Environmental Product Declaration



ECO PLATFORM

VERIFIED

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

VentiLight (VentiLight Stripe Torch 10x1m)

This is an EPD of multiple products, based on this representative product:

Ventilight (VentiLight Stripe Torch 10x1m) Also included: TarraLight (TarraLight Base 10x1 m)

from BMI Finland Oy



Programme: Programme operator: EPD registration number: Publication date: Valid until: The International EPD[®] System, <u>www.environdec.com</u> EPD International AB S-P-13285 2024-04-10 2029-04-09

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com





General information

Programme information

Programme:	The International EPD [®] System
	EPD International AB
Address	Box 210 60
Address:	SE-100 31 Stockholm
	Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product level PCR standard: prEN 17388-1:2023 Programme operator horizontal PCR: PCR 2019:14 Construction products (EN 15804+A2:2019 core PCR) (1.3.2)

PCR review was conducted by: The Technical Committee of the International EPD@ System

Life Cycle Assessment (LCA)

LCA accountability: Lars Åhsberg, BMI Group, Sweden

LCA/EPD Tool: R<THINK by Nibe, The Netherlands

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

X EPD verification by individual verifier

Third-party verifier:Vladimír KočíApproved by:The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

🗆 Yes X No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical



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declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:

BMI Finland Oy Läntinen Teollisuuskatu 10 , FI-2920 Espoo myyntipalvelu@bmigroup.com https://www.bmigroup.com/fi/

Lars Åhsberg, Nordic Environmental Manager, BMI Group, Sweden +46 (0)70 604 50 46, lars.ahsberg@bmigroup.com

Description of the organisation:

BMI Finland Oy with 80 years of experience is one of the leading suppliers of roofing and waterproofing solutions in Finland. The company offers a wide range of roofing and waterproofing products, including lcopal bitumen membranes and Ormax tile roofs. Additionally, BMI Finland includes waterproofing professional lcopal Roof Ltd, which complements the company's services in roofing contracts and maintenance. BMI Finland's headquarters and lcopal's bitumen membrane factory are located in Espoo, at Juvanmalmi. BMI Finland employs approximately 300 people.

BMI Finland is part of the BMI Group, which is Europe's largest roofing manufacturer. BMI Group has united some of the most trusted local brands in the industry to become Europe's largest supplier of pitched and flat roofing solutions, offering customers over 280 years of experience and innovation. BMI Group, headquartered in the United Kingdom under Standard Industries, benefits from the global support, reach, and resources of the parent company. With over 120 production sites across Europe, Africa, and Asia and over 9,600 employees worldwide, BMI Group is well positioned to provide unparalleled service to homeowners, designers, contractors, property owners, and developers. from us.

Product-related or management system-related certifications:

BMI Finland's operations are certified in accordance with ISO 9001:2015.

Name and location of production site:

The declared product is produced at BMI Finland Oy, production site in Espoo, Finland. Address: Läntinen Teollisuuskatu 10, FI-2920 Espoo

For more information regarding the product or the organisation, see EPD owner's website: https://www.bmigroup.com/fi/





Product information

Product name:

Ventilight (VentiLight Stripe Torch 10x1 m)

Product description and identification:

The declared product is used as an under layer in a two-layer waterproofing system from BMI, marketed under the brand lcopal, made for roofs with particularly high demands on the waterproofing layer. The system consists of an upper layer (Top) and an under layer (Underlay), both based on SBS-modified bitumen. SBS increases the elasticity of the waterproofing layer and provides increased joint strength and service life. Two separate waterproofing layers provide a good protection against leakage. The under layer can also be used as a temporary seal while the rest of the roof is completed.

Two-layer waterproofing systems are defined in the product standard EN 13707 Flexible sheets for waterproofing.

The layers are either welded or glued with liquid bitumen into the substrate. In this EPD it has been assumed that the product is fully welded.

The declared product is expected to fulfil it's function for 50 years.

Multiple products and the representative product

This EPD covers multiple products, used as under layers and similar in terms of content and in field of use. Additionally, they are all produced in the same BMI manufacturing site in Espoo.

The results in this EPD are declared for **VentiLight Stripe Torch 10x1 m** m as the *representative product*. The selection of this product, as the representative one, is based on the fact that it had the largest production volume among the included products during the last five years.

The variations of the declared GWP-GHG results for the modules A1-A3 does not differ more than 8,4% compared to the GWP-GHG results for any of the included products, see table below.

Table. Included products, technical data and variations in GWP-GHG compared to declared product (bolded text).

Product	ltem number	Weight kg/m ²	Thickness (mm)	Width (mm)	Length (mm)	Variation in GWP-GHG
Ventilight (VentiLight Stripe Torch 10x1 m)	10008057	2.8	2.5	1000	10000	declared product
TarraLight (TarraLight Base 10x1 m)	10008056	2.2	2.4	1000	10000	-0.9%





UN CPC code:

5453 Roofing and waterproofing services.

Geographical scope:

All inventories are modelled with respect to their specific origin when applicable. The installation scenario is modelled for Finland.

LCA information

Functional unit / declared unit:

1 m² installed top layer of bitumen roof waterproofing, produced by BMI Espoo.

The weight per 1 m^2 is 2.931 and the conversion factor to 1 kg is 0.341 m^2 .

Reference service life:

50 years.

Time representativeness and data quality:

The specific data collected regarding manufacturing, packaging, suppliers and transports refer to the production year 2022. The data collection was performed by the EPD owner.

Background data is based on EPD's and Ecoinvent 3.6. Foreground data is <2 years and background data <10 years. The data quality is considered to be good.

Database(s) and LCA software used:

LCA method R <think:< th=""><th>EN15804+A2:2019</th></think:<>	EN15804+A2:2019
Characterization method:	EN 15804 +A2 Method v1.0
LCA database profiles:	Ecolnvent version 3.6

Description of system boundaries:

Cradle to gate with options, modules C1-C4, module D and with optional modules (A1 - A3 + C + D and additional modules). Modules B4-B7 are not declared in this EPD.





Allocation used:

Environmental profile / dataset used	Explanation of used allocation method
Bitumen production final LCI - EUROBITUME 2021 System, with infrastructures [Eurobitume]	The allocation between bitumen and other co-products made from crude oil is based on mass balances at the crude oil extraction and the transport stages. At the refining level, the allocation is based on relative economic values. Source = Eurobitume.
Bitumen production final LCI - EUROBITUME 2021 System, with infrastructures [Eurobitume]	The allocation between bitumen and other co-products made from crude oil is based on mass balances at the crude oil extraction and the transport stages. At the refining level, the allocation is based on relative economic values. Source = Eurobitume.

Cut-off Criteria:

• Product Stage (A1-A3):

All input flows (e.g. raw materials, transportation, energy use, packaging, etc.) and output flows (e.g. production waste) are considered in this LCA.

• Construction process stage (A4-A5)

All input flows (e.g. transportation to the construction site, additional raw material use for construction, installation energy (use)of energy use for assembly, etc.) and output flows (e.g. construction waste, packaging waste, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass.

• Use stage (B1-B3)

All (known) input flows (e.g. raw materials, transportation, energy use, packaging, etc.) and output flows (e.g. emissions to soil, air and water, construction waste, packaging waste, end-of-life waste, etc.) related to the building fabric are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass.

• End of life stage (C1-C4)

All input flows (e.g. energy use for demolition or disassembly, transport to waste processing, etc.) and output flows (e.g. end-of-life waste processing of the product, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass.

• Benefits and Loads beyond the system boundary (D) All benefits and loads beyond the system boundary resulting from reusable products, recyclable materials and/or useful energy carriers leaving the product system are considered in this LCA.

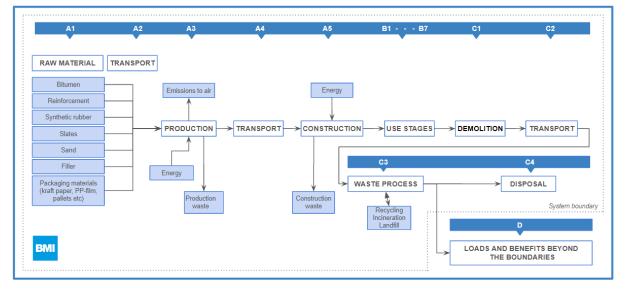
Additional information:

For further information regarding the underlying LCA, contact LCA practitioner Lars Åhsberg: <u>lars.ahsberg@bmigroup.comdge.se</u>.





System diagram:



This is a Cradle to gate with options, modules C1-C4 and module D LCA. The life cycle stages included are as shown below (X = module included, ND = module not declared).





Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Pr	oduct sta	ge	Construe process			Use stage End of life stage										Resource recovery stage
	Raw material supply	Transpo rt	Manufa cturing	Transpo rt	Constru ction installati on	Use	Mainten ance	Repair	Replac ement	Refurbi shment	Operati onal energy use	Operati onal water use	De-con structio n demoliti on	Transpo rt	Waste process ing	Disposa I	Reuse-Recov ery-Recycling -potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	х	х	х	х	х	х	х	х	ND	ND	ND	ND	х	х	х	х	x
Geogra phy		FI		F	-1				FI					F	-1		FI
Specific data used		>60%				N/A									N/A		
Variatio n – products			0%			N/A										N/A	
Variatio n – sites			0%								N/A						N/A





Content information

Raw material and packaging materials

Product components	Weight -%	Variation included products, weight -%	Post-consumer material, weight-%	Biogenic material, weight-%
SBS modified bitumen	44	-7	2	0
Limestone	21	-4	0	0
Renforcement	4	+2	100	0
Sand	30	-11	0	0
Slates	0	+23	0	0
PP-foil	0.2	+0.1	0	0
Packaging materials	Weight, kg	Variation included products, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Kraft paper	0.02	0	0.6	1
Plastic (LDPE)	0.01	0	<0,01	0
Wood pallet	0.07	0	2.5	1

Origin of electricity

The used electricity during the manufacturing (phase A3) has the following origin: Fossil 54%, Renewable sources 29% and Nuclear 17%. The CO_2 emission factor is 364 g CO_2 /kWh.

Dangerous substances from the candidate list of SVHC for Authorisation

For construction product EPDs complaint with EN15804, the content declaration shall list substances contained in the products that are listed in the "Candidate List of Substances of Very High Concern for Authorization" when their content exceeds the limits for registration with the European Chemicals Agency: i.e. >0.1 % of the weight of the product. No such substances are used in the production of the products covered in this EPD.





Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

B1 0 0 5 0	B2 0 0	B3 0 0	C1 0 0	C2 6,94E-02 3,43E-05	C3 3,24E+00 -8,88E-05	C4 1,76E-01 1,11E-04	D -9,08E-01
0	0	0		,	,	,	,
5 O			0	3,43E-05	-8 88E-05		
	0	0			0,002 00	1,11⊑-04	-8,71E-04
0		0	0	2,99E-05	1,21E-04	6,39E-06	-1,31E-04
0	0	0	0	6,95E-02	3,24E+00	1,76E-01	-9,09E-01
3 0	0	0	0	1,53E-08	2,42E-08	3,87E-09	-1,15E-07
3 0	0	0	0	2,78E-04	1,28E-03	1,89E-04	-1,63E-03
0	0	0	0	6,33E-07	3,94E-06	2,49E-07	-2,81E-06
0	0	0	0	7,95E-05	3,99E-04	1,50E-04	-4,58E-04
3 0	0	0	0	8,81E-04	4,40E-03	4,04E-04	-5,26E-03
3 0	0	0	0	2,71E-04	1,25E-03	1,58E-04	-1,63E-03
6 0	0	0	0	2,49E-06	2,48E-06	1,35E-07	-8,27E-07
0 0	0	0	0	1,03E+00	2,04E+00	2,98E-01	-3,38E+01
2 0	0	0	0	3,17E-03	5,21E-02	1,26E-02	-7,49E-02
	3 0 6 0 4 0 3 0 3 0 6 0 0 0 2 0	8 0 0 3 0 0 6 0 0 4 0 0 3 0 0 3 0 0 3 0 0 6 0 0 6 0 0 6 0 0 2 0 0	8 0 0 0 3 0 0 0 6 0 0 0 4 0 0 0 3 0 0 0 4 0 0 0 3 0 0 0 3 0 0 0 6 0 0 0 6 0 0 0 6 0 0 0 2 0 0 0	8 0 0 0 0 3 0 0 0 0 6 0 0 0 0 4 0 0 0 0 3 0 0 0 0 3 0 0 0 0 3 0 0 0 0 6 0 0 0 0 6 0 0 0 0 6 0 0 0 0 0 0 0 0 0	8 0 0 0 1,53E-08 3 0 0 0 2,78E-04 6 0 0 0 2,78E-04 6 0 0 0 6,33E-07 4 0 0 0 7,95E-05 3 0 0 0 8,81E-04 3 0 0 0 2,71E-04 6 0 0 0 2,49E-06 0 0 0 0 1,03E+00 2 0 0 0 3,17E-03	8 0 0 0 1,53E-08 2,42E-08 3 0 0 0 0 2,78E-04 1,28E-03 6 0 0 0 0 2,78E-04 1,28E-03 6 0 0 0 0 6,33E-07 3,94E-06 4 0 0 0 0 7,95E-05 3,99E-04 3 0 0 0 0 7,95E-05 3,99E-04 3 0 0 0 0 1,25E-03 1,25E-03 3 0 0 0 0 2,71E-04 1,25E-03 6 0 0 0 0 2,49E-06 2,48E-06 0 0 0 0 1,03E+00 2,04E+00 2 0 0 0 0 3,17E-03 5,21E-02	8 0 0 0 1,53E-08 2,42E-08 3,87E-09 3 0 0 0 0 2,78E-04 1,28E-03 1,89E-04 6 0 0 0 0 6,33E-07 3,94E-06 2,49E-07 4 0 0 0 0 7,95E-05 3,99E-04 1,50E-04 3 0 0 0 0 7,95E-05 3,99E-04 1,50E-04 3 0 0 0 0 8,81E-04 4,40E-03 4,04E-04 3 0 0 0 0 2,71E-04 1,25E-03 1,58E-04 6 0 0 0 0 2,49E-06 2,48E-06 1,35E-07 0 0 0 0 0 2,49E-06 2,48E-06 1,35E-07 0 0 0 0 1,03E+00 2,04E+00 2,98E-01 2 0 0 0 0 3,17E-03 5,21E-02

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

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.





Additional mandatory and voluntary impact category indicators

	Results per functional or declared unit														
Indicator	Unit	A1-A3	A4	A5	B1	B2	В3	C1	C2	C3	C4	D			
GWP-GHG ¹	kg CO ₂ eq.	1,34E+00	1,45E-01	5,66E-01	0	0	0	0	6,95E-02	3,24E+00	1,76E-01	-9,09E-01			
Particulate matter emissions (PM)	Disease incidence	7,77E-08	9,21E-09	1,22E-08	0	0	0	0	4,23E-09	1,40E-08	2,10E-09	-7,10E-09			
Ionizing radiation, human health (IRP)	kBq U235 eq.	4,97E-01	9,56E-03	2,06E-02	0	0	0	0	4,51E-03	6,49E-03	1,21E-03	-1,40E-01			
Eco-toxicity - freshwater (ETP-fw)	CTUe	3,86E+01	1,76E+00	3,22E+00	0	0	0	0	8,70E-01	2,78E+00	3,99E-01	-8,27E+00			
Human toxicity, cancer effect (HTP-c)	CTUh	9,92E-10	4,90E-11	1,39E-10	0	0	0	0	2,71E-11	5,99E-10	8,36E-12	-1,31E-10			
Human toxicity, non-cancer effects (HTP-nc)	CTUh	1,81E-08	1,86E-09	3,57E-09	0	0	0	0	9,18E-10	4,73E-09	1,71E-10	-2,29E-09			
Land use related impacts/Soil quality (SQP)	dimensionless	4,24E+01	1,53E+00	8,55E-01	0	0	0	0	6,14E-01	1,58E+00	6,97E-01	-1,11E+01			

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.





Resource use indicators

					Results per	functional	or declared	unit				
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D
PERE	MJ	4,45E+00	3,13E-02	5,27E-02	0	0	0	0	1,76E-02	1,13E-01	6,29E-03	-1,60E+00
PERM	MJ	1,63E+00	0	8,16E-03	0	0	0	0	0	0	0	0
PERT	MJ	6,08E+00	3,13E-02	6,08E-02	0	0	0	0	1,76E-02	1,13E-01	6,29E-03	-1,60E+00
PENRE	MJ	4,52E+01	2,32E+00	4,90E+00	0	0	0	0	1,10E+00	2,17E+00	3,17E-01	-2,32E+01
PENRM	MJ	4,33E+01	0	2,18E-01	0	0	0	0	0	0	0	-1,32E+01
PENRT	MJ	8,85E+01	2,32E+00	5,12E+00	0	0	0	0	1,10E+00	2,17E+00	3,17E-01	-3,65E+01
SM	kg	1,29E-02	0	6,44E-05	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0
FW	m³	2,09E-02	2,34E-04	4,70E-04	0	0	0	0	1,23E-04	2,05E-03	3,12E-04	-1,30E-03

Acronyms 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; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water





Waste indicators

	Results per functional or declared unit														
Indicator	Unit	A1-A3	A4	A5	B1	B2	В3	C1	C2	C3	C4	D			
Hazardous waste disposed	kg	4,42E-05	5,73E-06	9,04E-06	0	0	0	0	2,78E-06	3,41E-06	4,50E-07	-2,20E-05			
Non-hazardous waste disposed	kg	3,32E-01	1,06E-01	2,83E-02	0	0	0	0	4,07E-02	1,54E-01	1,18E+00	-1,25E-02			
Radioactive waste disposed	kg	7,25E-04	1,49E-05	3,28E-05	0	0	0	0	6,97E-06	7,81E-06	1,79E-06	-2,29E-04			

Output flow indicators

	Results per functional or declared unit														
Indicator	Unit	A1-A3	A4	A5	B1	B2	В3	C1	C2	C3	C4	D			
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0			
Material for recycling	kg	1,22E-02	0,00E+00	3,67E-02	0	0	0	0	0	4,40E-01	0	0			
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0			
Exported energy, electricity	MJ	9,49E-02	0	0	0	0	0	0	0	0	0	3,67E+00			
Exported energy, thermal	MJ	1,63E-01	0	0	0	0	0	0	0	0	0	6,32E+00			





References

- General Programme Instructions of the International EPD[®] System. Version 4.0.
- PCR 2019:14 Construction products (EN 15804+A2:2019 core PCR) (1.3.2)
- EN 15804+A2 EN 15804+A2: 2019: Sustainability of construction works Environmental Product Declarations — Core rules for the product category of construction products
- prEN 17388-1:2023 Flexible sheets for waterproofing Environmental product declaration -Product Category Rules for reinforced bitumen, plastic and rubber flexible sheets for (roof) waterproofing
- ISO 14040 ISO 14040:2006-10, Environmental management Life cycle assessment -Principles and framework;
- EN ISO 14040:2006 ISO 14044 ISO 14044:2006-10, Environmental management Life cycle assessment Requirements and guidelines;
- EN ISO 14040:2006 ISO 14025 ISO 14025:2011-10: Environmental labels and declarations Type III environmental declarations Principles and procedures
- Åhsberg, L (2024). Life Cycle Assessment LCA background report, Ventilight Stripe Torch 10x1 m, BMI Finland Oy

