

HSE profile and Green Building contribution

Hilti Firestop Bandage CP 646, CFS-B

LEED and **BREEAM** are third-party certification programs which provide a benchmark for the design, construction and operation of high-performance green buildings. Both promote a whole-building approach to sustainability and evaluate it by scoring points based on a set of criteria. Individual products cannot be certified under LEED or BREEAM but they can contribute to criterion compliance (prerequisites or credits).

The following information shows the areas where Hilti Firestop Bandage can potentially contribute, as well as the maximum number of points that can be achieved by accomplishing each criteria and state the required values and explanations for the building certification process.

Hilti Firestop Bandage is developed for use with plastic pipes and other combustible penetrating items. It has quick and easy closure without tools and is ideal for very tight installations. It consists on an acrylic based intumescent firestop bandage on flexible back.



Sustainable sites management

| | | LEED | BREEAM |
|--|---|--------------------------------|---|
| Criteria (Up to # points) & Evaluation | | | |
| Construction site waste | No waste or dust generation during installation and repenetration | SS Prerequisite 1 ★★★★★ | Wst 1 (3) ★★★★★ Man 3d (4 for Man 3) ★★★★★ |
| Life cycle assesment, Product Carbon Footprint | Under evaluation | SS Credit 5.2 (1) ★☆☆☆☆ | Man 3a (4 for Man 3) ★☆☆☆☆ Mat 1 (4) ★☆☆☆☆ |
| Water consumption | No water demand during installation and repenetration | WE Credit 2 (2) ★★★★★ | Man 3c (4 for Man 3) ★★★★★ |
| Water pollution | No waste water generation during installation and repenetration | | Man 3e (4 for Man 3) ★★★★★ |
| Application | No electric tool needed for installation and repenetration | - | - |

Energy Optimization, Atmosphere and Pollution

| | | | |
|---------------------------|--|--|---|
| Air tightness* | Total installation with backfilling is smoke tight | EA Prerequisite 2 ★★☆☆☆ | Ene 1 (15) ★★☆☆☆ Ene 6 (1) ★★☆☆☆ |
| Thermal insulation* | Not determined | EA Credit 1 (1-19) ★☆☆☆☆ IEQ Credit 7.1 (1) ★☆☆☆☆ | Ene 1 (15) ★☆☆☆☆ Mat 6 (2) ★☆☆☆☆ |
| Ozone Depletion Potential | ODP, catalytic: < 0,00001 kg R11-eq per unit | EA Prerequisite 3 ★★★★★ | IC (1) ★★★★★ |

Materials and Resources

| | | | |
|-----------------------------|--|--|------------------------|
| Reusability | The Hilti Firestop Bandage is not reusable but repenetrable | MR Credit 1.1 (1-3) ★★☆☆☆ MR Credit 1.2 (1) ★★☆☆☆ | Wst 1 (3) ★★☆☆☆ |
| Product recycling | The product cannot be recycled or salvaged but the packaging can be totally recycled or salvaged | MR Credit 2 (1-2) ★★☆☆☆ | Wst 1 (3) ★★☆☆☆ |
| Recycled content | No, since firestop products require the traceability of their raw materials to guarantee uniform and constant product performance and quality. | MR Credit 4 (1-2) ★☆☆☆☆ | Mat 5 (3) ★☆☆☆☆ |
| | The packaging is partially manufactured with recycled material | ★★★☆☆ | |
| Product origin | Raw materials origin: Germany | ★★☆☆☆ | ★☆☆☆☆ |
| | Manufacturing location: Germany | ★★☆☆☆ | |
| Rapidly Renewable Materials | Raw materials are not rapidly renewable | MR Credit 6 (1) ★☆☆☆☆ | - |

Indoor Environmental Quality, Health and Wellbeing

| | | | | |
|---|---|--|-------------------------|-------|
| IAQ (Indoor Air Quality) Management | No dangerous good or labelling needed and no content of carcinogens | IEQ Credit 3.1 (1) ★★★★★ | - | |
| | Halogen Free Flame Retardants | IEQ Credit 3.2 (1) ★★★★★ | | |
| Low-Emitting Materials Volatile Organic Compounds | VOC acc to LEED 2009 / EPA #24: 9.2 g/l - see certificate dated July 20, 2009 | IEQ Credit 4.1 (1) ★★★★★ IEQ Credit 4.2 (1) ★★★★★ | Hea 9 (1) ★★★★★ | ★★★★★ |
| Acoustic Performance & Soundproofing | The value is not determined as Hilti Firestop Bandage is installed as part of a system. | - | Hea 13 (1) ★☆☆☆☆ | ★☆☆☆☆ |

- ★★★★★ Product highly contributes to Green Building certification under this clause
- ★★★☆☆ Product contributes to Green Building certification under this clause
- ★☆☆☆☆ Not applicable for this product or dependent on each situation and so not possible to evaluate in general terms
- ☆☆☆☆☆ Product makes no contribution to Green Building certification under this clause

* Lower heating and cooling costs

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BU Chemicals, CETsp&CMT

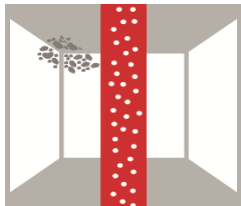
The sustainability of sites is improved with Hilti Firestop Bandage by supporting LEED, BREEAM and the following extra properties and highly important characteristics of a building, as well as, preventing effectively from the spread of a fire:



The spread of fire in a building is probably the worst scenario owners or occupants can imagine. When it comes to effectively minimizing the effects of fire, the interplay of a variety of systems and elements is required. Active fire protection – including components such as fire alarms and fire extinguishers – is taken into account in many buildings. On the other hand, often less emphasis is placed to measures, which help to contain fire at its point of origin and prevent the spread of fire and smoke effectively. This should ideally be designed already in the planning phase. Components of passive fire protection create effective barriers against the passage of fire, smoke and toxic gases through openings in walls or floors, resulting from through-penetrations of cables and pipes, from construction joints or other damages.



Sound insulation is of great importance to the health and well-being of the occupants of a building. Hilti firestop products are tested for this purpose and individually tailored to the requirements of the installation and building structure. Hilti Firestop Bandage, tested in accordance with ISO 140-3, 20140-10 and 717-1 standard, allow compliance with the applicable sound insulation specifications for fireproofed penetrations through walls and floors, and joints between building components.



Mold in a building can attack and weaken many types of build materials and fungus, caused by moisture and humidity, can be seriously detrimental to the health of building users. Measures to successfully prevent the formation of mold and mildew in a building must be taken at the planning stage. Hilti Firestop Bandage is manufactured with materials that provide no nutrition for fungi and tested in accordance with ISO 846 and ASTM G21, to ensure that functionality is not compromised.

All the packagings and cans used by Hilti can be recycled. Hilti Firestop Bandage is totally manufactured, so no waste is generated on the jobsite during the construction phase, and it is considered household waste at the end of the life of the building. Please consider your national law regarding the disposal of the Firestop Bandage and contact your local Hilti partner for further information.



If you need additional information or documentation on a certain HSE issue, please do not hesitate to contact your local Hilti partner - we are happy to provide you with additional information required to make your green building project a success.