ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	Hilti Corporation
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-HIL-20160039-IAA1-EN
Issue date	26.09.2016
Valid to	25.09.2021

CFS-BL firestop blocks and CFS-PL firestop plugs

Hilti Corporation

Institut Bauen und Umwelt e.V.

www.ibu-epd.com / https://epd-online.com

1. General Information

Hilti Corporation

Programme holder
IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number
EPD-HIL-20160039-IAA1-EN

This Declaration is based on the Product Category Rules:
Pre-formed fire protection systems for cable and duct insulation , 03.2015
(PCR tested and approved by the SVR)

Issue date
26.09.2016

Valid to
25.09.2021

Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)

Dr. Burkhart Lehmann
(Managing Director IBU)

CFS-BL firestop blocks and CFS-PL firestop plugs

Owner of the Declaration
Hilti Aktiengesellschaft
Feldkircher Strasse 100
9494 Schaan
LIECHTENSTEIN

Declared product / Declared unit
The declared products are Hilti CFS-BL firestop blocks and Hilti CFS-PL firestop plugs. The declared unit refers to 1 kg of the product. Due to its low weight percent (less than 4%), the packaging is not included in the calculation.

Scope:
This document refers to Hilti CFS-BL firestop blocks and Hilti CFS-PL firestop plugs. Specific data from Hilti's manufacturing plant in Kaufering, Germany is used for this environmental life cycle assessment. This data represents average values for the year and is based on data from 2014. This is a manufacturer's declaration. The declaration refers to a specific product from a manufacturer's plant (1a).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.

Verification

The CEN Norm /EN 15804/ serves as the core PCR
Independent verification of the declaration according to /ISO 14025/
☐ internally ☒ externally

Prof. Dr. Birgit Grahl
(Independent verifier appointed by SVR)

2. Product

2.1 Product description / Product definition

Preformed firestop systems in various designs made from identical intumescent polyurethane material

Advantages:

- easy to install, with no electric tools needed and extremely easy to service and reroute cables
- cables no longer have to be provided with a firestop coating
- installation of cables with zero separation to the edge of the penetration is possible
- very good seismic features

2.2 Application

Temporary and permanent firestop penetrations

CFS-BL firestop blocks:
Temporary or permanent penetration sealing around cables, cable bundles and cable trays in wall and floor openings

- Cables and cable bundles
- Conduits and conduit bundles
- Co-axial cables
- Suitable for rooms with dust and fiber-free requirements and areas that often change services, such as server rooms, laboratories and hospital

CFS-PL firestop plugs:
Temporary or permanent penetration sealing around cables, cable bundles and cable trays in wall and floor openings

- Cables and cable bundles
- Conduits and conduit bundles
- Possible with a PVC sleeve for a cast-in concrete process
- Suitable for rooms with dust and fiber-free requirements and areas that often change services, such as server rooms, laboratories and hospitals

2.3 Technical Data

Products are suitable for use in temperatures ranging from -5 to +70°C, and can be exposed to UV rays, but not to rain

Constructional data

Name	Value	Unit
Application temperature	+5 - +40	°C
Storage temperature	-5 - +40	°C
Temperature resistance	-15 - +60	°C
Reaction to fire	E	-
Halogenated flame retardants	no	-
Airborne sound insulation	Rw (C; Ctr) = 51 (–1; –5)	dB
Thermal conductivity	λ = 0.089	W/(mK)
Style Thermal Resistance	R = 0.563	m^2K/W
Electrical resistivity	2.17E+9 (± 0.5)	Ω cm
Electrical surface resistance	49.6E+9 (± 10)	Ω
Durability and serviceability	Kategorie Y1 *	-
Mold growth	no	-

2.4 Delivery status

CFS-BL: firestop block: Dimensions: 200 x 130 x 50 mm
CFS-PL 107 firestop plug: Diameter: 107 mm
CFS-PL 132 firestop plug: Diameter: 132 mm
CFS-PL 158 firestop plug: Diameter: 158 mm
CFS-PL 202 firestop plug: Diameter: 202 mm

2.5 Base materials / Ancillary materials

The products are mainly made from inert polyurethane foam (60–70% CAS 9009-54-5) with foaming graphite (10–20% CAS 12777-87-6). Foaming graphite is needed for intumescence in the event of a fire. <10% Ammonium polyphosphate (CAS 68333-79-9) is used as a flame retardant. In addition, pigments (<3%), carbamate-based fungicides for ensuring long-term fire protection and protection against fungi (<0.1%) and other additives are used.

2.6 Manufacture

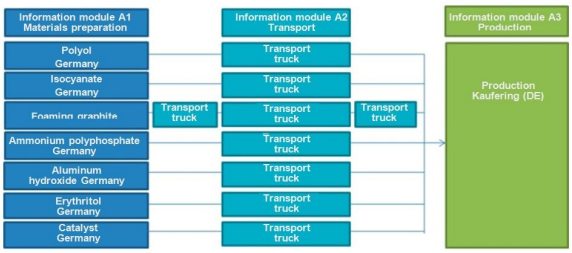

Diagram: Flow diagram of the production process

The products are made of expanded polyurethane foam.
The raw components are initially mixed mechanically into the several premixes. A fiberglass cloth is placed in the mold, where necessary, for the firestop bricks. These cloths are not used in the production of the firestop plugs. The premixes are then dispensed into the molds using a PU mixing unit. There is only one set of dimensions for firestop blocks. In contrast, firestop plugs are available in multiple sizes. There is a separate mold for each different size.
The tempered molds are closed, the polyurethane foam hardens and can be removed after a defined period of time. This process does not generate large amounts of residual material as the molds are closed. Any residual waste generated in the production process is broken up and added back into the process in small quantities. To complete the crosslinking process, the blocks are stored at room temperature. A label is subsequently attached to each individual block and the blocks are then packed into cardboard boxes.

2.7 Environment and health during manufacturing

AuDue to the automatic dispensing of all raw materials and the encapsulated machines, no further measures need to be taken to protect employees beyond those set out in the national regulations.

HILTI AG, Feldkircherstr. 100, FL-9494 Schaan holds /DIN EN ISO 14001/ Environmental Management Systems certification. Environmental aspects are evaluated throughout the entire value-added chain, starting with fundamental research through to product development, the manufacturing processes and sales. The production plant for Hilti firestop blocks and firestop plugs, Hilti GmbH Industriegesellschaft für Befestigungstechnik, Hiltistr. 6, 86916 Kaufering, Germany is also certified in accordance with /DIN EN ISO 50001/ Energy Management Systems The continual improvement process is applied to implement projects with the goal of improving the energy efficiency of the infrastructure and also of the process sequences.

The Kaufering location draws all its thermal heat from a communal biomass power station that has been built in the direct vicinity.

For three years, the offices and production areas at plant 6 (Kaufering) have been cooled using ground water.

Within environmental management, waste separation is an important component of the waste management concept employed at the location. The daily implementation of this component and the recycling of materials is carried out in close collaboration with a waste management company. As part of the holistic health management system in place in the plant, the workplaces have an ergonomic design and are also constantly being further developed.

2.8 Product processing/Installation

With respect to cable penetration sealing, the European Technical Assessments /ETA-13/0099/ (for firestop blocks) and /ETA-13/0125/ (for firestop plugs) provided by the Austrian Institute of Construction Engineering are decisive.

It is of vital importance that the stability of the surrounding components is not affected by the installation of the cable penetration sealing – even in the event of a fire.

Suitable measures must be taken to secure cable penetration sealings in ceilings against heavy loads (e.g. by means of a safety fence or by covering it with steel grating), particularly people standing on them.
The opening must be cleaned before installation of the firestop blocks or firestop plugs. The firestop blocks or firestop plugs are to be installed in the opening in accordance with the approval. The firestop blocks and firestop plugs are to be cut to the required size in the area in which they are to be installed.
Spaces between the cables, spandrels and open seams must be filled with CFS-FIL firestop filler to a depth of at least 20 mm on both sides.

2.9 Packaging

CFS-BL firestop blocks do not have separate sales packaging and can be supplied individually. During transport, 20 units are packaged in an export case.
CFS-PL 107 firestop plugs do not have separate sales packaging and can be supplied individually. During transport, 8 units are packaged in an export case.
CFS-PL 132 firestop plugs are packed in 4s in a cardboard box.
CFS-PL 158 and CFS-PL 202 firestop plugs are packed in 2s in a cardboard box.
The cardboard packaging can be recycled.
Firestop blocks and plugs are supplied in export cases and on reusable Euro-pallets

2.10 Condition of use

The firestop blocks and plugs can be reused for filling other firestop openings at any time within their service life.
In the event of a change in use, firestop blocks and plugs may remain in firestop penetrations and have cables routed through at a later point in time. Cables may also be removed retrospectively at any time.

2.11 Environment and health during use

During use, there must be no environmental risks or risks to the health of users of the building in accordance with the /AgBB specifications/.

2.12 Reference service life

As this EPD only takes information modules A1–A3 into account, there is no need to specify the reference service life.

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

Firestop blocks and plugs should not be exposed to water.
In the event of unanticipated exposure to water, e.g. through flooding or a broken water pipe, the firestop blocks and plugs must be replaced, as the mechanical structure will have changed, the blocks and plugs will have become brittle and fire protection can no longer be guaranteed.

Mechanical destruction

In the event of a mechanical destruction of the firestop blocks or plugs, the firestop penetrations must be resealed or repaired. Loose residual foam waste does not represent an environmental hazard.

2.14 Re-use phase

The firestop blocks and plugs can be reused for filling other firestop openings at any time.
In the event of a change in use, firestop blocks and plugs may remain in firestop penetrations and have cables routed through at a later point in time. Cables may also be removed retrospectively at any time.

2.15 Disposal

Firestop blocks and plugs 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.

2.16 Further information

Further information is available on the Hilti website: www.hilti.com

3. LCA: Calculation rules

3.1 Declared Unit

The declared product is a Hilti CFS-BL firestop block or a Hilti CFS-PL firestop plug. The declared unit refers to 1 kg of the product. Due to its low weight percent (less than 4%), the packaging is not included in the calculation and falls under the cut-off criterion. The following table shows the data relevant for the declared unit..

Declared unit

Name	Value	Unit
Conversion factor to 1 kg	-	-
Declared unit	1	kg

3.2 System boundary

The type of the EPD is cradle to plant gate. The following information modules are defined as system limits in this study:

A1–A3 Product development:

- A1 – Production of raw materials
- A2 – Transport to the manufacturer
- A3 – Manufacture

This is a manufacturer's declaration. The Declaration refers to a specific product from a manufacturer's plant (1a). In order to accurately record the indicators and environmental impact of the declared unit, three information modules are observed. Information modules A1–A3 describe the production of materials, transport to the production facilities and the product production process itself.

3.3 Estimates and assumptions

The electricity mix and other background data is calculated for the production process on a country-specific basis.

In order to work out the material provision for polyol, a polyether polyol data set is used. This is also the case for the isocyanate and erythritol compositions, with the methylene diphenyl diisocyanate and pentaerythritol data sets being used respectively.

As the truck transport routes are mainly within Germany, a German mix was used as the basis for the preparation of the fuel. No assumptions or restrictions were made for any other compositions or processes. Direct emissions (air and water) from the processes in Kaufering cannot be recorded by HILTI and are thus not calculated. Furthermore, all of the information modules considered are included in the calculation in such detail that all of the requirements set out in /EN 15804/ are observed.

3.4 Cut-off criteria

As the volume of catalyst in the water is much less than 1%, the catalyst is not included in the calculation. Only water is recorded in the material preparation phase. In this instance, the authors act on the assumption that this is a justifiable error.
The packaging makes up under 4% of the weight of the entire product and falls under the cut-off criterion.

3.5 Background data

The following link provides access to the background data base for the GaBi 6.3 databases (including Ecoinvent) from Thinkstep to which this study refers /GaBi 6.3 software/.

3.6 Data quality

The assessment of the data quality is classified as reasonable. The decisive data sets in particular, which were used to calculate the preparation of materials for the declared unit, are very much up-to-date (DE: polyether polyol source: Thinkstep, 2014, DE: methylene diphenyl diisocyanate source: Thinkstep, 2014).

3.7 Period under review

The life cycle inventory analysis data provided by the manufacturer is from 2014 and corresponds to the annual average.

3.8 Allocation

We do not receive any energy credit notes from the disposal of production waste, as this is inert material. This leads to an allocation of a multi-input process. The allocation is carried out according to physical dimensions of the waste. The background data is used to calculate the average composition of the relevant waste.

3.9 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 database has to be mentioned.

4. LCA: Scenarios and additional technical information

As the information modules A1–A3 are observed in this study, no information is provided on the LCA scenarios and no further technical information is made available.

5. LCA: Results

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

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	MND	MND	MND	MND	MND

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: CFS-BL / CFS-PL [1 kg]

Parameter	Unit	A1-A3
Global warming potential	[kg CO_2-Eq.]	3.53
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	3.55E-8
Acidification potential of land and water	[kg SO_2-Eq.]	9.21E-3
Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	3.60E-3
Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	1.21E-3
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	1.07E-5
Abiotic depletion potential for fossil resources	[MJ]	69.96

RESULTS OF THE LCA - RESOURCE USE: CFS-BL / CFS-PL [1 kg]

Parameter	Unit	A1-A3
Renewable primary energy as energy carrier	[MJ]	5.38
Renewable primary energy resources as material utilization	[MJ]	0.00
Total use of renewable primary energy resources	[MJ]	5.38
Non-renewable primary energy as energy carrier	[MJ]	47.70
Non-renewable primary energy as material utilization	[MJ]	26.16
Total use of non-renewable primary energy resources	[MJ]	73.86
Use of secondary material	[kg]	0.00
Use of renewable secondary fuels	[MJ]	4.76E-4
Use of non-renewable secondary fuels	[MJ]	7.15E-3
Use of net fresh water	[m^3]	1.60E-2

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: CFS-BL / CFS-PL [1 kg]

Parameter	Unit	A1-A3
Hazardous waste disposed	[kg]	1.38E-7
Non-hazardous waste disposed	[kg]	3.74E-2
Radioactive waste disposed	[kg]	1.38E-3
Components for re-use	[kg]	0.00
Materials for recycling	[kg]	0.00
Materials for energy recovery	[kg]	0.00
Exported electrical energy	[MJ]	0.00
Exported thermal energy	[MJ]	0.00

6. LCA: Interpretation

The dominance analysis shows that the main causes of the environmental impacts and indicators can be found in the information module A1. This shows the global warming potential for materials preparation as approx. 95%, based on all information modules.

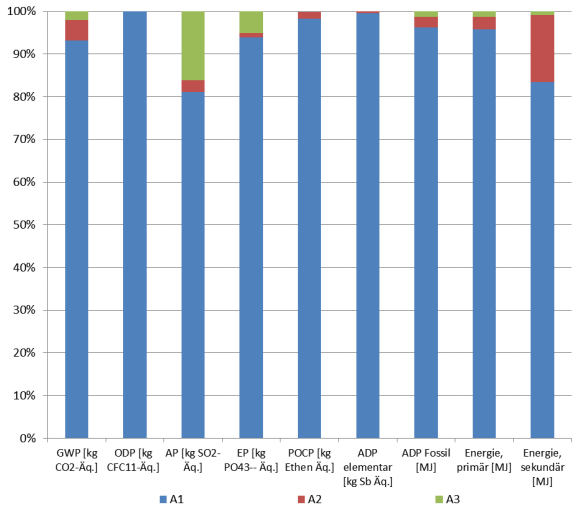

Diagram: Total dominance analysis

Looking at the material preparation for the product in detail clearly shows that two resources make a significant contribution to the respective environmental impacts and indicators.

Approx. 60% of the GWP is caused by the materials preparation for polyol. Approx. 32% of greenhouse gas emissions are caused by the materials preparation for isocyanate.

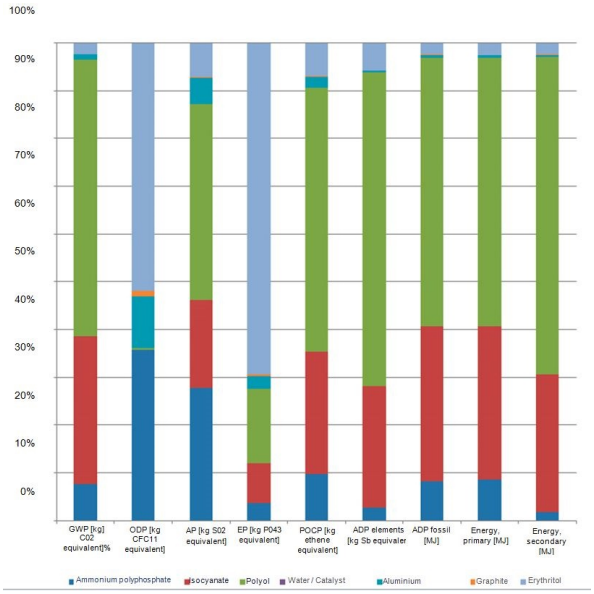

Diagram: Materials preparation dominance analysis

The volumes of polyol and isocyanate are taken from the composition details. According to the manufacturer it can be assumed that this data is extremely accurate.

The decisive data sets, which were used to calculate the preparation of materials for the declared unit, are very much up-to-date (DE: polyether polyol source: Thinkstep, 2014, DE: methylene diphenyl diisocyanate source: Thinkstep, 2014). As these data sets have a huge influence over the results, as shown by the dominance analysis, this also applies for the overall calculation.

7. Requisite evidence

Due to the identical composition, this data and its supporting documents apply for both the CFS-BL and CFS-PL product groups

7.1 VOC
For products that are to be used indoors.
Testing procedure in accordance with /AgBB specifications/, stating the name of the test point, the date and the outcome as a range of values. The following must be declared at the minimum

AGBB results overview (28 days [µg/m³])

[A] TVOC (C6-C16) < 5 µg/m³
[B] Σ SVOC (C16-C22) < 5 µg/m³
[C] R (dimensionslos) < 1,0
[D] VOC o. NIK < 5 µg/m³
[E] Canzerogenes < 1 µg/m³
In accordance with the /Eurofins Report, No G14086A/
Emission class A+ in accordance with the French /Décret n° 2011-321/
In accordance with the /Eurofins Report, No G14086/

7.2 Acoustic tests
Airborne sound insulation test in accordance with /EN ISO 10140-2/ und /EN ISO 717-1/

51 dB in accordance with the /Prüfbericht Element Material Nummer ESP008602-2-ISO/ and /Prüfbericht Element Material Nummer ESP008602-1-ISO/ of 30. April 2012

7.3 Thermal conductivity
Thermal conductivity in accordance with /EN 1266/
Lambda of 0.089 W/m² in accordance with /IBMB Braunschweig Prüfbericht Nummer 4068/874/12 – WOB/ of 04.04.2012

7.4 Electrical conductivity
Electrical conductivity in accordance with /DIN IEC 60093 (VDE 0303 Teil 30):1993-12/
Contact resistance 6.0 x 109 Ω · cm
Specific surface resistance 138 x 109 Ω · cm
In accordance with the /VDE Testing and Certification Institute, Offenbach. Test report 1768500-9021-0001/158729-2d/ dated 31 October 2011

7.5 Durability and serviceability
Durability and serviceability in accordance with /TR 024/ and /ETAG 026-2/
Durability type Y1 in accordance with /IBMB Braunschweig, Prüfbericht Nummer 3798/983/12 – 4a/2012/ of 11.09.2012 and /IBMB Braunschweig Prüfbericht Nummer 3798/983/12 – 2a/2012/ of 11.09.2012.
Use in temperatures below 0°C, with UV-light exposure but no exposure to rain.

7.6 Building materials classification
Fire performance classification in accordance with /EN 13501-1/
Classe E in accordance with /IBMB Braunschweig, Prüfbericht Nummer 3798/983/12 – 4a/2012/ of 11.09.2012 and /Prüfbericht Nummer 3798/983/12 – 2a/2012/ of 11.09.2012.

7.7. Mold buildup
Mold buildup in accordance with /ASTM G 21/ and /ISO 846/:

Classification in accordance with ISO 846: method A 0 / 0, method B 0 / 0. No mold growth.
Classification in accordance with ASTM G 21: 0 / 0. No mold growth.
Both classifications in accordance with /Thor Kundendienstbericht 36614/ dated Nov. 2011.

8. References

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin(pub.): Generation of Environmental Product Declarations (EPDs);
www.ibu-epd.de

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

EN 15804
EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

Product category rules for construction products – Part B
Preformed firestop systems for cable and pipe penetration sealing, 03.2015

ISO 14044
DIN EN ISO 14044:2006-10: Environmental management -- Life cycle assessment -- Requirements and guidelines

GaBi 6.0 LCA software
http://www.gabi-software.com/international/index/ (10.12.2015)

ecoinvent
http://www.ecoinvent.org (10.12.2015)

CML 2001 April. 2013
Indicators for environmental impacts http://cml.leiden.edu/software/data-cmlia.html#downloads (10.12.2015)

CEN/TR 15941
CEN/TR 15941:2010-03: Sustainability of construction works. Environmental product declarations. Methodology for selection and use of generic data; German version CEN/TR 15941:2010

EN 13501-1
Fire classification of construction products and building elements

EN ISO 10140-2
Laboratory measurement of sound insulation of building elements

EN ISO 717-1
Rating of sound insulation in buildings and of building elements

EN 12667
Thermal performance of building materials and products.

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

DIN IEC 60093 (VDE 0303 Part 30):1993-12
Methods of test for insulating materials for electrical purposes

ASTM G 21
Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

ISO 846
Plastics — Evaluation of the action of microorganisms
ISO 14001
Environment management systems

Waste code: 20 03 01
Waste code 20 03 01: Mixed municipal waste in accordance with the European Waste Catalogue (EWC)

ISO 50001
Energy Management Systems

ETA-13/0125
Hilti Firestop Plug CFS-PL, Hilti Firestop Filler CFS-FIL, Hilti Firestop Putty Bandage CFS-P BA (for Firestop Plugs) issued by the OIB.

ETA-13/0099
Hilti Firestop Block CFS-BL Hilti Firestop Filler CFS-FIL Hilti Firestop Putty Bandage CFS-P BA (for Firestop Blocks) issued by the OIB.

AgBB specifications
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

Décret n° 2011-321
Décret n° 2011-321 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

TR 024
Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components and Products

Eurofins report no. G14086A
Attestation
Hilti CFS-BL Firestop Block
Hilti Entwicklungsgesellschaft mbH
May 2012

Eurofins report no. G14086A
Test report
Product emissions test
Hilti CFS-BL Firestop Block
Hilti Entwicklungsgesellschaft mbH
May 2012

IBMB Braunschweig, test report number 3798/983/12 – 4a/2012
Tests in accordance with ETAG 026 Part 1 and Part 2, September 2012

IBMB Braunschweig test report number 3798/983/12 – 2a/2012
Tests in accordance with ETAG 026 Part 1 and Part 2, September 2012

Test report element material number ESP008602-2-ISO
Sound reduction tests conducted on CFS-BL firestop blocks manufactured by Hilti construction (ISO 140-3)

Test report element material number ESP008602-1-ISO
Sound reduction tests conducted on CFS-PL firestop plugs manufactured by Hilti construction (ISO 140-3)

IBMB Braunschweig test report number 4068/874/12 – WOB
Evaluation of thermal conductivity in 2 samples

VDE Testing and Certification Institute, Offenbach. Test report 1768500-9021-0001/158729-2d
Test report for the information of the applicant

Thor customer service report 36614
ISO 846 method A+B
Plastic test in accordance with ASTM G 21

Publisher
Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Programme holder
Institut Bauen und Umwelt e.V.
Panoramastr 1
10178 Berlin
Germany

Tel +49 (0)30 - 3087748- 0
Fax +49 (0)30 – 3087748 - 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Author of the Life Cycle Assessment
FIT Umwelttechnik GmbH
Hofekamp 1
38442 Wolfsburg
Germany

Tel 05362 / 69 72 474
Fax 05362 / 69 72 478
Mail bertram@fit-umwelttechnik.de
Web **www.fit-umwelttechnik.de**

Owner of the Declaration
Hilti Aktiengesellschaft
Feldkircher Strasse 100
9494 Schaan
Liechtenstein

Tel +423-234 2111
Fax +423-234 2965
Mail HAGHSE@hilti.com
Web **www.hilti.com**