.95	2.02	2.52	3.87
WDP	0.23	0.28	0.81	1.00	2.05	2.13	2.66	4.19
Additional environmental impact indicators								
PM	0.26	0.31	0.82	1.00	2.00	2.07	2.58	4.02
IRP	0.28	0.33	0.82	1.00	1.92	2.00	2.48	3.79
ETP-fw	0.24	0.29	0.81	1.00	2.02	2.10	2.62	4.11
HTP-c	0.31	0.36	0.82	1.00	1.85	1.92	2.38	3.57
HTP-nc	0.28	0.33	0.82	1.00	1.92	1.99	2.48	3.78
SQP	0.65	0.67	0.91	1.00	1.45	1.49	1.72	2.36
Resource use								
RPEE	0.42	0.46	0.85	1.00	1.74	1.80	2.18	3.22
RPEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TPE	0.42	0.46	0.85	1.00	1.74	1.80	2.18	3.22
NRPE	0.28	0.33	0.82	1.00	1.95	2.03	2.52	3.90
NRPM	0.24	0.30	0.81	1.00	1.94	2.01	2.52	3.82
TRPE	0.27	0.32	0.82	1.00	1.95	2.02	2.52	3.87
SM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

RSF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NRSF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.24	0.30	0.81	1.00	2.01	2.09	2.61	4.08
End of life - Waste and output								
HW	0.20	0.25	0.81	1.00	2.11	2.20	2.75	4.40
NHW	0.22	0.27	0.81	1.00	2.06	2.14	2.67	4.21
RW	0.24	0.30	0.81	1.00	2.01	2.08	2.60	4.05
CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EEE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ETE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biogenic carbon content in product	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biogenic carbon content in the accompanying packaging	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Data quality:

The data quality requirements are set in accordance with EN15804:2012+A2:2019. Specific data for Svensk Emballageteknik AB's production site was collected from Svensk Emballageteknik AB. Generic background data has been collected from the GaBi Professional database 2021, no dataset is more than 10 years old. Specific data is collected for the year 2021.

Allocation:

No significant allocations have been identified. Material consumption represents actual production data and amounts. Energy use in the production process is measured for the specific products. The waste foam strip is assumed to be the same (percentage) amount independent of product dimensions.

System boundary:

The product system and system boundaries are displayed in Figure 1. Waste is processed in the module it occurs.

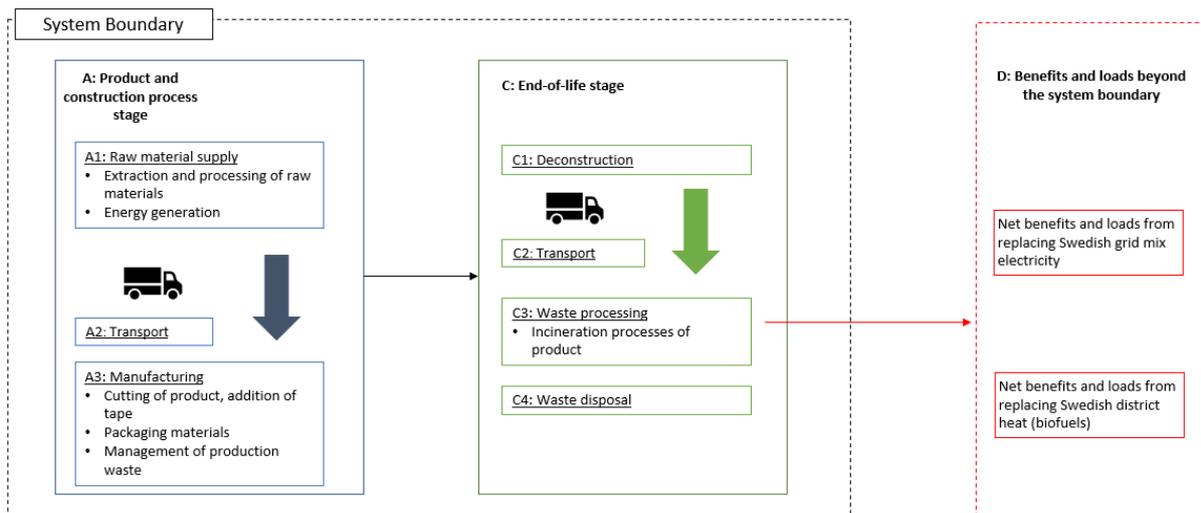


Figure 1: Technical flowchart of the product system.

Cut-off criteria:

All major raw materials and all the essential energy is included in the assessment. Production processes for raw materials and energy flows that are included in small amounts (<1%) may not be included. The cut-off rule does not apply for hazardous materials and substances.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD, numbers are displayed for the 30x30 mm version of foam strip, per declared unit.

Deconstruction is assumed to be done manually and all product is collected for waste processing. The product is transported by truck to waste processing and incinerated at the end of life. Electricity and heat is generated during incineration.

End of Life (C1, C3, C4)

	Unit	Value
Collected as mixed construction waste	g	24.2
Energy recovery	g	24.2

Transport to waste processing (C2)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance KM	Fuel/Energy consumption	value (l/t)
Truck	61	EURO 5-class diesel truck	100	0.021 kg diesel/tonkm	2.54

Benefits and loads beyond the system boundaries (D)

	Unit	Value
Replacement of Swedish grid mix electricity	MJ	0.10
Replacement of Swedish district heat (Biofuels assumed)	MJ	0.18

Energy generated from waste processing in module C3 is assumed to replace heat and electricity on the Swedish market where it is assumed to be processed. Swedish grid mix electricity is assumed to be replaced and biofuels are assumed to be replaced for heating. Biofuels are common in Sweden for heating and is conservative relative to other energy sources.

LCA: Results

Results are presented for the 30x30 mm version of foam strip, per declared unit. Use Table 1 to convert LCIA results to the desired dimension of foam strip.

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

Product stage			Assembly stage		Use stage								End of life stage				Benefits & loads beyond system boundary
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	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	x	

Core environmental impact indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	8.20E-02	0.00E+00	1.86E-04	5.66E-02	0.00E+00	-2.33E-03
GWP-fossil	kg CO2 eq.	8.22E-02	0.00E+00	1.83E-04	5.66E-02	0.00E+00	-2.23E-03
GWP-biogenic	kg CO2 eq.	1.17E-04	0.00E+00	1.97E-06	3.85E-06	0.00E+00	-6.56E-05
GWP-LULUC	kg CO2 eq.	2.39E-05	0.00E+00	1.51E-06	4.84E-07	0.00E+00	-3.56E-05
ODP	kg CFC11 eq.	4.68E-10	0.00E+00	3.66E-20	6.63E-18	0.00E+00	-3.63E-17
AP	mol H ⁺ eq.	1.90E-04	0.00E+00	2.01E-07	2.83E-05	0.00E+00	-3.11E-05
EP-freshwater	kg P eq.	4.90E-07	0.00E+00	5.51E-10	1.02E-09	0.00E+00	-3.09E-07
EP-marine	kg N eq.	4.91E-05	0.00E+00	6.49E-08	1.34E-05	0.00E+00	-1.23E-05
EP-terrestrial	mol N eq.	5.32E-04	0.00E+00	7.69E-07	1.57E-04	0.00E+00	-9.61E-05
POCP	kg NMVOC eq.	1.70E-04	0.00E+00	1.75E-07	3.46E-05	0.00E+00	-2.50E-05
ADP-M&M	kg Sb eq.	1.71E-07	0.00E+00	1.64E-11	1.16E-10	0.00E+00	-2.55E-09
ADP-fossil	MJ	1.98E+00	0.00E+00	2.47E-03	1.40E-02	0.00E+00	-1.24E-01
WDP	m ³	2.18E-02	0.00E+00	1.72E-06	5.50E-03	0.00E+00	-2.72E-03

GWP-total: Global Warming Potential; **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; See "additional Norwegian requirements" for indicator given as PO4 eq. **EP-marine:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **EP-terrestrial:**

*Eutrophication potential, Accumulated Exceedance; **POCP**: Formation potential of tropospheric ozone; **ADP-M&M**: Abiotic depletion potential for non-fossil resources (minerals and metals); **ADP-fossil**: Abiotic depletion potential for fossil resources; **WDP**: Water deprivation potential, deprivation weighted water consumption*

Additional environmental impact indicators

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PM	Disease incidence	1.74E-09	0.00E+00	1.36E-12	8.24E-11	0.00E+00	-2.87E-10
IRP	kBq U235 eq.	3.72E-03	0.00E+00	6.57E-07	8.63E-05	0.00E+00	-5.20E-03
ETP-fw	CTUe	1.94E+00	0.00E+00	1.83E-03	4.74E-03	0.00E+00	-6.86E-02
HTP-c	CTUh	1.58E-11	0.00E+00	3.70E-14	3.84E-13	0.00E+00	-5.30E-12
HTP-nc	CTUh	9.79E-10	0.00E+00	1.92E-12	1.43E-11	0.00E+00	-2.61E-10
SQP	Dimensionless	1.63E-01	0.00E+00	8.48E-04	2.78E-03	0.00E+00	-9.50E-01

PM: Particulate matter emissions; **IRP:** Ionising radiation, human health; **ETP-fw:** Ecotoxicity (freshwater); **ETP-c:** Human toxicity, cancer effects; **HTP-nc:** Human toxicity, non-cancer effects; **SQP:** Land use related impacts / soil quality

Classification of disclaimers to the declaration of core and additional environmental impact indicators

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
ILCD type / level 3	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
Potential Comparative Toxic Unit for humans (HTP-nc)	2	
Potential Soil quality index (SQP)	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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

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 experienced with the indicator

Resource use

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
RPEE	MJ	1.02E-01	0.00E+00	1.42E-04	2.07E-03	0.00E+00	-2.97E-01
RPEM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TPE	MJ	1.02E-01	0.00E+00	1.42E-04	2.07E-03	0.00E+00	-2.97E-01
NRPE	MJ	1.30E+00	0.00E+00	2.48E-03	1.40E-02	0.00E+00	-1.24E-01
NRPM	MJ	6.85E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TRPE	MJ	1.98E+00	0.00E+00	2.48E-03	1.40E-02	0.00E+00	-1.24E-01
SM	kg	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
W	m ³	5.31E-04	0.00E+00	1.63E-07	1.29E-04	0.00E+00	-2.27E-04

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE 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; W Use of net fresh water

End of life - Waste

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HW	kg	2.49E-08	0.00E+00	1.31E-13	3.01E-12	0.00E+00	-3.57E-10
NHW	kg	1.54E-03	0.00E+00	3.89E-07	2.74E-04	0.00E+00	-3.69E-04
RW	kg	4.09E-05	0.00E+00	4.49E-09	5.55E-07	0.00E+00	-4.48E-05

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

End of life – output flow

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
CR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	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
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	1.02E-01	0.00E+00	0.00E+00
ETE	MJ	0.00E+00	0.00E+00	0.00E+00	1.82E-01	0.00E+00	0.00E+00

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009

Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Unit	Value
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in the accompanying packaging	kg C	1.23E-04

Additional Norwegian requirements

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

A large part of the electricity used by Svensk Emballageteknik AB in the production is electricity produced from their own solar panels. The remainder of the electricity used is a green electricity mix (Hydro, wind and solar power) purchased from the local energy company. Greenhouse gas emissions from the mix (purchased and own electricity) is presented below.

National electricity grid	Unit	Value
Renewable mix	kg CO2 -eq/kWh	3.42 E-2

Additional environmental impact indicators required in NPCR Part A for construction products

In addition, EP-freshwater shall also be declared as PO4 eq.

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
EP-freshwater*	kg PO4 eq.	2.06E-05	0.00E+00	2.91E-08	4.82E-06	0.00E+00	-7.63E-06

EP-freshwater* Eutrophication potential, fraction of nutrients reaching freshwater end compartment. Declared as PO4 eq.

Hazardous substances

The declaration is based upon reference to threshold values and/or test results and/or material safety data sheets provided to EPD verifiers. Documentation available upon request to EPD owner.

- The product contains no substances given by the REACH Candidate list or the Norwegian priority list.
- The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.
- The product contain dangerous substances, more then 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.
- The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskiten, Annex III), see table.

Indoor environment

The product meets the requirements for low emissions.

Carbon footprint

Carbon footprint has not been worked out for the product.

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	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
ISO 21930:2007	Sustainability in building construction - Environmental declaration of building products
GaBi 2021 Professional database	http://www.gabisoftware.com/international/databases/gabidatabases/professional/ , ts 10.0.1.92 incl. databases 2021 Edition
NPCR part A	NPCR Part A: Construction products and services. Ver. 1.0. Apr 2017, EPD-Norge.
Silfverstrand. N; Arushanyan. Y	LCA-report for foam strip and Stepisol

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EPD for the best environmental decision



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