

B-EPD

Dieter De Lathauwer – coördinator



Federal Public Service of Health and
Environment, Belgium

ENVIRONMENTAL PRODUCT DECLARATION

SVK FIBRE CEMENT CORRUGATED SHEETS

1 m² of fiber cement corrugated sheets with a thickness of 6,5 mm

Issued 01.06.2019
Valid until 01.10.2023

Third party verified
Conform to EN 15804+A1 and NBN/DTD B08-001

Cradle to gate with options



OWNER OF THIS ENVIRONMENTAL PRODUCT DECLARATION
SVK nv

[B-EPD n° 2019-00010]

EPD PROGRAM OPERATOR

Federale Overheidsdienst Volksgezondheid, Veiligheid van de
Voedselketen en Leefmilieu
www.b-epd.be



POTENTIAL ENVIRONMENTAL IMPACTS PER REFERENCE FLOW

		Production			Construction process stage			Use stage					End-of-life stage				D Reuse, recovery, recycling	
		A1 Raw material	A2 Transport	A3 manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing		C4 Disposal
	GWP (kg CO ₂ equiv/FU)	1,80E+02	2,03E+01	1,05E+00	6,82E+00	1,19E+01	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	9,20E+00	1,23E+01	2,87E+00	7,54E-01	-1,10E+01
	ODP (kg CFC 11 equiv/FU)	8,18E-06	3,58E-06	3,51E-07	1,22E-06	1,69E-06	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	1,67E-06	2,27E-06	7,24E-07	2,57E-07	-1,16E-06
	AP (kg SO ₂ equiv/FU)	5,36E-01	9,5E-02	9,45E-03	2,13E-02	3,05E-02	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	9,6E-02	3,96E-02	1,06E-02	5,14E-03	-7,46E-02
	EP (kg (PO ₄) ₃ -equiv/FU)	7,44E-02	1,3E-02	1,98E-03	3,54E-03	5,05E-03	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	1,3E-02	6,57E-03	2,12E-03	8,98E-04	-1,33E-02
	POCP (kg Ethene equiv/FU)	2,77E-02	5,0E-03	5,57E-04	1,25E-03	1,75E-03	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	4,23E-03	3,33E-03	6,26E-04	2,12E-04	-6,80E-03
	ADP Elements (kg Sb equiv/FU)	1,75E-04	4,56E-05	4,48E-06	1,99E-05	6,98E-06	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	3,11E-06	3,69E-06	5,28E-06	9,62E-07	-1,99E-04
	ADP fossil fuels (MJ/FU)	1,18E+03	2,08E+02	2,29E+01	1,01E+02	1,41E+02	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	MND	1,33E+02	1,88E+02	3,86E+01	2,05E+01	-1,52E+02

TEMPLATE

GWP = Global Warming Potential (Climate Change); ODP = Ozone Depletion Potential; AP = Acidification Potential for Soil and Water; EP = Eutrophication Potential; POCP = Photochemical Ozone Creation; ADPE = Abiotic Depletion Potential – Elements; ADPF = Abiotic Depletion Potential – Fossil Fuels;

The intended use of the EPD is to communicate environmentally based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

PRODUCT DESCRIPTION

PRODUCT NAME:
SVK fibre cement corrugated sheets with a thickness of 6,5 mm (distance: 0-0 mm) with conventional wave height. The commercial name of the product often changes.

BRANDS OF THE PRODUCT AND ITS INSTALLATION:

REMARKS (USER / DECLARED USE):
The Environmental Product Declaration (EPD) describes the environmental impacts of 1 m² of fibre cement corrugated sheets with a thickness of 6,5 mm, providing protection and decoration in a roof or facade during 60 years, produced by SVK nv at their site in Sint-Niklaas.

Packaging is included (not included).
Framing materials are needed for mounting and/or installing the product. These materials are not included in the EPD. The weight per reference flow is 14,6 kg.

REMARKS (ENVIRONMENTAL IMPACTS):
SVK corrugated sheets are manufactured on the basis of a homogeneous mixture of Portland cement, organic fibres, selected mineral additives and water. Recycled corrugated sheets are available in white, light grey, dark grey and black. They are fire resistant and they are resistant to water and weather conditions. They can be used on the exterior side with water based adhesive paste. SVK corrugated sheets are available in various lengths. The LEAS results presented in the EPD are: 1 m² fibre cement corrugated sheets with a thickness of 6,5 mm (distance: 0-0 mm to 0-0 mm).

COMPOSITION AND CONTENTS:
The main components of the product are:

Component	%
Portland cement	70-75
Content	3,5-5
Fibres	1,5-2,2
Filler	16-23

Insert description of the packaging of the product, but also on packaging for transport abroad.

The product does not contain asbestos listed in the "Candidate list of Substances of Very High Concern for authorization".

REMARKS (ENVIRONMENTAL IMPACTS):
The reference service life is estimated at 60 years.

The conditions under which the EPD is valid are as follows: Insert scenario for justification for the assumption. The fibre content data are on the basis for about 30 years to 2020 the results of a study on fibre from fibre cement products released upon 16

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

A1 - RAW MATERIAL EXTRACTION:
This module takes into account the extraction and processing of all raw materials and energy which occur upstream to the studied manufacturing process.

A2 - TRANSPORT TO THE MANUFACTURING SITE:
The raw materials are transported to the manufacturing site.

A3 - MANUFACTURING:

A4 - TRANSPORT TO THE BUILDING SITE:

Mode of transport	From 0-0 km to 100 km	From 100 km to 1000 km	From 1000 km to 10000 km
Sea	140	85	65
Truck	140	85	65
Truck (empty)	140	85	65
Truck (full)	140	85	65

B - USE PHASE (BUILDING OPERATION):
The corrugated sheets are used as roofing or facade cladding. A climate load-bearing potential, no maintenance or cleaning is necessary. Depending on the location and application, the user may benefit from a slight maintenance or cleaning (cleaning with soap and water), but this is not considered in the study.

C - END OF LIFE:

The EPD considers default transport scenarios for the transport to the building site for cases where specific data on transport are missing. The EPD provides scenarios for the two transport flow scenarios. The following transport flow applies:

- 100 km with a 10-20 ton truck (conventional transport)
- 100 km with a 10-20 ton truck (empty transport)
- 100 km with a 10-20 ton truck (full transport)
- 100 km with a 10-20 ton truck (empty transport)
- 100 km with a 10-20 ton truck (full transport)

The default scenario provided by the EPD, being 100% to landfill has been used as end-of-life scenario. The EPD also provides default scenarios for treatment of waste and end-of-life scenarios (see table below):

- 100 km with a 10-20 ton truck (empty transport) to a sorting plant (recycling plant)
- 100 km with a 10-20 ton truck (empty transport) to a sorting plant (recycling plant) to a sorting plant (recycling plant)

REMARKS (ENVIRONMENTAL IMPACTS):
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- 100 km with a 10-20 ton truck (full transport)

REMARKS (ENVIRONMENTAL IMPACTS):
The reference service life is estimated at 60 years.

General information

Owner of the EPD, Responsible for the data, LCA and information:
SVK nv
Ammelsdreef 114
8100 Sint-Niklaas
Belgium
Tel.: +32 (0)3 745 00 00
For more information you can contact Caryn Meesters: Caryn.Meesters@svk.be

EPD program:
Program Operator:
Publisher of the EPD:
www.environmentalproductdeclaration.be

EPD:
FOO Volksgesetz
Voor Nummer 40: 2019
1500 Brussel
www.environmentalproductdeclaration.be

EPD program Operator:
www.environmentalproductdeclaration.be

Based on following PCR documents:
NBN DTD B 08-001
NBN DTD B 08-001
PCR Review committee:
Federal Public Service of Health and Environment & PCR Review committee

Author of the LCA and EPD:
Karlouen Peeters (VITO), Carsten Spitzhals (VITO), Karlouen Peeters@vito.be

Identification of the project report:
Life cycle assessment of SVK fibre cement corrugated sheets (VITO, 2019)

Verification:
EN 15804:2012+A1:2013 serves as the core PCR. External independent verification of the data according to EN ISO 14025
EN 15804:2012+A1:2013 serves as the core PCR. External independent verification of the data according to EN ISO 14025
Event Vermaak (Voocho) 60 km-1999

Name of the third party verifier:
Date of verification:
www.environmentalproductdeclaration.be

Comparing EPDs is not possible unless the same system is being used and using the same system. The program operator cannot be held responsible for the information associated to the source of the EPD or LCA verification.

SVK Experts in fibre cement
LCA partner
vito
totem
be
www.svk.be
www.vito.be
www.totem.be
www.be

FEDERALE OVERHEIDSDIENST VOLKSGEZONDHEID,
VEILIGHEID VAN DE VOEDSELKETEN
EN LEEFMILIEU

[C – 2014/24263]

22 MEI 2014. — Koninklijk besluit tot vaststelling van de minimumeisen voor het aanbrengen van milieuboodschappen op bouwproducten en voor het registreren van milieuproductverklaringen in de federale databank

VERSLAG AAN DE KONING

Sire,

Het ontwerp van koninklijk besluit strekt tot vaststelling van de minimumeisen voor het aanbrengen van milieuboodschappen op bouwproducten en voor het registreren van milieuproductverklaringen in de federale databank.

In zijn advies van 10 april 2014 leverde de Raad van State bemerkingsen op dit ontwerp.

De Raad van State stelt in punt 2 van het advies dat de normen waarnaar gerefereerd wordt toegankelijk moeten zijn.

Het besluit verwijst naar een document van de Europese Commissie dat gratis en online verkrijgbaar is. Toegankelijkheid is bijgevolg gegarandeerd.

Het besluit verwijst ook naar Europese normen gepubliceerd door het CEN en Internationale normen gepubliceerd door ISO. Ze zijn ook beschikbaar als Belgische norm gepubliceerd door het NBN. Deze normen zijn eenvoudig toegankelijk via de norminstellingen van alle Europese lidstaten.

SERVICE PUBLIC FEDERAL SANTE PUBLIQUE,
SECURITE DE LA CHAINE ALIMENTAIRE
ET ENVIRONNEMENT

[C – 2014/24263]

22 MAI 2014. — Arrêté royal fixant les exigences minimales pour les affichages environnementaux sur les produits de construction et pour l'enregistrement des déclarations environnementales de produits dans la base de données fédérale

RAPPORT AU ROI

Sire,

Le présent projet d'arrêté royal vise à fixer les exigences minimales pour les affichages environnementaux sur les produits de construction et pour l'enregistrement des déclarations environnementales de produits dans la base de données fédérale.

Dans son avis du 10 avril 2014, le Conseil d'Etat a émis des remarques sur ce projet.

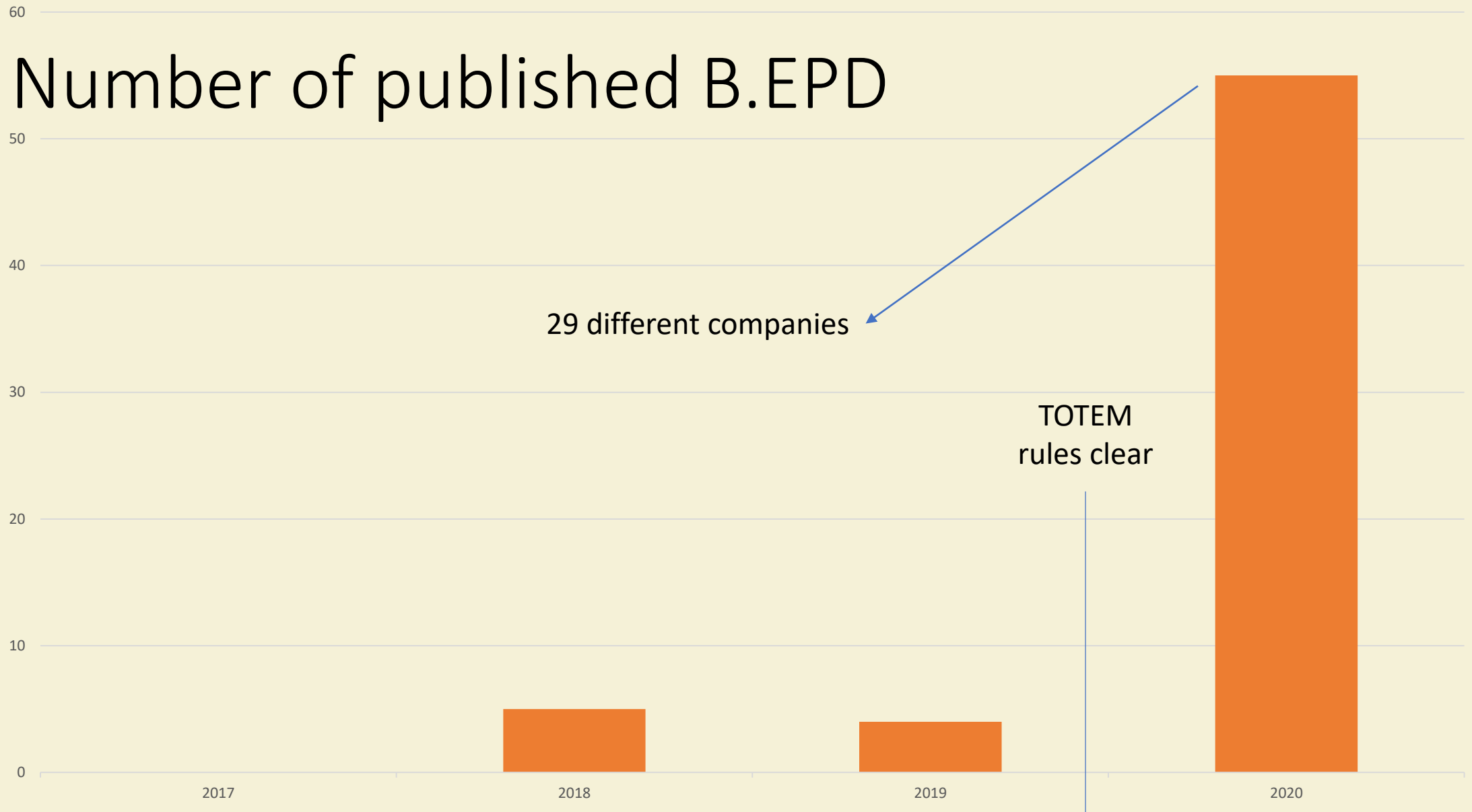
Le Conseil d'Etat précise au paragraphe 2 de l'avis que les normes auxquelles il est fait référence doivent être accessibles.

L'arrêté se réfère à un document de la Commission européenne qui est gratuit et disponible en ligne. L'accessibilité est donc garantie.

L'arrêté fait également référence à des normes européennes publiées par le CEN et internationales publiées par l'ISO. Ils sont aussi disponibles comme norme belge, publiée par le NBN. Ces normes sont facilement accessibles via les organismes de normalisation de tous les pays européens.

- ... It is a legal obligation when putting an environmental message on your product or its packaging Presently, TOTEM is working with generic data. As from 2021, it will also use specific data through B-EPD.

Number of published B.EPD



2020: published or in final phase.

Possibility to declare circularity: reversibility

Simplicity of disassembly	<ul style="list-style-type: none">- <i>simple - no specific dismantling tools required</i>- <i>simple - use of dismantling tools required</i>- <i>complex - requires specific tools and/or several workers</i>- <i>complexe - requires specific know-how, tools and/or several workers</i>
Speed of disassembly	<ul style="list-style-type: none">- <i>very speedy disassembly</i>- <i>speedy disassembly</i>- <i>rather slow disassembly</i>- <i>slow disassembly</i>
Ease of handling (size and weight)	<ul style="list-style-type: none">- <i>easy to handle manually, one workers is usually sufficient</i>- <i>can be handled manually, but size and/or weight may require more than one worker</i>- <i>can be handled manually, but size and/or weight requires two or more workers</i>- <i>handling requires mechnical devices</i>
Robustness of material (material resistance to disassembly)	<ul style="list-style-type: none">- <i>the material resists well during disassembly</i>- <i>disassembly is possible but should be done carefully in order not to generate any damage</i>- <i>disassembly is possible but generates inevitable damage to the material</i>- <i>n/a: the element is not reversible</i>

Reversibility	non reversible fixing	cast in mass
		projected
		coated
		plaster and filler
		cold or hot bonding, foam bonding
		glue
		sticky or adhesive tape
		welding
		glue mortar for masonry joints ($R_{joint} \geq R_{mat}$)
		cement mortar for masonry joints ($R_{joint} \geq R_{mat}$)
	reversible with non repairable damage	hybrid mortar (cement / lime) for masonry joints ($R_{joint} \geq R_{mat}$)
		lime mortar for masonry joints ($R_{joint} < R_{mat}$)
		clay mortar for masonry joints ($R_{joint} < R_{mat}$)
		sand joints ($R_{joint} < R_{mat}$)
		mastic (window, sanitary elements...) for joints ($R_{joint} < R_{mat}$)
		nails and staples
reversible with light repairable damage	screws, bolts and dowels	
reversible fixing	brackets, hooks, hooves, clips...	
reversible fixing	nesting, interlocking, superposition, juxtaposition	
non reversible fixing	nesting / interlocking , under screed (example: concrete slab elements)	
reversible fixing	loose laying	
reversible fixing	loose laying without weighting	
reversible fixing	loose laying with weighting	
non reversible fixing	loose laying with weighting, under the screed	
non reversible fixing	multilayer composite material (layers are always glued)	

More:
 VLEERBOEK VAN DE WOODSKREKEN EN LEERWISSE
 bouwproducten - Nieuwegein - 0.01 (2013.11.14)

Rockit Mono **Stadsp** : ROCKWOOL b.v.
Status : GRANTIED

Product Bibliotheek Admin

Wisselprofiel Inrechner Karakteristieken Productgegevens Verzekeren

Type EPD

Type milieuproduktverklaring: 1 / Wieg-38-fabrikageport
 2 / Wieg-38-fabrikageport met opties
 3 / Wieg-38-fabrikageport

Afhankelijkheid systeemgrenzen

A1-A3 / Product stage		B / Use Stage		C / End-of-Life stage		D / Details en toets beyond the system boundary										
Raw Material Supply	Transport to the manufacturer	Manufacturing	Transport to the building site	Installation in the building	Use of the installed product	Maintenance	Repair	Replacement	Relinishment	Operational energy use	Operational water use	Deconstruction / demolition	Transport to waste processing	Waste processing	Disposal	Re-use / Recovery / Recycling Potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LEGENDA: D = declared, ND = not declared, tr = irrelevant

Scenario's

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Corr	Scenario	Naam	Beschrijving
✎	A4	Levering (NL)	- Brandstoftype [l/100km] → 1 liter diesel per 3 km, 179 km, vrachtwagen - Capaciteitsbenuttingsgraad [%] → diesel consumptie is voor een gemiddeld belading, 30% komt leeg terug, 70% wordt benut voor andere lading/transport - Dichtheid [kg/m³] → Volumegedragend, gemiddeld 105 m³ per vrachtwagen - Volume capaciteit → Stompe producten zijn gecompacteerd, dit is niet meegenomen, dit is een factor 1 toegepast voor alle producten, "scenario voor Nederland"
✎	A5	Installatie	- Materiaal nodig voor de installatie → Niet gedeclareerd - Directe emissies naar lucht, grond en water → Geen - Andere hulpstoffen → Geen - Stroomopbrengst → Thermische installatie, dus geen elektriciteitsverbruik - Installatieafval → Stofafval is gedeclareerd - Afval dat de bouwplaats verlaat voor verbranding als afval → Verpakking en afvalafval
✎	C2	Transport afval (NL)	- 90% recycling - 10% stort "scenario voor Nederland"
✎	C3	Afval verwerking (NL)	De verwerking van gerecycled materiaal is meegenomen bij de inzet van gerecycled materiaal bij de productie, economische afval is toegepast.
✎	C4	Afval (NL)	Start van minerale wol, steen materiaal
✎	D	Recycling (NL)	Recycling van verpakkingsmateriaal op de bouwplaats, subdichte toegepast, opwerking bij granulaat/grondstof met 90% materiaal-efficiëntie

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Core impact categories and indicators

Other parameters describing resources and waste

Additional impact categories and indicators

rgen11 - 5 van 5

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Core impact categories and indicators

Parameter	Unit - Method
Global warming potential	kg CO2 equiv. - EN 15804:2012
GW* biogenic	kg CO2 eq. - EN 15804
Depletion of the abiotic layer	kg C11 equiv. -
Acidification of soil and water	kg SO2 equiv. -
Eutrophication	kg (PO4)3-equiv. -
Tropospheric ozone formation	kg Ethene equiv. -
Depletion of non fossil resources	kg Sb equiv. -
Depletion of fossil resources	MJ, net calorific value -

A1-A3, Productfase

Parameter	Abbreviation	Unit	A1	A2	A3	A1-A3
Global warming potential	GW*	kg CO2 equiv.				4.33E+02
GW* biogenic	GW* bio	kg CO2 eq.				-8.66E-01
Depletion of the abiotic layer	OD*	kg C11 equiv.				2.89E-07
Acidification of soil and water	AP*	kg SO2 equiv.				3.40E-02
Eutrophication	EP*	kg (PO4)3-equiv.				5.40E-02
Tropospheric ozone formation	POC*	kg Ethene equiv.				1.40E-02
Depletion of non fossil resources	AD1*	kg Sb equiv.				4.00E-08
Depletion of fossil resources	AD1*	MJ, net calorific value				3.00E-02

A4-A5, Bouwfase

Parameter	Abbreviation	Unit	A4	A5
Global warming potential	GW*	kg CO2 equiv.	2.60E-01	-4.30E-01
GW* biogenic	GW* bio	kg CO2 eq.	3.00E+00	6.60E-01
Depletion of the abiotic layer	OD*	kg C11 equiv.	2.10E-08	-6.40E-08
Acidification of soil and water	AP*	kg SO2 equiv.	9.20E-04	5.30E-04
Eutrophication	EP*	kg (PO4)3-equiv.	1.10E-04	9.10E-05
Tropospheric ozone formation	POC*	kg Ethene equiv.	4.30E-05	1.80E-05
Depletion of non fossil resources	AD1*	kg Sb equiv.	4.40E-07	1.20E-08
Depletion of fossil resources	AD1*	MJ, net calorific value	1.90E-03	-2.10E-04

C, End-of-life fase (EOL)

Parameter	Abbreviation	Unit	C2	C3	C4
Global warming potential	GW*	kg CO2 equiv.	1.20E-01	1.70E-01	5.90E-02
GW* biogenic	GW* bio	kg CO2 eq.	3.00E+00	3.00E+00	2.00E+00
Depletion of the abiotic layer	OD*	kg C11 equiv.	2.20E-08	2.10E-08	1.60E-08
Acidification of soil and water	AP*	kg SO2 equiv.	5.20E-04	5.90E-04	3.30E-04
Eutrophication	EP*	kg (PO4)3-equiv.	9.30E-05	1.00E-04	6.00E-05
Tropospheric ozone formation	POC*	kg Ethene equiv.	2.10E-05	2.80E-05	1.30E-05
Depletion of non fossil resources	AD1*	kg Sb equiv.	3.00E-07	5.40E-07	1.20E-08
Depletion of fossil resources	AD1*	MJ, net calorific value	6.10E-04	1.10E-03	6.20E-05

D, Voorstellen en testen buiten de systeemgrenzen

Parameter	Abbreviation	Unit	D
Global warming potential	GW*	kg CO2 equiv.	-2.90E-03
GW* biogenic	GW* bio	kg CO2 eq.	3.00E+00
Depletion of the abiotic layer	OD*	kg C11 equiv.	-6.10E-10
Acidification of soil and water	AP*	kg SO2 equiv.	-1.90E-04
Eutrophication	EP*	kg (PO4)3-equiv.	-1.30E-02
Tropospheric ozone formation	POC*	kg Ethene equiv.	-1.00E-02
Depletion of non fossil resources	AD1*	kg Sb equiv.	1.20E-08
Depletion of fossil resources	AD1*	MJ, net calorific value	-7.00E-04

Other parameters describing resources and waste

Additional impact categories and indicators

www.b-epd.be

- Reference documents
- One address for all your questions on B-EPD: epd@health.fgov.be
- The database is available on www.environmentalproductdeclarations.eu
- Stay informed via epdnews@environment.belgium.be