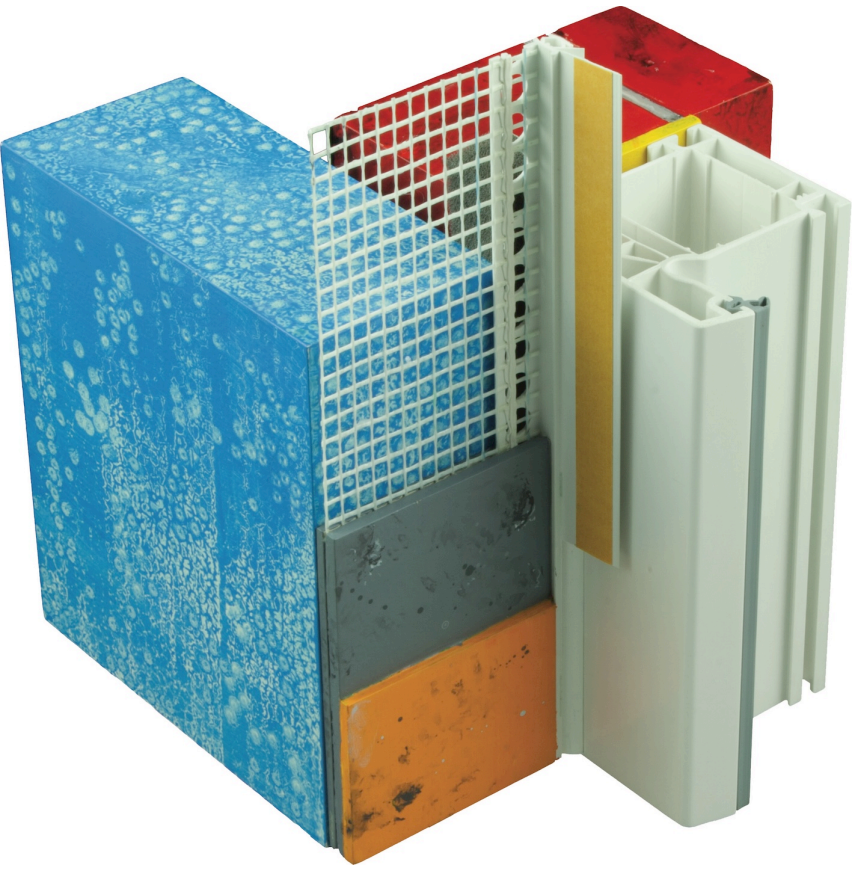
epd-norway
Global Program Operator

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2

VWS Befestigungstechnik GmbH
PVC Corner profile with components



Owner of the declaration
VWS Befestigungstechnik GmbH
Siemensstraße 2
72805 Lichtenstein
Germany

Product
PVC Corner profile with components

Declared unit
1 M of PVC Corner profile with components

This declaration is based on Product Category Rules
EN 15804:2012 + A2:2019,
NPCR PART A: Construction products and services, Version: 2.0

Program operator:
EPD Norway
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Declaration number
NEPD-9842-9159

Registration number
NEPD-9842-9159

Issue date
24.04.2025

Valid to
24.04.2030

EPD Software
Emidat EPD Tool v1.0.0

General Information

Product
PVC Corner profile with components

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Declaration Number
NEPD-9842-9159

This declaration is based on Product Category Rules
EN 15804:2012 A2:2019,

NPCR PART A: Construction products and services, Version: 2.0

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 of PVC Corner profile with components

Verification

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

☐ Internally ☑ Externally

Charlotte Merlin
(Independent verifier approved by EPD Norway)

Owner of the declaration
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Place of production
Faulquemont, France

Management system
ISO 9001

Organisation no
351366

Issue date
24.04.2025

Valid to
24.04.2030

Year of study
2023

Comparability

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not seen in a building context. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database (including primary and secondary data).

Development of EPD

The declaration was created using the Emidat EPD tool v1.0, developed by Emidat GmbH.

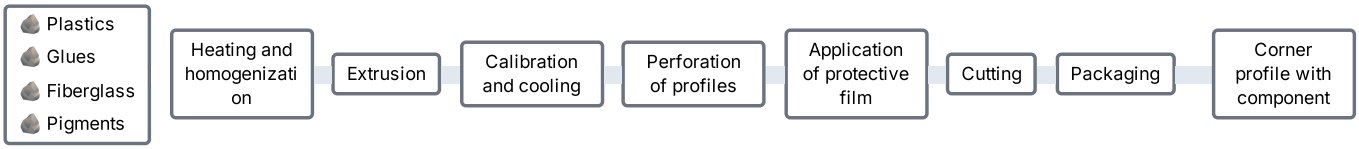
Approved

Håkon Hauan, CEO EPD-Norge

Product

Product description

Composite PVC profiles combine rigid PVC with materials like TPE, mesh fabric, and foam adhesive tape, delivering versatile functionality for advanced insulation and finishing systems. These profiles bridge materials with varying thermal expansion properties, accommodating movement and preventing cracks in plastered areas. Their multi-material construction adapts to specific functional needs, including movement absorption and crack-bridging, while ensuring resistance to corrosion and saltwater exposure. Customizable in color, these profiles provide a tailored solution for demanding structural and aesthetic applications.



These composite profiles are ideal for reinforcing transitions, edges, and finishing elements in areas prone to material expansion or contraction. With properties that support flexible joint movement, they help maintain structural stability by preventing cracking at transition points. Embedded or surface-mounted, they provide effective, reliable finishes across complex applications. Suitable for movement joints and expansion zones, these profiles optimize structural longevity and adaptability in various construction scenarios.

Product specification

Name of ingredient	Share of total weight	Country of origin
Fiberglass	10 - 25 %	Germany
Glues	0 - 2 %	France
Glues	0 - 2 %	Germany
Pigments	0 - 2 %	France
Plastics	50 - 80 %	France

Packaging

Packaging material	Amount	Unit
Transported mass	3.59e-04	kg / m
Fuel consumption	1.00e-02	kg / m
Average distance from manufacturer to construction site	2.00e-02	kg / m

Technical data

	Unit	Value
Density	kg / m	0.117680275
Mass	kg	0.117680275

Market

France

Reference service life

This study does not cover the use stage. Thus, the reference service life is not declared.

LCA: Calculation rules

Functional unit

1 M of PVC Corner profile with components

Data quality

The Emidat EPD Tool v1.0.0 was used for LCA modeling and calculation. Background data was used from ecoinvent database v3.10.
Data quality was assessed in terms of temporal, geographical and technological representativeness.
The overall data representativeness is rated as Good.

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

	Production			Installation		Use stage							End-of-Life				Next product system
	Raw material supply	Transport	Manufacturing	Transport	Installation Process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Demolition	Transport	Waste Processing	Disposal	Benefits and loads beyond the system boundary
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography			FR	FR	MND	MND	MND	MND	MND	MND	MND	MND	FR	FR	FR	FR	FR

For the geographies modeled in A1 and A2, refer to *Product specification*.

Type of EPD: cradle to gate with options, modules C1-C4 and module D (A1-A3, C, D, additional module A4)

Stage of Material Production and Construction
Module A1: Extraction and processing of raw materials
Module A2: Transportation of raw materials to the plant
Module A3: Profile production at the plant and waste treatment
Module A4: Transportation to the installation site
Disposal Stage
Module C1: Manual Demolition/Dismantling (no loads)
Module C2: Transportation of dismantled profiles for waste processing
Module C3: Sorting of waste components and incineration of plastic
Credits and burdens outside the system boundaries
Module D: Credits and burdens from incineration of the profiles

Cut-off criteria

No cut-offs were applied.

Allocation

Elementary flows (energy and fuels, ancillary materials and waste) data was collected on production-process-level. Using the total output of the production process in 2023, elementary flows are assigned to 1 declared unit based on mass.

LCA: Scenarios and additional technical information

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

Transport to the building site (A4)	Value	Unit
Transported mass	0.15	kg
Fuel consumption	2.63e-04	L / 100 km
Average distance from manufacturer to construction site	100.00	km
Transport mode	truck	

End of life (C1-C4)	Value	Unit
Material for incineration (total)	0.12	kg
Distance to waste incineration facility	50.00	km

Reuse, recovery and/or recycling potentials (D)	Value	Unit
Exported electrical energy	0.27	MJ
Exported thermal energy	0.66	MJ

Calculation of benefits and loads per EN 15804+A2.

LCA: Results

Core environmental impact indicators

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
GWP-total	kg CO_2-eq.	3.71e-01	1.59e-03	0	6.10e-04	2.51e-01	0	-5.71e-02
GWP-fossil	kg CO_2-eq.	3.68e-01	1.58e-03	0	6.09e-04	2.51e-01	0	-5.69e-02
GWP-biogenic	kg CO_2-eq.	1.74e-03	7.95e-07	0	3.06e-07	3.19e-04	0	-1.68e-04
GWP-luluc	kg CO_2-eq.	1.16e-03	5.63e-07	0	2.16e-07	2.54e-05	0	-8.95e-06
ODP	kg CFC-11-Eq	7.99e-08	3.30e-11	0	1.27e-11	1.17e-09	0	-2.40e-09
AP	mol H+-Eq	1.84e-03	3.74e-06	0	1.44e-06	1.84e-04	0	-5.95e-05
EP-freshwater	kg P-Eq	1.08e-04	1.11e-07	0	4.29e-08	1.16e-05	0	-1.96e-06
EP-marine	kg N-Eq	3.78e-04	9.81e-07	0	3.77e-07	5.48e-05	0	-1.99e-05
EP-terrestrial	mol N-Eq	3.71e-03	1.06e-05	0	4.08e-06	5.04e-04	0	-1.88e-04
POCP	kg NMVOC-Eq	1.48e-03	6.50e-06	0	2.50e-06	1.62e-04	0	-1.09e-04
ADPE	kg Sb-Eq	1.14e-05	4.53e-09	0	1.74e-09	2.96e-07	0	-6.53e-08
ADPF	MJ, net calorific value	7.53e+00	2.38e-02	0	9.15e-03	4.06e-01	0	-1.64e+00
WDP	m^3 world Eq deprived	1.28e-01	1.19e-04	0	4.59e-05	3.11e-01	0	-1.09e-02

GWP-total: Global Warming Potential - total **GWP-fossil**: Global warming potential - fossil **GWP-biogenic**: Global Warming Potential - biogenic **GWP-luluc**: Global Warming Potential - luluc **ODP**: Depletion potential of the stratospheric ozone layer **AP**: Acidification potential, Accumulated Exceedance **EP-freshwater**: Eutrophication potential - freshwater **EP-marine**: Eutrophication potential - marine **EP-terrestrial**: Eutrophication potential - terrestrial **POCP**: Photochemical Ozone Creation Potential **ADPE**: Abiotic depletion potential - non-fossil resources **ADPF**: Abiotic depletion potential - fossil resources **WDP**: Water (user) deprivation potential

Additional indicators

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
PM	disease incidence	1.62e-08	1.54e-10	0	5.94e-11	1.64e-09	0	-5.61e-10
IRP	kBq U235-Eq	6.76e-02	2.89e-05	0	1.11e-05	1.59e-03	0	-3.76e-02
ETP-fw	CTUe	2.63e+00	5.63e-03	0	2.17e-03	1.32e+01	0	-6.86e-02
HTP-c	CTUh	1.51e-09	1.01e-11	0	3.90e-12	1.76e-10	0	-1.04e-10
HTP-nc	CTUh	6.74e-09	1.57e-11	0	6.03e-12	1.19e-09	0	-1.27e-10
SQP	dimensionless	1.95e+00	2.39e-02	0	9.20e-03	1.95e-01	0	-4.16e-02

PM: Potential incidence of disease due to PM emissions **IRP**: Potential Human exposure efficiency relative to U235 **ETP-fw**: Potential Comparative Toxic Unit for ecosystems **HTP-c**: Potential Comparative Toxic Unit for humans - cancer effects **HTP-nc**: Potential Comparative Toxic Unit for humans - non-cancer effects **SQP**: Potential Soil quality index

IRP: 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.

ETP-fw, **HTP-c**, **HTP-nc** and **SQP**: The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with these indicators.

Use of resources

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
PERE	MJ	2.99e-01	3.77e-04	0	1.45e-04	3.70e-02	0	-7.63e-02
PERM	MJ	2.78e-01	0	0	0	0	0	0
PERT	MJ	5.77e-01	3.77e-04	0	1.45e-04	3.70e-02	0	-7.63e-02
PENRE	MJ	5.60e+00	2.38e-02	0	9.15e-03	4.06e-01	0	-1.64e+00
PENRM	MJ	1.94e+00	0	0	0	-1.92e+00	0	0
PENRT	MJ	7.54e+00	2.38e-02	0	9.15e-03	-1.52e+00	0	-1.64e+00
SM	kg	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0
FW	m^3	3.25e-03	3.46e-06	0	1.33e-06	7.23e-03	0	-2.66e-04

PERE: Primary energy resources - renewable: use as energy carrier **PERM**: Primary energy resources - renewable: used as raw materials **PERT**: Primary energy resources - renewable: total **PENRE**: Primary energy resources - non-renewable: use as energy carrier **PENRM**: Primary energy resources - non-renewable: used as raw materials **PENRT**: Primary energy resources - non-renewable: total **SM**: Use of secondary material **RSF**: Renewable secondary fuels **NRSF**: Non-renewable secondary fuels **FW**: Net use of fresh water

Waste flows

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
HWD	kg	2.46e-02	3.46e-05	0	1.33e-05	7.28e-02	0	-6.92e-04
NHWD	kg	3.83e+00	6.93e-04	0	2.66e-04	2.85e-01	0	-1.25e-02
RWD	kg	1.85e-05	7.15e-09	0	2.75e-09	4.08e-07	0	-1.08e-05

HWD: Hazardous waste disposed **NHWD**: Non hazardous waste disposed **RWD**: Radioactive waste disposed

Output flows

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
CRU	kg	0	0	0	0	0	0	0
MFR	kg	1.38e-02	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0
EEE	MJ	1.38e-02	0	0	0	2.54e-01	0	0
EET	MJ	2.76e-02	0	0	0	6.34e-01	0	0

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

Name	Value	Unit
Biogenic carbon content in product	0	kg C
Biogenic carbon content in accompanying packaging	9.03e-03	kg C

Additional requirements

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

Electricity consumption in the manufacturing phase is composed from the source below. Electricity is represented by data in ecoinvent 3.10 regionalised for France.

No guarantee of origin has been utilized in this EPD.

Electricity	Unit	Value
Market for electricity, high voltage (FR)	kg CO_2-eq. / kWh	0.08

Dangerous substances

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

Additional environmental information

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

Indicator	Unit	A1-3	A4	C1	C2	C3	C4	D
GWP-IOBC	kg CO_2-eq.	3.71e-01	1.58e-03	0	6.10e-04	2.51e-01	0	-5.69e-02

GWP-IOBC: Global Warming Potential - Instantaneous oxidation of biogenic carbon

Bibliography

DIN EN ISO 14025:2011-10	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
DIN EN ISO 14040:2021-02	Environmental management - Life cycle assessment - Principles and framework
DIN EN ISO 14044:2021-02	Environmental management - Life cycle assessment - Requirements and guidelines
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
DIN CENTR 15941:2010-11	Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data
DIN EN 15942:2022-04	Sustainability of construction works - Environmental product declarations - Communication format business-to-business
ISO 21930:2017-07	Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services
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PCR	NPCR PART A: Construction products and services, Version: 2.0
	Basic principles and recommendations for describing the dismantling, post use, and disposal stage of construction products: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-07-06_texte_130-2020_guidance-document-construction-industry.pdf
	ILCD Handbook: https://eplca.jrc.ec.europa.eu/uploads/ILCD-Handbook-LCIA-Background-analysis-online-12March2010.pdf

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