epd-norway
Global Program Operator

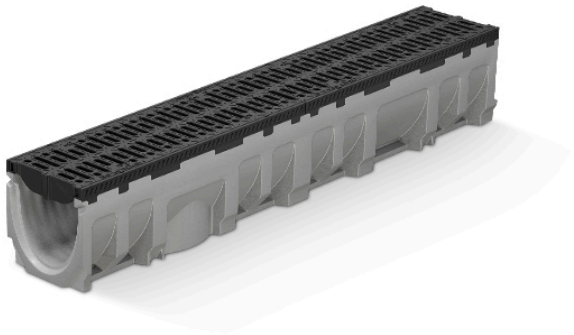
ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2

BG-Graspointner GmbH – BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating

GRASPOINTNER
Sustainable innovation.

BG-FILCOTEN® pro



GRASPOINTNER
Sustainable innovation.

Owner of the declaration
BG-Graspointner GmbH
Gessenschwandt 39
4882 Oberwang
Austria

Product
BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating

Declared product / Functional unit
1 M of BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating

This declaration is based on Product Category Rules
EN 15804:2012 + A2:2019,
NPCR 020 PART B for concrete and concrete elements (v3.0)

Program operator:
EPD-Norge
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway

Declaration number
NEPD-10055-10055-2

Registration number
NEPD-10055-10055-2

Issue date
24.03.2025

Valid to
23.03.2030

EPD Software
Emidat EPD Tool v1.0.0

General Information

Product
BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating

Program Operator
EPD-Norge
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway
Phone: +47 23 08 80 00
Email: post@epd-norge.no

Declaration Number
NEPD-10055-10055-2

This declaration is based on Product Category Rules
EN 15804:2012 + A2:2019,
NPCR 020 PART B for concrete and concrete elements (v3.0)

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.

Functional unit
1 M of BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating with a reference service life of 20 years

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 EPDNorway'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
Charlotte Merlin, FORCE Technology
(no signature required)

Owner of the declaration
BG-Graspointner GmbH

Contact person
alexander.zeppetzauer@bg-graspointner.com

Phone
+43 664 8820 72 84

Email
alexander.zeppetzauer@bg-graspointner.com

Manufacturer
BG-Graspointner GmbH
Gessenschwandt 39
4882 Oberwang, Austria

Place of production
Oberwang, Austria

Management system
ISO 9001, ISO 14001, ISO 50001

Issue date
24.03.2025

Valid to
23.03.2030

Year of study
2024

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 and verification of EPD
The declaration was created using the Emidat EPD tool v1.0, developed by Emidat GmbH. The EPD tool has been approved by EPD Norway.

Developer of EPD: Alexander Zeppetzauer
Reviewer of company-specific input data and EPD: Steffen Bernauer

Approved

Håkon Hauan, CEO EPD-Norge

Product

Product description

Drainage-channel BG-FILCOTEN pro P (R) NW 100 made of FILCOTEN HPC (high-performance concrete)

with integrated edge out of composite material (item code 10610400) & C250 pro composite material slotted grating 500/123/20, SW 8/40 (item code 17010404),

load-class A15 - D400 kN, according to EN1433 CE-certified,

channel joint with safety seam, sealable,

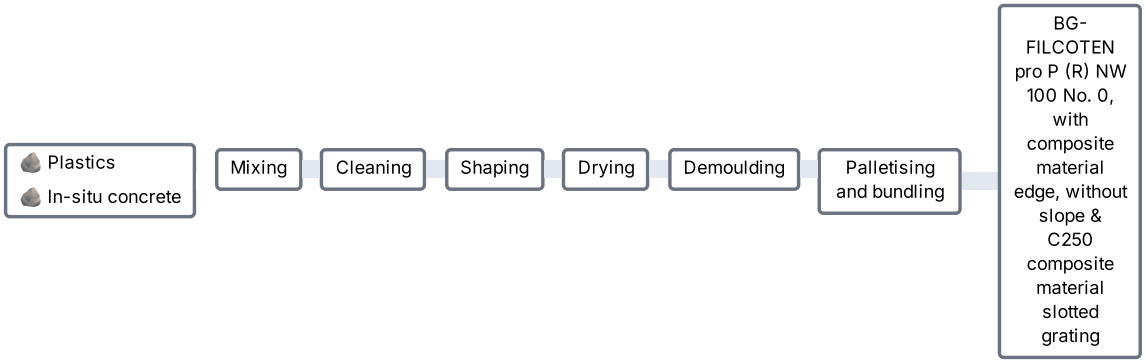
length 1000 mm, without slope

Building biology tested and recommended by IBR (Institut für Baubiologie Rosenheim, DE)

Fire-behaviour class: A1 according to EN13501 - non-combustible

100% recyclable with U-A marking

Delivery and installation according to the manufacturer's installation instructions



Drainage channels out of concret - FILCOTEN® HPC (High Performance Concrete) - for vehicular and pedestrian areas according to standard EN 1433

Product specification

Name of ingredient	Share of total weight	Country of origin
In-situ concrete	80 - 100 %	Austria
Plastics	10 - 25 %	Germany

Technical data

	Unit	Value
Compressive Strength (Cylinder)	N / mm²	70.0
Density	kg / m³	2364.32
Surface exposed to air	m²	0.24
Total mass	kg	19.4

Market

Austria

Reference service life

20 years

LCA: Calculation rules

Functional unit

1 M of BG-FILCOTEN pro P (R) NW 100 No. 0, with composite material edge, without slope & C250 composite material slotted grating

Reference service life

20 years

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.

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	x	x	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography			AT	AT	AT	AT	MND	MND	MND	MND	MND	MND	AT	AT	AT	AT	AT

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

Type of EPD: cradle to gate with options A4-A5, B1, C1-C4 and module D

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: Precast concrete production at the plant and waste treatment
Module A4: Transportation to installation site
Use Stage
Module B1: Carbonation during the utilization phase
Disposal Stage
Module C1: Demolition/Dismantling
Module C2: Transportation of concrete demolition waste for processing
Module C3: Sorting of waste components and recycling of concrete and other contained components
Module C4: Landfilling of concrete and other contained components
Credits and burdens outside the system boundaries
Module D: Credits and burdens from recycling as a replacement for primary materials

Cut-off criteria

Environmental impacts of the following processes are considered to be negligible: minor auxiliary materials used during installation (sealants, adhesives, or fasteners), minor water use for cleaning precast concrete elements .

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 2024, 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	20.65	kg
Fuel consumption	0.04	L / 100 km
Average distance from manufacturer to construction site	500.00	km
Transport mode	truck	

Installation into the building (A5)	Value	Unit
Treatment of Wooden pallets waste	Reuse	
Treatment of Softwood waste	Incineration	
Treatment of Plastic film waste	Recycling	
Treatment of Polypropylene strapping bands waste	Incineration	
Pavement	Asphalt	-
Type	M	-
Class	D 400	-
Concrete	0.14	m^3
Steel reinforcement	0	kg
Bitumen seal	6.00	kg

Use of the installed product (B1)	Value	Unit
Reference use period	20.00	years
Application	Engineerings structures, exposed to rain	
Degree of carbonation (Dc)	0.85	-
Cement absorption factor	0.49	kg CO_2 / kg Cement
k-factor	1.10	mm / √year
Correction factor	1.00	-
Surface area of concrete	0.24	m^2

Calculation of carbonization according to EN 16757. k-factor results from the concrete's compressive strength and its application. The cement absorption factor (maximum theoretical CO2 uptake) depends on the average clinker content in cement. The correction factor results from cement substitutes in the recipe.

End of life (C1-C4)	Value	Unit
Material for recycling (total)	14.74	kg
Distance to waste recycling facility	50.00	km
Material for landfill (total)	4.66	kg
Distance to waste landfill facility	50.00	km
Concrete to recycling	14.74	kg
Diesel required to demolish 1 kg of concrete	0.06	MJ / kg
PM 10 emissions during the demolishment of 1 kg of concrete	6.00e-05	kg / kg
PM 2.5 emissions during the demolishment of 1 kg of concrete	1.70e-05	kg / kg

Carbonation during waste processing is not considered. Recycling rate for concrete of 76% reflects the modeled country. Source: https://environment.ec.europa.eu/document/download/22239ead-82d4-42fb-86dc-d202d5f40507_en?filename=2011_CDW_Report_0.pdf.

Reuse, recovery and/or recycling potentials (D)	Value	Unit
Amount of secondary material that the system takes in	2.08	kg
Avoided gravel production	13.20	kg
Exported electrical energy	0.15	MJ
Exported thermal energy	0.30	MJ

Calculation of benefits and loads per EN 15804+A2.

LCA: Results

Core environmental impact indicators

Indicator	Unit	A1-3	A4	A5	B1	C1	C2	C3	C4	D
GWP-total	kg CO_2-eq.	1.04e+01 (9.44e+00)*	1.07e+00	4.91e+01	-2.15e-03	1.19e-01	1.01e-01	9.04e-02	2.91e-02	-5.96e-02
GWP-fossil	kg CO_2-eq.	1.01e+01 (9.47e+00)*	1.07e+00	4.84e+01	-2.15e-03	1.19e-01	1.00e-01	9.04e-02	2.91e-02	-5.83e-02
GWP-biogenic	kg CO_2-eq.	2.62e-01 (-2.77e-02)*	5.36e-04	6.11e-01	0	1.19e-05	5.04e-05	9.02e-06	3.01e-06	-1.31e-03
GWP-luluc	kg CO_2-eq.	1.00e-03	3.80e-04	1.63e-02	0	1.03e-05	3.57e-05	7.86e-06	1.51e-05	-1.66e-05
ODP	kg CFC-11-Eq	2.54e-08	2.23e-08	5.87e-07	0	1.82e-09	2.09e-09	1.38e-09	8.42e-10	-1.57e-09
AP	mol H+-Eq	3.39e-02	2.52e-03	1.60e-01	0	1.07e-03	2.37e-04	8.16e-04	2.06e-04	-2.67e-04
EP-freshwater	kg P-Eq	4.02e-04	7.52e-05	6.19e-03	0	3.46e-06	7.07e-06	2.63e-06	2.42e-06	-1.05e-05
EP-marine	kg N-Eq	8.82e-03	6.62e-04	4.30e-02	0	4.98e-04	6.22e-05	3.78e-04	7.86e-05	-1.02e-04
EP-terrestrial	mol N-Eq	7.73e-02	7.16e-03	4.78e-01	0	5.45e-03	6.73e-04	4.14e-03	8.58e-04	-1.16e-03
POCP	kg NMVOC-Eq	2.58e-02	4.38e-03	1.73e-01	0	1.62e-03	4.12e-04	1.24e-03	3.07e-04	-3.59e-04
ADPE	kg Sb-Eq	4.55e-05	3.05e-06	2.26e-04	0	4.26e-08	2.87e-07	3.24e-08	4.62e-08	-3.04e-07
ADPF	MJ, net calorific value	9.82e+01	1.60e+01	5.45e+02	0	1.56e+00	1.51e+00	1.18e+00	7.14e-01	-8.94e-01
WDP	m^3 world Eq deprived	3.83e+00	8.06e-02	1.06e+01	0	3.81e-03	7.57e-03	2.89e-03	2.00e-03	-2.81e-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

* The first value is the gross value, it includes the impacts from all manufacturing activities. Gross values are more commonly used in Northern Europe. The value in brackets is the net value, it excludes the impact from the incineration of waste-derived fuels, and is more common in Central Europe and Germany.

Additional indicators

Indicator	Unit	A1-3	A4	A5	B1	C1	C2	C3	C4	D
PM	disease incidence	4.87e-07	1.04e-07	1.82e-06	0	1.73e-07	9.79e-09	1.33e-07	4.69e-09	-6.43e-09
IRP	kBq U235-Eq	1.07e-01	1.95e-02	1.59e+00	0	6.96e-04	1.83e-03	5.29e-04	4.55e-04	-6.86e-03
ETP-fw	CTUe	ND	3.80e+00	1.23e+02	0	2.20e-01	3.57e-01	1.68e-01	9.76e-02	-2.40e-01
HTP-c	CTUh	ND	6.84e-09	1.36e-07	0	4.65e-10	6.43e-10	3.53e-10	1.32e-10	-4.86e-10
HTP-nc	CTUh	ND	1.06e-08	3.76e-07	0	2.11e-10	9.94e-10	1.60e-10	1.28e-10	-3.43e-10
SQP	dimensionless	ND	1.61e+01	2.60e+02	0	1.09e-01	1.52e+00	8.28e-02	1.40e+00	-9.14e-01

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	A5	B1	C1	C2	C3	C4	D
PERE	MJ	1.06e+01	2.55e-01	2.37e+01	0	9.51e-03	2.39e-02	7.23e-03	6.62e-03	-2.48e-01
PERM	MJ	6.20e-01	0	-6.20e-01	0	0	0	0	0	0
PERT	MJ	1.12e+01	2.55e-01	2.31e+01	0	9.51e-03	2.39e-02	7.23e-03	6.62e-03	-2.48e-01
PENRE	MJ	2.45e+01	1.60e+01	5.45e+02	0	1.56e+00	1.51e+00	1.18e+00	7.14e-01	-8.94e-01
PENRM	MJ	7.36e+01	0	-7.75e-01	0	0	0	-5.54e+01	0	0
PENRT	MJ	9.82e+01	1.60e+01	5.44e+02	0	1.56e+00	1.51e+00	-5.42e+01	7.14e-01	-8.94e-01
SM	kg	2.15e+00	0	0	0	0	0	0	0	1.32e+01
RSF	MJ	3.17e+00	0	0	0	0	0	0	0	0
NRSF	MJ	7.46e+00	0	0	0	0	0	0	0	0
FW	m^3	1.09e-01	2.33e-03	4.16e-01	0	1.01e-04	2.19e-04	7.68e-05	7.40e-04	-1.90e-02

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	A5	B1	C1	C2	C3	C4	D
HWD	kg	1.48e-01	2.33e-02	1.35e+00	0	1.74e-03	2.19e-03	1.32e-03	7.93e-04	-2.16e-03
NHWD	kg	3.72e+00	4.67e-01	3.82e+01	0	2.37e-02	4.39e-02	1.81e-02	4.67e+00	-6.47e-02
RWD	kg	3.38e-04	4.82e-06	4.01e-04	0	1.71e-07	4.53e-07	1.30e-07	1.11e-07	-1.58e-06

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

Output flows

Indicator	Unit	A1-3	A4	A5	B1	C1	C2	C3	C4	D
CRU	kg	0	0	1.19e+00	0	0	0	0	0	0
MFR	kg	5.42e-01	0	7.98e-03	0	0	0	1.47e+01	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	3.70e-02	0	1.14e-01	0	0	0	0	0	0
EET	MJ	7.15e-02	0	2.25e-01	0	0	0	0	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	0.02	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 sources below certified by Guarantee of Origin. Electricity is represented by data in ecoinvent 3.10 regionalised for Austria.

Electricity	Unit	Value
Solar	kg CO_2-eq. / kWh	0.10
Wind	kg CO_2-eq. / kWh	0.03
Hydro	kg CO_2-eq. / kWh	0.33
Geothermal	kg CO_2-eq. / kWh	0.07
Bioenergy	kg CO_2-eq. / kWh	0.05
Gas	kg CO_2-eq. / kWh	0.83

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	A5	B1	C1	C2	C3	C4	D
GWP-IOBC	kg CO_2-eq.	ND	1.07e+00	4.85e+01	-2.15e-03	1.19e-01	1.00e-01	9.04e-02	2.91e-02	-5.84e-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
Ecoinvent v3.10	ecoinvent, Zurich, Switzerland, database version 3.10
PCR	NPCR 020 PART B for concrete and concrete elements (v3.0)
EN 16757	Sustainability of construction works - Environmental product declarations - Product Category Rules for concrete and concrete elements
Kaethner, S. C. & Burridge, J. A.	Embodied CO2 of structural frames. The Structural Engineer 8 (2012)
Adams, K. & Hobbs, G.	Final Report: Wastage Rates for Blocks and Ready-Mix Concrete. Reusefully Ltd for MPA (2023): https://www.aircrete.co.uk/Sustainability-Environmental/Wastage-Rates.aspx
	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

epd-norway Global Program Operator	**Program Operator**	Phone	+47 23 08 80 00
	EPD-Norge		
	Majorstuen P.O. Box 5250, N-0303 Oslo	Email	post@epd-norge.no
	Norway	Web	www.epd-norge.no
epd-norway Global Program Operator	**Publisher**	Phone	+47 23 08 80 00
	The Norwegian EPD Foundation		
	Post Box 5250 Majorstuen, 0303 Oslo	Email	post@epd-norge.no
	Norway	Web	www.epd-norge.no
BG GRASPOINTNER Sustainable innovation.	**Owner of the declaration**	Phone	+43 664 8820 72 84
	BG-Graspointner GmbH		
	Gessenschwandt 39, 4882 Oberwang	Email	alexander.zeppetzauer@bg-graspointner.com
	Austria		
		Web	www.bg-graspointner.com
BG GRASPOINTNER Sustainable innovation.	**Author of the life cycle assesment**	Phone	+43 664 8820 72 84
	BG-Graspointner GmbH		
	Gessenschwandt 39, 4882 Oberwang	Email	alexander.zeppetzauer@bg-graspointner.com
	Austria		
		Web	www.bg-graspointner.com
ECO PLATFORM EPD VERIFIED	ECO Platform	Web	www.eco-platform.org
	ECO Portal	Web	ECO Portal
EMIDAT	**Developer of EPD generator**	Phone	+49 176 56 96 77 91
	Emidat GmbH		
	Sandstraße 33, 80335 München	Email	epd@emidat.com
	Germany	Web	www.emidat.com