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-20230383-IBA1-EN
Issue date	07/12/2023
Valid to	06/12/2028

HIT-CT 100

HILTI AG

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

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1. General Information

HILTI AG

Programme holder

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

Declaration number

EPD-HIL-20230383-IBA1-EN

This declaration is based on the product category rules:

Reaction resin products, 01/08/2021
(PCR checked and approved by the SVR)

Issue date

07/12/2023

Valid to

06/12/2028

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

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

HIT-CT 100

Owner of the declaration

Hilti Aktiengesellschaft
Feldkircher Strasse 100
9494 Schaan
Liechtenstein

Declared product / declared unit

The notified product is a HILTI injection mortar HIT-CT 100. The declared unit is given in [kg].

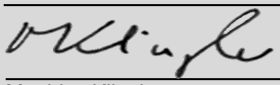
Scope:

This document refers to the injectable mortar HIT-CT 100 with its packaging. For the compilation of the life cycle assessment, specific data were collected from the factory in Kaufering, Germany, of the HILTI AG. Since the production of this product has only just started in 2023, no annual average consumption can be used. The input and output flows used in this calculation were therefore measured directly by the manufacturer for this production process for a comparable product. 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
☐ internally ☒ externally



Matthias Klingler,
(Independent verifier)

2. Product

2.1 Product description/Product definition

The declared product of HIT-CT 100 is a two component system. The resin component (component A) comprises a resin based on methacrylate as well as mineral and cement like fillers. The curing agent component (component B) comprises peroxide hardener, water and mineral fillers. Mixing the two components A and B in the static mixer initiates the curing (hardening) reaction of both binder systems. During the curing phase, a very strong bond is formed between the organic and inorganic binder matrix.
The hybrid system formed during cement and resin curing results in a crosslinked duromer with desired design properties (high bond strengths within a short curing time) and particular long-term stability. Composite foils are used for the two-component foil pack of HIT-CT 100. This kind of packaging serves the following purposes: waste volume reduction, easy storage and transport, and less packaging material.
For the use and application of the product no legal provisions for harmonizations of the EU exist.

2.2 Application

Hilti HIT-CT 100 serves for safely securing threaded rods and post-installed rebar connections in dry and damp concrete. It is approved also for anchoring in uncracked and cracked concrate situations. Rebar connections of up to 25 mm can be carried out. For anchoring sizes up to 24 mm can be used. Hilti HIT-CT 100 is a component of the Hilti SAFEset concept. Hilti SAFEset is a combination of wall plug system components which improve the robustness of fastenings and reduce the possibilities of error during installation. HIT-CT100 is a injectable mortar for rebar applications and anchoring fastenings in concrete, it is formulated to minimize health hazards.

2.3 Technical Data

Constructional data

Name	Value	Unit
Density	1845	kg/m^3
Compressive strength according to ISO 604	64	N/mm²
Elastic modules (pressure) according to ASTM D695	1877	N/mm²

Hilti HIT-CT 100 displays the following characteristics:

Shelf life of 9 months:
Container temperature during use: +5 to +40 °C
Substrate temperature during installation: -5 to +40 °C (internal method)

Open time:
-5 to 0 °C 60 min
+1 to +5 °C 40 min
+6 to +10 °C 25 min
+11 to +20 °C 10 min
+21 to +30 °C 4 min
+31 to +40 °C 2 min

Curing time:
-5 to 0 °C 6 h
+1 to +5 °C 3 h
+6 to +10 °C 2 h
+11 to +20 °C 90 min
+21 to +30 °C 75 min
+31 to +40 °C 60 min

Hilti HIT-CT 100 is stable in terms of a variety of chemical environmental factors (internal method).

2.4 Delivery status

The product Hilti HIT-CT 100 is available in foilpackages with a total of 330 ml and 500 ml injectable mortar in the corresponding mixing ratio.

2.5 Base materials/Ancillary materials

Hilti HIT-CT 100 is supplied in the form of a dual-component film-wrapped pack comprising a resin component and a curing agent component at a volume ratio of 3:1. The mixing ratio of resin and curing agent components is automatically set during the squeezing process. Product curing commences directly after the components are mixed.
The product reviewed contains the following component volumes:

Resin component:
Vinyl ester resin mixture: 2.5 to 10 % by weight
Mineral fillers: 40 to 60 % by weight
Cement: 10 to 25 % by weight
Other: < 10 % by weight

Curing agent component:
Mineral fillers: 50 to 75 % by weight
Aluminium oxide: 10 to 25 % by weight
Water: 10 to 25 % by weight
Dibenzoyl peroxide: < 0.7 % by weight
Other: < 5 % by weight

This product article contains substances listed in the *ECHA* candidate list (date: 24.05.2023) exceeding 0.1 percentage by mass: No

This product contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on *the candidate list*, exceeding 0.1 percentage by mass: 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 (EU) *Ordinance on Biocide Products No. 528/2012*): No

2.6 Manufacture

All raw materials are sourced from Europe. The transport is exclusively by truck. Certain materials go through the required production steps at the supplier, before the final production of the injection mortar in Kaufering. Chemical mortars are usually two-component systems consisting of a binder and a hardener. The production of chemical mortars consists of a mixing process and a filling process of the respective single components (binder and hardener) and their subsequent union to a two-component system (container). During the mixing process control technology is used to weigh and mix solid and liquid compounds according to specification. In the next step both well-mixed components run through an automized filling line in which each of the processed masses is filled into a tubular foil bag. Finally, the single components are united in one container. The two-pack foil bags are packed into cardboard boxes and then finally shipped. The manufacturing plant of HIT-CT 100, Hilti GmbH Industriegesellschaft für Befestigungstechnik, Hiltistr. 6, 86916 Kaufering, Germany, is certified according to *ISO 9001*. The guideline defines international standards for quality and process management. The following flowcharts illustrate the underlying information modules.

2.7 Environment and health during manufacturing

The manufacturing plant of HIT-CT 100, Hilti GmbH Industriegesellschaft für Befestigungstechnik, Hiltistr. 6, 86916 Kaufering, Germany, is certified according to *ISO 14001*. The two guidelines define international standards for quality and process management as well as for sustainable environmental management. The production site is also certified in accordance with *DIN EN ISO 50001* Energy Management Systems.

2.8 Product processing/Installation

The product is delivered with instructions for use explaining the basic steps for installation:

1) For safe handling the precautionary measures described in the safety data sheet (SDS) (e.g. hand and eye protection) must be adhered to
2) Insert the cartridge into the black cassette
3) Screw on the mixing nozzle
4) Put the cassette into the dispenser system
5) Discard the first trigger pulls
6) Fill 2/3 of the borehole with mortar
7) Set the fixing element

After mixing the components and squeezing the mortar into the borehole the fixing element has to be set within the working time mentioned in the instructions for use. After the curing time, described as well in the instructions for use, the mortar is ready to take up loads.

2.9 Packaging

Hilti HIT-CT 100 is supplied in the form of a 2-foil-pack system and thus leads to very little waste remaining after use on the construction site. After curing, the product can be disposed of with household waste. Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. The outer packaging consisting of PE foil and cardboard boxes designed according to the product size can be recycled. Packaging contaminated by the product must be disposed in a safe manner in accordance with local/national regulations.

2.10 Condition of use

During the installation the temperature of the base material must be between -5°C and +40°C. The temperature of the product should be between 5 - 25 °C during storage and 5 - 40 °C during usage. Hilti literature and official approvals must always be considered. The two components of HIT-CT 100 are only for use in combination with the defined volume ratio and under these conditions mentioned above to build up a cross-linked filled duromer.

2.11 Environment and health during use

Refer to the Safety Data Sheet (SDS) for detailed information on handling, storage as well as first aid, firefighting and accidental release measures and disposal considerations. Following the given instructions helps to minimize the risk to health and the environment. Due to its special composition, the product permits safe working conditions in most cases.

2.12 Reference service life

Hilti HIT-CT 100 is exposed to a wide variety of environmental factors during the use phase. The anticipated Reference Service Life depends on the specific installation situation and the exposure associated with the product. The main factors influencing the period of use involve weathering as well as mechanical and chemical loads.
Description of the influences on the ageing of the product when applied in accordance with the rules of technology.

2.13 Extraordinary effects

Fire

Even without any special fire safety features the Injection Systems comply with at least the requirements of the EN 13501-1 standard for fire classes E and Efl. As cross-linked methacrylate resins do not melt or drip, the resins do not contribute towards spreading fire. Apart from the common combustion produces carbon monoxide and carbon dioxide, fire gases can contain traces of methyl methacrylate, esters, alcohol, and hydrocarbons. Due to the quantities used, they only have a subordinate influence on the fire characteristics of a building structure in which they have been installed.

Fire protection

Name	Value
Building material class	E/Efl
Burning droplets	No performance assessed
Smoke gas development	No performance assessed
Reaction to fire	Anchorages satisfy requirements for class A1
Resistance to fire	No performance assessed

Water

The cured product is chemically inert and insoluble in water. HIT-CT 100 is certified for use as an anchoring adhesive in concrete for water treatment applications according to NSF.

Mechanical destruction

It is recommended to use dust protection during the demolition of the cured chemical anchor.

2.14 Re-use phase

The product cannot be re-used. After usage, the product can be removed by demolition.

2.15 Disposal

Uncured Hilti HIT-CT 100 can be disposed according to the *European waste code* 08 04 09* or 20 01 27*. The built-in cured anchor can be disposed as construction waste for which the *European waste code* 17 01 01 applies.

2.16 Further information

Further information is available on request under anchor.hse@hilti.com and on the Hilti website: www.hilti.group

3. LCA: Calculation rules

3.1 Declared Unit

The declared product is an injection mortar from HILTI AG with the designation HIT-CT 100. The declared unit refers to 1 kg of reaction resin product in the mixing ratio of the two components required for processing. The packaging, related to 1 kg of reaction resin product, is additionally included in the calculation with 0.118 kg. The following table shows the data of the declared unit.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	kg

3.2 System boundary

Type of EPD: From cradle to 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, transport to the manufacturer,
- A3, production.

End of life (C1- C4):
- C1, deconstruction/demolition,
- C2, transport,
- C3, waste treatment ,
- C4, disposal.

Reuse, recovery and recycling potential (D).

In order to accurately capture the indicators and environmental impacts of the declared unit, a total of 8 information modules are considered. The information modules A1 to A3 describe the material provision, the transport to the production site, as well as the production processes of the product itself.

The primary products are sourced from the European Union. The transport is carried out by lorry. The following flow charts illustrate the underlying production process.

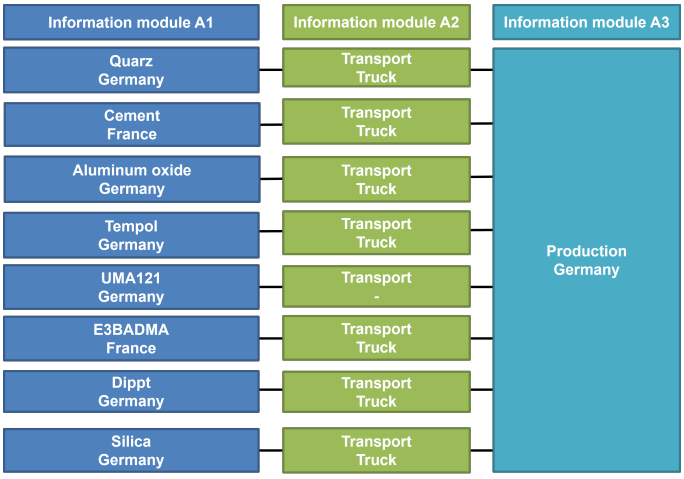


Illustration 1: Information module A1 to A3 of product (part 1)

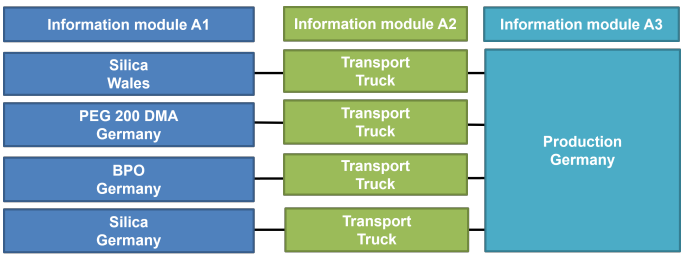


Illustration 2: Information moduled A1 to A3 of product (part 2)

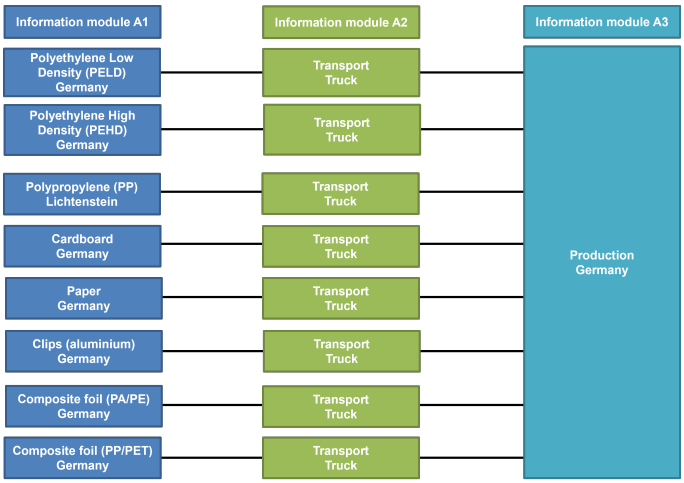


Illustration 3: Information moduled A1 to A3 of packaging

In the information modules C1 to C4, the deconstruction or demolition from the building, the transport to waste disposal, the waste treatment and disposal of the product are recorded. Furthermore, reuse, recovery and recycling potentials are reported in information module D.

3.3 Estimates and assumptions

The electricity mixes and other background data are calculated country-specifically for the production processes.

For Tempol and Dippt, an assumption was made for the calculation of material supply. This assumption is based on manufacturer data. No assumptions or restrictions were made for other recipe contents or processes.

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). http://www.gabi-software.com/deutsch/index/

3.6 Data quality

Specific data from the Kaufering plant in Germany of HILTI AG from 2023 was collected for the preparation of the LCA.HILTI AG's Kaufering plant in Germany from the year 2023.The background data from the LCA for Experts database is from the year from the year 2023 and therefore highly relevant.
The data quality is rated as sufficient.

3.7 Period under review

The input and output flows used in this calculation are from the year 2023. As this is a new product, no annual average values can be assumed.

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: Europe

3.9 Allocation

Allocation of co-products takes place in the information modules A1-A3.
The production waste of the injection-moulded components is thermally recovered. The electrical and thermal energy credits resulting therefrom are completely charged in modules A1-A3.
No further
allocations are made.

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. The used background data base, mentioned in this study, are the *LCA for Experts* and *ecoinvent 3.9.1* data bases

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

No renewable raw materials are used in the product. Therefore, the biogeniccarbon is shownas zero. The following raw materials contain biogenic carbon inthe packaging.

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Packaging Cardboard	0,011	kg C
Packaging Paper	0,012	kg C

End of life (C1-C4)

The product is demolished using an electric chisel. The electrical energy consumption for the tool is assumed to be 0.05 MJ for the declared unit. The electricity consumption is calculated with a European electricity mix. The construction waste is transported by truck 50 km to the waste treatment plant. The construction waste is shredded in the waste treatment plant and then dumped.

Name	Value	Unit
Collected as mixed construction waste	1	kg
Crushing in the shredder	1	kg
Landfilling	1	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

In this calculation there are no reuse, recovery and recyclingpotentials.Therefore, the information module D is declared and shown aszero.

Name	Value	Unit
Reuse, recovery and recycling potentials	0	kg

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = 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 kg HIT-CT 100

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO_2 eq	1.79E+00	4.58E-03	4.36E-03	2.58E-03	1.46E-02	0
Global Warming Potential fossil fuels (GWP-fossil)	kg CO_2 eq	1.77E+00	4.53E-03	4.32E-03	2.56E-03	1.46E-02	0
Global Warming Potential biogenic (GWP-biogenic)	kg CO_2 eq	2.49E-02	4.91E-05	0	0	0	0
Global Warming Potential luluc (GWP-luluc)	kg CO_2 eq	1.34E-03	4.87E-07	3.94E-05	1.92E-05	4.53E-05	0
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	8.87E-08	8.27E-14	3.73E-16	4.28E-15	3.71E-14	0
Acidification potential of land and water (AP)	mol H^+ eq	5.33E-03	9.57E-06	1.62E-05	1.34E-05	1.03E-04	0
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	3.85E-04	1.67E-08	1.55E-08	8.71E-09	2.93E-08	0
Eutrophication potential aquatic marine (EP-marine)	kg N eq	1.23E-03	2.29E-06	7.57E-06	6.13E-06	2.67E-05	0
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	1.3E-02	2.39E-05	8.48E-05	6.77E-05	2.94E-04	0
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	4.26E-03	6.11E-06	1.46E-05	1.66E-05	8.06E-05	0
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	6.98E-05	6.95E-10	2.75E-10	2.74E-09	6.72E-10	0
Abiotic depletion potential for fossil resources (ADPF)	MJ	3.61E+01	9.43E-02	5.79E-02	5.04E-02	1.94E-01	0
Water use (WDP)	m^3 world eq deprived	5.28E-01	9.98E-04	4.91E-05	4.98E-04	1.6E-03	0

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg HIT-CT 100

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	4.1E+00	5.64E-02	4.1E-03	4.68E-03	3.16E-02	0
Renewable primary energy resources as material utilization (PERM)	MJ	8.6E-01	0	0	0	0	0
Total use of renewable primary energy resources (PERT)	MJ	4.96E+00	5.64E-02	4.1E-03	4.68E-03	3.16E-02	0
Non renewable primary energy as energy carrier (PENRE)	MJ	3.37E+01	9.43E-02	5.8E-02	5.05E-02	1.94E-01	0
Non renewable primary energy as material utilization (PENRM)	MJ	2.52E+00	0	0	0	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	3.62E+01	9.43E-02	5.8E-02	5.05E-02	1.94E-01	0
Use of secondary material (SM)	kg	6.27E-02	0	0	0	0	0
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	1.5E-02	4.55E-05	4.51E-06	1.44E-05	4.9E-05	0

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg HIT-CT 100

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1.86E-08	7.38E-12	2.15E-13	1.31E-13	4.23E-12	0
Non hazardous waste disposed (NHWD)	kg	3.94E-02	6.91E-05	8.36E-06	1.33E-05	9.71E-01	0
Radioactive waste disposed (RWD)	kg	5.18E-04	1.5E-05	7.5E-08	6.77E-07	2.21E-06	0
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	0	0	0	0	0	0
Materials for energy recovery (MER)	kg	0	0	0	0	0	0
Exported electrical energy (EEE)	MJ	0	0	0	0	0	0
Exported thermal energy (EET)	MJ	0	0	0	0	0	0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg HIT-CT 100

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.

6. LCA: Interpretation

The dominance analysis shows that the main causes of environmental impacts and indicators are to be found in information module A1. This is shown by the total global warming potential for material supply with approx. 90 %, related to all information modules. For the total non-renewable primary energy it is about 94 %.

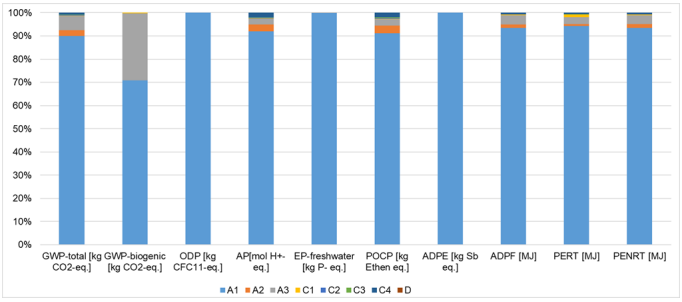


Illustration: Dominance analysis A1- A3

If we look at the material supply of the reaction resin mixture and the packaging in detail, it becomes clear which raw materials contribute decisively to the respective environmental impacts and indicators.The reactive resin mixture itself has a share of 89 % of the total global warming potential in information module A1. Approx. 2 % is accounted for by the Polyethylene High-Density PE-HD and approx. 2 % by the Polypropylene PP.

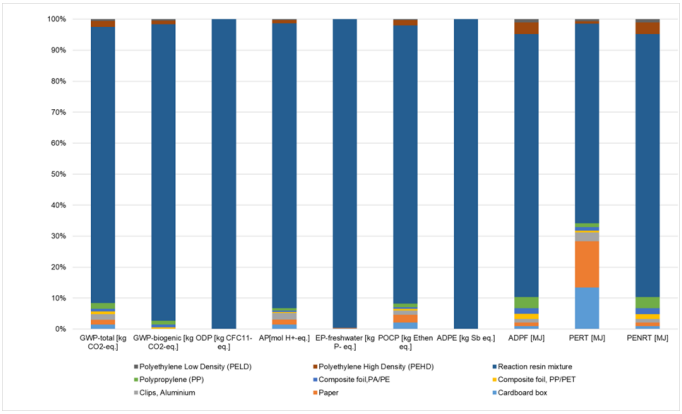


Illustration: Dominance analysis A1

Within the reaction resin mixture itself, the material supply of the PEG 200 DMA generates approx. 38 % of the total global warming potential and approx. 47 % of the total non-renewable primary energy. The UMA 121 has a share of approx. 27 % of the total greenhouse gas emissions and approx. 27 % of the total non-renewable primary energy.

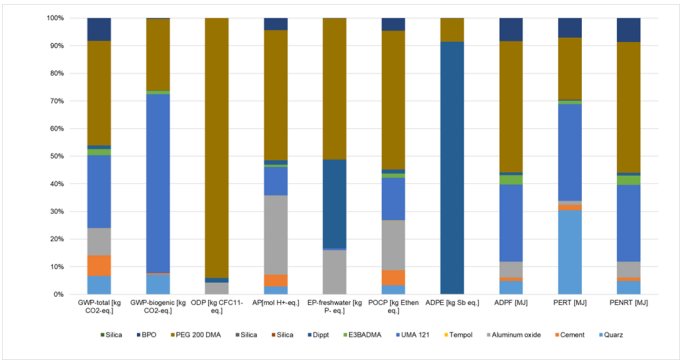


Illustration: Dominance analysis A1, injectable mortar mixture

7. Requisite evidence

Hilti HIT-CT 100 complies with the requirements of

- *DIBt* (2018) in combination with the NIK values from *AgBB* (2021) for applications in interior areas,
- emission class A+ outlined in the French VOC Directives in accordance with the Eurofins attestation,

Both in accordance with the Eurofins test report, No. 392-2022-00544102_A_EN.

AgBB overview of results (28 days [µg/m³])

Name	Value	Unit
TVOC (C6 - C16)	< 1000	µg/m^3
Sum SVOC (C16 - C22)	< 100	µg/m^3
R (dimensionless)	< 1	-
VOC without NIK	< 100	µg/m^3
Carcinogenic Substances	< 1	µg/m^3

***DIBt/AgBB* overview of results (3 days [µg/m³])**

Name	Value	Unit
TVOC (C6 - C16)	< 10000	µg/m3
Carcinogenic Substances	< 10	µg/m3

8. References

DIN EN 196-1
DIN EN 196-1: 2016-11, Prüfverfahren für Zement - Teil 1: Bestimmung der Festigkeit

DIN EN 14293
DIN EN 14293: 2006-10, Klebstoffe - Klebstoffe für das Kleben von Parkett auf einen Untergrund - Prüfverfahren und Mindestanforderungen

EN 13501-1
EN 13501-1: 2019-05,
Klassifizierung von Bauprodukten und Bauarten zu ihrem Brandverhalten - Teil 1: Klassifizierung mit den Ergebnissen aus den Prüfungen zum Brandverhalten von Bauprodukten

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

ISO 9001
ISO 9001: 2015-11, Qualitätsmanagementsysteme - Anforderungen

ISO 14001
ISO 14001: 2015-09, Umweltmanagementsysteme - Anforderungen mit Anleitung zur Anwendung

ISO 14025
DIN EN /ISO 14025:2011-10/, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 50001
ISO 50001: 2018-08, Energiemanagementsysteme - Anforderungen mit Anleitung zur Anwendung

EN ISO 604
EN ISO 604: 2003-12, Kunststoffe - Bestimmung von Druckeigenschaften

AgBB (2021)
Vorgehensweise bei der gesundheitlichen Bewertung der Emissionen von flüchtigen organischen Verbindungen (VVOC, VOC und SVOC) aus Bauprodukten (2021)

ASTM D695
ASTM D695: 2015-00: Standard Test Method for Compressive Properties of Rigid Plastics

CDPH/EHLB/Standard Method V1.2 California CDPH Standard Method is a US standard for evaluating and restricting VOC emissions to indoor air. Developed in California as "Section 01350" Specification, several systems in the US refer to CDPH Standard Method

Candidate List of substances of very high concern for Authorisation European Cheminals Agency (ECHA), in accordance with Article 50(10) of the REACH regulation

DIBt (2010)
Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen (Oktober 2010)

Eurofins test report, No. 392-2022-00544102_A_EN

Eurofins test report, No. 392-2022-00544102_A_EN VOC test report for verification of compliance with the French directive from 2010

Eurofins test report, No. 392-2021-00413601_H_EN VOC test report for verification of compliance with CDPH/EHLB/Standard Method V1.2 from 2017

European Waste code 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

French VOC Directives Décret no 2011321 du 23 mars 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils

NSF
NSF/ANSI/CAN 61 Drinking Water System Components Health Effects

Calculation rules: PCR - Part A
Institut Bauen und Umwelt e.V. (IBU), 2022. Product Category Rules for Building-Related Products and Services. Part A: Calculation rules for the life cycle assessment and requirements on the project report. Version 1.3 (08.2022)

ecoinvent 3.9.1
Backgroun data: ecoinvent 3.9.1
Zürich: ecoinvent
http://www.ecoinvent.org
(06.06.2023)

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 for construction products – Part B
Reaction resin products, 08.2021

Sphera
LCA for Experts
Leinfelden-Echterdingen; Sphera Solution GmbH,
https://gabi.sphera.com/databases/gabi-data-search/

(06.06.2023)
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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