

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	Hilti Aktiengesellschaft
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-HIL-20240057-IBA1-EN
Issue date	12.12.2024
Valid to	11.12.2029

**Cast In
Hilti AG**

www.ibu-epd.com | <https://epd-online.com>



1. General Information

Hilti AG

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-HIL-20240057-IBA1-EN

This declaration is based on the product category rules:

Pre-formed fire protection systems for cable and duct insulation ,
01.08.2021
(PCR checked and approved by the SVR)

Issue date

12.12.2024

Valid to

11.12.2029

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Cast In

Owner of the declaration

Hilti Aktiengesellschaft
Feldkircher Strasse 100
9494 Schaan
Liechtenstein

Declared product / declared unit

The declared product is HILTI Firestop Cast-In Device CFS-CID. The declared unit refers to 1 piece Firestop Cast-In CFS-CID. The packaging is also included in the calculation. The specification of the declared unit is in [kg]. The product declared is the reference of a product family because it has the highest product weight.

Scope:

This document refers to the HILTI Firestop Cast-In Device CFS-CID. For the compilation of the Life Cycle Assessment, specific data were collected from the factory Rawang in Malaysia of the company Hilti. Data from the year 2022 are used, which correspond to the annual average. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR	
Independent verification of the declaration and data according to ISO 14025:2011	
<input type="checkbox"/>	internally
<input checked="" type="checkbox"/>	externally

Angela Schindler,
(Independent verifier)

2. Product

2.1 Product description/Product definition

The Hilti Firestop Cast-In Device CFS-CID is a pre-formed firestop device offered in various sizes for combustible and non-combustible penetrations in floor applications.

This Product Specific EPD covers the different Cast-In Device sizes in the CFS-CID family. This is possible due to the similar composition of the Cast-In Devices CFS-CID (50mm, 75mm, 110mm and 160mm).

The CFS-CID 160mm, as the biggest size of the Cast-In Device with the highest amount of raw materials and highest weight, is used as the basis for the calculation in this EPD.

Short description of the Hilti Firestop Cast-In Device CFS-CID:

- One-step firestop solution for a variety of combustible and non-combustible pipe materials and diameters - no additional sealing required
- Integrated water and smoke seal
- Modular connection allows close placement of multiple penetrations
- Threaded connection allows attachment of modular accessories to cover further requirements.
- Ready-to-use out of the package.

For the placing of the product on the market in the European Union/European Free Trade Association /EU/EFTA) (with the exception of Switzerland) the Regulation (EU) No. 305/2011 (CPR) applies. The product needs a Declaration of Performance taking into consideration ETA no. 20/1233 of 2020/12/20 Hilti Firestop Cast In Device CFS-CID. For the application and use the respective national provisions apply.

2.2 Application

- Concrete slabs built with traditional formwork or metal decking
- New building construction
- Sealing non-combustible (metal) penetrations
- Sealing insulated and non-insulated pipes
- Sealing combustible penetrations
- Concrete floor assemblies rated up to 4 hours

2.3 Technical Data

Application conditions:

- for use at temperatures between -5 and +50 °C
- indoor only

Construction Data

Name	Value	Unit
Density (weighted average across raw materials)	2	g/cm ³
Application temperature	-5 - 50	°C
Storage temperature	-5 - 50	°C
Temperature resistance	max. 100	°C
Reaction to fire According to EN 13501-1	Class E	-
Halogenated flame retardants	no	-
Airborne sound insulation Range of Values according to product size tested ISO 140-3 and DIN 52210	See ETA-20-1233 for details	dB
Mold growth ASTM G21 and ISO 846	No	-
Durability EOTA TR 024 and ETAG 026-2 (inlay)	Y2	-

Performance data of the product in accordance with the Declaration of Performance with respect to its essential characteristics according to ETA No. 20/1233 of 2020/12/20 Hilti Firestop Cast in Device CFS-CID.

2.4 Delivery status

This Product Specific EPD covers the different Cast-In Device sizes in the CFS-CID family. The CFS-CID 160mm, which is the biggest size of the Cast-In Device with the highest amount of raw materials and highest weight, was used as basis for the calculation in this EPD.

Overview of the variants in the CFS-CID product family:

- Hilti Firestop Cast-In Device - CFS-CID
 CFS-CID 50mm
 CFS-CID 75mm
 CFS-CID 110mm
 CFS-CID 160mm

2.5 Base materials/Ancillary materials

Material Distribution

Name	Value	Unit
Steel Cover sheet	173,0	g
PP Housing, Extension	575,8	g
EPDM Sealing ring	31,2	g
Inlays	533,4	g
Paper Packaging	199,6	g
Total	1513,0	g

The product consists of a Polypropylene Housing, Extension Tube and Lid, an EPDM Membrane (Ethylene Propylene Diene Monomer) sealing ring and Steel Sheet integrated in the housing to hold the Intumescent Inlay. The inlay is based on foaming graphite and activated in the event of a fire.

Contains substances on the candidate list (date: 27.06.2024) exceeding 0.1 mass percentage in at least one partial product: no
 Contains other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 mass percentage in at least one partial product: no
 Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the Ordinance on Biocide Products): no

2.6 Manufacture

The Polypropylene (PP) plastic Housing and Extension Tube are produced by Injection Molding of PP Granulate. The Intumescent Inlays are fixed to the Housing with support of the Metal Cover Sheet. The EPDM Sealing Ring is fixed between the PP Parts in the Plastic Housing compressing the EPDM ring.

The Injection Molding process is the most energy consuming step during the production and assembly at this manufacturing plant for this product line. The final assembly steps are manual and not automatized, resulting in reduced energy consumption.

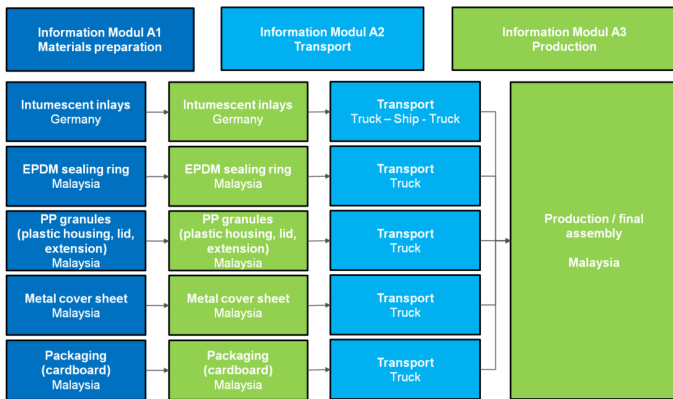


Illustration: Flow diagram of the production process

2.7 Environment and health during manufacturing

The manufacturing plant falls under Hilti's Code of Conduct (CoC) for Suppliers.

This is a public document and part of the contract with the manufacturing plant for the Hilti Firestop Cast-In Device. The CoC for Suppliers sets the following expectations regarding environmental performance to be fulfilled:

- Strive to minimize waste and air, soil and water emissions.
 - Contribute to recycling and reuse of materials and products.
 - Continuously improve energy efficiency in production processes and in the handling and transportation of goods.
 - Meet the requirements stated in the Hilti CRC and and Sustainability Supplier Questionnaires.
 - Suppliers may not handle chemicals in a way that causes harm to the environment.
- Furthermore, Hilti's Code of Conduct require that Suppliers ensure healthy and safe working conditions, to effectively prevent and control hazards and to ensure product safety. Environmental and health impacts during manufacturing are evaluated during recurring audits.

2.8 Product processing/Installation

The product is delivered with an Instruction for Use explaining the basic steps for installation:

- 1) Fix the Cast-In Device to a substrate/support plate for the form work
- 2) Pour the concrete to the floor and "cast-in" the Hilti Firestop Cast-In Device
- 3) Remove the lid to install the penetrant

Due to the 'pre-formed' nature of the product (integrated Intumescent Inlay and EPDM rubber sealing ring), the installation can be done without the use of wet-applied products/accessories (e.g. sealants to close the gaps around the device).

The Hilti Firestop Cast-In Device shall always be installed in accordance with Hilti literature and with the relevant approval (ETA-20/1233 of 2020/12/20); always respecting defined substrate type, penetrant types/sizes, additional accessories etc.

2.9 Packaging

The Hilti Firestop Cast-In Devices are supplied in cardboard boxes, which are designed to fit according to the product size. The cardboard packaging can be recycled and is not considered as part of the product.

The packaged cast-in devices are shipped to distribution locations on reusable pallets.

2.10 Condition of use

The Hilti Firestop Cast-In Devices can be used to seal firestop openings in floors. In the event of penetrant changes: the Hilti Firestop Cast-In Device may remain in the opening. The device can be kept closed (in case of no penetrants / before the penetrant is installed) with help of the lid, which is integrated in the product design and delivered as part of the product. The device allows penetrants to be changed retrospectively. Hilti literature and official approvals must always be considered.

2.11 Environment and health during use

No environmental and health risks to the users of the building are expected. Due to the re-penetration function described in 2.10, the use of the Hilti Firestop Cast-In Device results in a lower total cost of ownership throughout the lifetime of a building. In addition, it also results in less waste since no waste is created by redoing the firestopping everytime a penetrant change and re-penetration is required.

2.12 Reference service life

Since the Use phase (B) is not considered, the Reference Service Life is not required.

2.13 Extraordinary effects

Fire

Building materials classification E in accordance with EN 13501-1.

Fire protection

Name	Value
Building material class	E
Burning droplets	Not applicable in class E
Smoke gas development	Not applicable in class E

Water

Hilti Firestop Cast-In Device should not be exposed to water.

Mechanical destruction

In the event of mechanical destruction of the Hilti Firestop Cast-In Device, the firestop penetration must be resealed or repaired.

2.14 Re-use phase

In the event of penetrant changes: the Hilti Firestop Cast-In Device may remain in the opening. The Device can be kept closed (in case of no penetrants / before the penetrant is installed) with the help of the lid, which is integrated in the product design and delivered as part of the product. The device



allows penetrants to be changed retrospectively. Hilti literature and official approvals must always be considered.

2.15 Disposal

Hilti Firestop Cast-In Devices are not made from hazardous materials and can be disposed of in the same way as

household waste – (European) waste code: 20 03 01 01. Steel can be recovered for recycling.

2.16 Further information

Further information is available under: www.hilti.group

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit is one HILTI Firestop Cast-In Device CFS-CID weighing 1.313 kg with an estimated volume of ca. 0,00199 m³. The packaging is also included in the calculation at 0.199 kg. According to the PCR, the declared unit is to be stated in m³. However, as this is a product that is used for cable insulation, this specification does not make sense for technical reasons according to the manufacturer. The following table shows the data of the declared unit.

Declared unit

Name	Value	Unit
Declared unit	1	Part
Weight	1,313	kg
Declared unit Volume	0.000655	m ³
Average Density	2006	kg/m ³

Other declared units are allowed if the conversion is shown transparently.

3.2 System boundary

Type of EPD: cradle to factory gate with modules C1-C4 and D. The following information modules are defined as system boundaries in this study:

Production stage (A1- A3):

- A1, raw material extraction,
- A2, transportation to the manufacturer,
- A3, production.

In the production stage, the provision of materials, transportation to the production site and the production of the individual components and the product itself are mapped. In the case of the Cast-In product, the inlay is pre-produced in Germany and transported by truck and container ship to the Rawang site in Malaysia for finalization of the product. The seal and the cover are pre-produced in Malaysia and transported to Rawang by truck. The housing is injection-moulded at the production plant in Rawang and finalized together with the other components.

End of the life cycle (C1- C4):

- C1, dismantling/demolition,
- C2, transportation,
- C3, waste treatment ,
- C4, disposal.

In C1, the dismantling of the building is calculated using an electric tool. In C2, the construction waste is transported 50 km by truck to the nearest waste treatment plant. In the waste treatment plant, the rubble is crushed, resulting in a mass loss of 3 %. Following waste treatment, the inlay, the housing and the seal are thermally recycled in a waste incineration plant. The steel sheet of the product is recycled. Reuse, recovery and recycling potential (D)

In Module D, the recycling potential of the steel scrap from the sheet metal is shown via the 'Value of Scrap'. The thermal and electrical energy credits from thermal recycling in the waste incineration plant are also shown.

In order to accurately record the indicators and environmental impacts of the declared unit, a total of 8 information modules are considered. Information modules A1 to A3 describe the provision of materials, transportation to the production site and the production processes of the product itself.

The primary products are sourced from the European Union and South East Asia. They are transported by truck and ship. The following flow charts illustrate the underlying production process.

3.3 Estimates and assumptions

The electricity mixes and other background data are calculated on a country-specific basis for the production processes. No assumptions or restrictions were made for recipe contents.

3.4 Cut-off criteria

All energy and mass inputs were taken into account, the cut-off criterion according to EN15804+A2 is not applied.

3.5 Background data

The background data base of the LCA for Expert and ecoinvent 3.9.1 databases, to which this study also refers, is documented under the following link.

(Sphera).

<https://LCADatabase.Sphera.com>

(ecoinvent 3.9.1)

<http://ecoinvent.org>

3.6 Data quality

Specific data from the HILTI AG plant in Malaysia was collected for the preparation of the life cycle assessment.

The data was collected for the preparation of the life cycle assessment.

The background data from the LCA for Experts database is from the year 2023.

The data quality is classified as sufficient.

3.7 Period under review

The input and output flows used in this calculation are based on the annual average for 2022.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Malaysia

3.9 Allocation

The allocation of co-products takes place in the information modules A1-A3.

The production waste from the Injection Molded components is thermally utilised. The resulting electrical and thermal energy credits are fully charged in the in modules A1-A3.

No further allocations are made.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

No renewable raw materials are used in the product. Therefore, the biogenic carbon is shown as zero.

Information on describing the biogenic carbon content at factory gate

The values for biogenic carbon are not shown in the results, as A5 is not declared. The biogenic carbon is released in A3 and thus considered CO² neutral.

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging Cardboard	0,081	kg C

Note: 1 kg of bionic carbon is equivalent to 44/12 kg of CO₂

End of life (C1-C4)

The demolition work is carried out using a core drill, which consumes 3,312 MJ of energy. The resulting rubble is transported by truck over a distance of 50 km to a waste treatment plant. A material loss of 3 % is assumed during waste

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. LCA for Experts and ecoinvent 3.9.1 data bases

treatment.

After treatment, the insert, the housing and the seal are thermally combusted. Module C4 is declared as 0 in this study, as no landfilling is planned. The cover, on the other hand, is recycled.

Name	Value	Unit
Collected separately waste type waste type	1.313	kg
Recycling	0.167	kg
Energy recovery	1.1053	kg

Reuse, Recovery and Recycling Potential (D): relevant Scenarios.

Module D shows the substitution potential of primer steel through a recycling scenario. The plastic components are thermally combusted, which generates thermal and electrical energy.

Name	Value	Unit
Waste for recycling of the specified unit (net flow)	0,148	kg
Electrical energy	4,489	MJ
Thermal energy	8,295	MJ

5. LCA: Results

The impact assessment of environmental loads is carried out in accordance with EN 15804+A2 (EF 3.1). The characterization factors are selected in accordance with PCR

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	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	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 Piece Firestop Cast In CP 680

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq	6.37E+00	4.61E-01	9.22E-03	2.32E+00	0	-1.21E+00
Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	6.35E+00	4.61E-01	8.84E-03	2.05E+00	0	-1.21E+00
Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	2E-02	1.04E-04	3.75E-04	2.66E-01	0	-2.59E-03
Global Warming Potential luluc (GWP-luluc)	kg CO ₂ eq	3.12E-03	6.9E-05	1.19E-06	7.88E-05	0	-1.21E-04
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	1.17E-08	5.07E-12	1.15E-15	2.2E-13	0	-8.12E-12
Acidification potential of land and water (AP)	mol H ⁺ eq	2.46E-02	1.08E-03	4.4E-05	4.7E-04	0	-1.63E-03
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	3.52E-05	2.41E-07	2.43E-09	7.91E-08	0	-1.64E-06
Eutrophication potential aquatic marine (EP-marine)	kg N eq	7.19E-03	1.81E-04	2.16E-05	1.53E-04	0	-4.06E-04
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	7.59E-02	1.94E-03	2.37E-04	2.27E-03	0	-4.18E-03
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	2.07E-02	5.38E-04	4.43E-05	4.13E-04	0	-1.28E-03
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	1.61E-06	2.18E-08	2.47E-10	4.96E-09	0	-1.54E-06
Abiotic depletion potential for fossil resources (ADPF)	MJ	1.1E+02	8.56E+00	1.23E-01	5.52E-01	0	-1.96E+01
Water use (WDP)	m ³ world eq deprived	1.85E-01	2.63E-02	2.31E-05	2.5E-01	0	-1.21E-01

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 Piece Firestop Cast In CP 680

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	4.34E+00	1.22E+00	8.97E-04	1.35E-01	0	-5.57E+00
Renewable primary energy resources as material utilization (PERM)	MJ	3.4E+00	0	0	0	0	0
Total use of renewable primary energy resources (PERT)	MJ	7.74E+00	1.22E+00	8.97E-04	1.35E-01	0	-5.57E+00
Non renewable primary energy as energy carrier (PENRE)	MJ	7.73E+01	8.56E+00	1.23E-01	3.19E+01	0	-1.96E+01
Non renewable primary energy as material utilization (PENRM)	MJ	3.23E+01	0	0	-3.13E+01	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	1.1E+02	8.56E+00	1.23E-01	5.52E-01	0	-1.96E+01
Use of secondary material (SM)	kg	5.16E-02	0	0	0	0	1.48E-01
Use of renewable secondary fuels (RSF)	MJ	0	0	0	0	0	0
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	0
Use of net fresh water (FW)	m ³	4.64E-02	1.72E-03	9.8E-07	5.85E-03	0	-3.04E-02

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 Piece Firestop Cast In CP 680

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	8.23E-09	1.21E-09	4.46E-12	2.82E-10	0	-3.06E-08
Non hazardous waste disposed (NHWD)	kg	3.24E-02	2.12E-03	1.28E-05	6.91E-02	0	2.22E-02
Radioactive waste disposed (RWD)	kg	7.03E-04	1.11E-03	1.95E-07	2.49E-05	0	-1.25E-03
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	0	0	0	1.68E-01	0	0
Materials for energy recovery (MER)	kg	0	0	0	0	0	0
Exported electrical energy (EEE)	MJ	0	0	0	4.49E+00	0	0
Exported thermal energy (EET)	MJ	0	0	0	8.3E+00	0	0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 Piece Firestop Cast In CP 680

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Incidence of disease due to PM emissions (PM)	Disease incidence	ND	ND	ND	ND	ND	ND
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	ND	ND	ND	ND	ND	ND

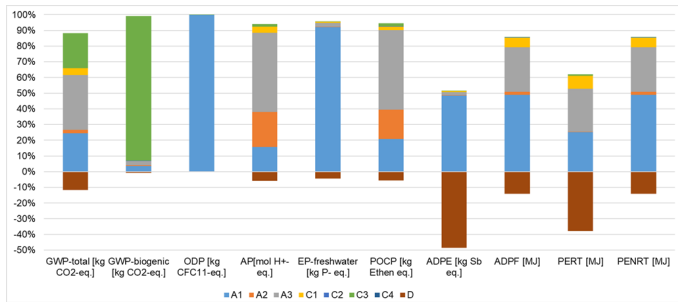
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	ND	ND	ND	ND	ND	ND
Soil quality index (SQP)	SQP	ND	ND	ND	ND	ND	ND

Disclaimer 1 – for the indicator 'Potential Human exposure efficiency relative to U235'. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans - not cancerogenic', 'potential soil quality index'. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator. This EPD was created using a software tool.

6. LCA: Interpretation

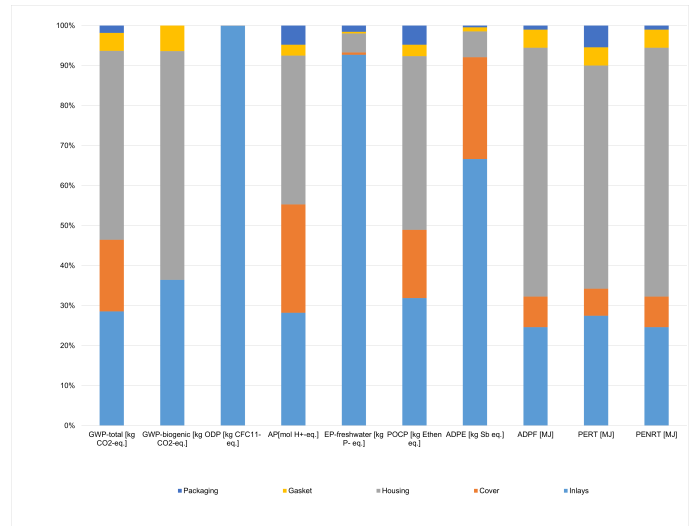
The dominance analysis shows that the main causes of the environmental impacts and indicators are to be found in information module A3. This shows the total global warming potential for production with approx. 34% and approx. 25% in A1 in relation to all information modules.



Dominance analysis information modules per declared unit

If we look at the material supply of the fire protection sleeve and the packaging in detail, it becomes clear which raw materials make a decisive contribution to the respective environmental impacts and indicators.

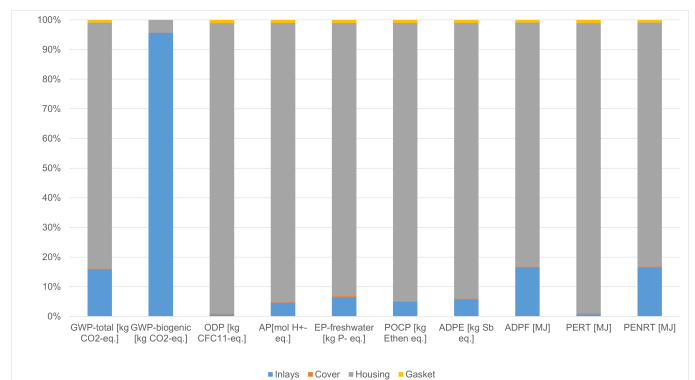
The housing accounts for approx. 49% and the inlays for approx. 28% of the total global warming potential in information module A1. The cover accounts for approx. 17%.



Dominance analysis information module A1 per declared unit

In information module A3 it is clear that approx. 83% of the total global warming potential comes from the production of the housing and approx. 15% from the pre-production of the inlay.

The masses of raw materials and packaging are taken from the manufacturer's specifications. According to the manufacturer, this information can be assumed to be highly accurate.



Dominance analysis information module A3 per declared unit

7. Requisite evidence

This data and its supporting documents apply for the products listed in chapter "2.4 - Delivery Status".

In case a result applies only for one of the sizes/variants of the product: the product/material covered by the attribute and mentioned in the correspondent test report is listed below.

7.1 Acoustic Tests.

Sound level PVC pipe section with CFS-CID in opening tested according to EN ISO 10140:

Dn,e,w =46 dB

Test Certificate: IFT Rosenheim, 15-002898-PR01

Acoustic performance test results shall always be evaluated by specialists and the complete test set-up shall be considered, as the results of a test for a product in a defined set-up will not necessarily correspond to the real application configuration (performance always to be assessed case-by-case).

7.2 Antimicrobial Effects (Mold and Mildew Testing)

ISO 846: Investigations on Antimicrobial Effects

ISO 846:1997-06, Plastics — Evaluation of the action of microorganisms

ASTM G 21:2015-00

ASTM G 21:2015-00, Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

Test Certificate: 03.11.2006 CP 680 Housing (Red Plastic)

Test Results according to ISO 846: no growth of tested species.

Test Certificate: 04.22.3006 CP 680 EPDM Membrane

Test Results according to ISO 846: no growth of tested species.

7.3 EOTA TR 24: Durability (Inlay)

MPA Stuttgart Test Certificate 9030864000/STÄ29.11.2015

Result: No essential change in performance for Y₂ applications.

7.4 Fire Resistance

Testing according to EN 13501-2:2007+A1:2009 Fire Classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

Fire Resistance Classification Report No. 17377D, 31.08.2016

Testing according to EN 13501-2:2016 Classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

Fire Resistance Classification Report No. 21425C, 24.05.2022

7.5 VOC Emissions

AgBB Schema A/ Ausschuss für die gesundheitliche Bewertung von Bauprodukten (Stand:2018)

CFS-CID

Test Certificate: 55111-B001-AgBB-L 24.01.2024

French VOC Classification and CMR Emissions Directive CFS-CID

VOC Klasse A+ Labelling Test Certificate: 55111-B001-FVO-L 24.01.2024

8. References

DIN 52210-6:2013-07: Tests in building acoustics; airborne and impact sound insulation

EN 20140-10/1992: Acoustics - Measurement of sound insulation in buildings and of building elements - Part 2: Determination, verification and application of precision data

ISO 140-3:1995 + AM 1:2004: Acoustics - Measurement of sound insulation in buildings and of building elements - Part 3: Laboratory measurements of airborne sound insulation of building elements; (German version EN 20140-3:1995 + A1:2004)

ISO 846: Investigations on Antimicrobial Effects

ISO 846:1997-06, Plastics — Evaluation of the action of microorganisms

European Technical Assessment issued in accordance with Regulation (EU) No 305/2011 on the basis of EAD 350454-00-1104 Fire stopping and fire sealing products, penetration seals

Code of Conduct (CoC) for Suppliers

Hilti contractual requirements towards suppliers in the areas of human rights, labor standards, workplace safety and environmental protection as well as regarding anti-corruption. Online available under: Supply Management Strategy - Hilti Corporation

Core Rules for the Product Category: EN 15804

EN 15804:2012+A2:2019+AC:2021: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN ISO 14025: Environmental Declarations

EN ISO 14025:2011: Environmental Labels and Declarations — Type III Environmental Declarations — Principles and Procedures.

EN ISO 14044: Environmental Management Life Cycle Assessment

DIN EN ISO 14044:2006-10/, Environmental Management – Life Cycle Assessment – Requirements and Guidelines

ecoinvent 3.9.1

Background data: ecoinvent 3.9.1Z Zürich: ecoinvent
<http://www.ecoinvent.org> (07.08.2024)

**EOTA (European Organisation for Technical Assessment)
TR 024**

Characterisation, Aspects of Durability and Factory Production
Control for Reactive Materials, Components and Products

ETAG (European Technical Approval Guidelines) 026-2

ETAG 026-2:2008-10, Guideline for European Technical
Approval of Fire Stopping and Fire Sealing Products, Part 2
Penetration Seals Clause 1.2: Durability

Fire Classification: EN 13501-1

EN 13501-1:2007+A1: Fire Classification of Construction
Products and Building Elements - Part 1: Classification Using
Data from Reaction to Fire Tests

Hilti CRC Questionnaire

Mandatory checklist to be filled out by supplier for declaration of
hazardous substances in all supplied products

IBU 2021

General Instructions for the EPD programme of Institut Bauen
und Umwelt e.V. Version 2.0, Berlin: Institut Bauen und Umwelt
e.V., 2021 www.ibu-epd.de

Product Category Rules Part B

Preformed fire protection systems for cable and duct insulation
01.08.2021

**Regulation No. 305/2011[1] (Construction Products
Regulation, or CPR)**

**Regulation (EC) No. 1907/2006 (REACH) with its
amendment Regulation (EU) 2020/878: REACH Candidate
List (SVHC) <https://echa.europa.eu/de>**

Sphera

LCA for Experts: Ganzheitliche Bilanzierung
Leinfelden-Echterdingen; Sphera Solution GmbH (Hrsg.)
Product Sustainability Data Search | Sphera (GaBi)
(07.08.2024)

VOC Emissions

AgBB: The German committee for the health-related evaluation
of building products: the procedure for the health-related
evaluation of emissions of volatile organic compounds (VOC
and SVOC) from construction products

French VOC Classification and CMR Emissions Directive.

Waste code: 20 03 01

Waste code 20 03 01: Mixed municipal waste in accordance
with the European Waste Catalogue (EWC) (EWC
2014/955/EU) Commission Decision amending Decision
2000/532/EC on the list of waste pursuant to Directive
2008/98/EC of the European Parliament and of the Council)

Worldsteel Association

<https://www.worldsteel.org/> (07.08.2024)

The literature referred to in the Environmental Product
Declaration must be listed in full. Standards already fully quoted
in the EPD do not need to be listed here again.
The current version of PCR Part A and PCR Part B of the PCR
document on which they are based must be referenced.



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