

HILTI

**Green Building
with BREEAM**



**Hilti, your first partner in
green building.**

Hilti. Outperform. Outlast.

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The contents of this information package should only be used as a guide. Please contact our Corporate HSE department with any questions concerning this package. The wide range of Hilti products can contribute to achieving as much as 34.5% of a BREEAM rating, representing substantial support in a green building project.*

*This list of potential points is only applicable to the BREEAM Europe 2009 program released by BREEAM International. Updated versions of the BREEAM Europe standard may impact the potential points based on altered, new and/or additional requirements.

Hilti and BREEAM

Hilti supplies the construction industry worldwide with technologically superior products, systems and services. We help our customers to be successful by identifying future needs and developing innovative solutions with outstanding added value.

All Hilti products are designed for outstanding performance and long life. In early product development we use ecological guidelines to select both recyclable materials to be used in their manufacture and environmentally friendly packaging materials.

As one of the world's largest manufacturers of power tools, high performance accessories (including state-of-the-art air sealing and fire protection systems) and integrated services, Hilti recognises the value of designing buildings to meet green building standards.

This information package will provide you with a detailed breakdown of how Hilti products and services help to comply with certain green building standards around the globe. The reference point for the present green building information is BREEAM Europe 2009, the standard developed by BREEAM International.

Green building overview

The building sector is one of the major contributors to increasing global CO₂ emissions. Green building is one important means to meet the challenge of climate change while also being highly beneficial for building owners. Green building is a visible global movement to increase both the resource efficiency of buildings and the comfort and well-being of their occupants. It focuses on the practice of increasing the efficiency with which buildings use resources – energy, water, and materials – while reducing the impacts on human health and the environment during the building's lifecycle. This is done with better site management, design, construction, operation, maintenance, and removal. Positive effects of green building are related to

- 8 – 9% decrease in operating costs
- 7.5% increase in building values
- 6.6% improvement in return on investment
- 3.5% increase in occupancy
- 3% rent increase
- Healthier and more motivated employees

“We build a better future”: corporate responsibility at Hilti



“We can only enjoy long-term financial success if we take our corporate responsibilities, in terms of society, economy and the environment, seriously.”
Bo Risberg, Chief Executive Officer, Hilti Corporation

The goal of our corporate strategy is to generate sustainable profitable growth. This also includes taking responsibility in areas affected by our business activities. Corporate responsibility (CR) is therefore an integral part of our business model.

Our core purpose states “we build a better future”. This stands for our traditionally high sense of responsibility towards our team members, customers, partners and suppliers, society and the environment.



The social and corporate responsibility goes back to the company’s founder, Professor Martin Hilti. Today, an interdisciplinary team creates the framework for strategic sustainability management in all areas.

- Our corporate culture ensures that all team members show a high sense of responsibility. Our values of integrity, courage, teamwork and commitment are the foundation for the daily actions of our employees.
- Rules of behavior for our team members and suppliers around the world are maintained in our code of conduct. These rules regulate fair and cooperative interaction among all our company’s interest groups and are continuously monitored to ensure they are observed.
- Company-wide standards for all business processes ensure that we always meet, or exceed, the legal regulations of the countries in which we operate. This applies to all areas of corporate responsibility.
- We actively participate in international efforts aimed at improving ethical, social and ecological standards in business life. As a partner in agreements such as the UN Global Compact, the Partnering Against Corruption Initiative or the UN Caring for Climate initiative, our goal is to positively influence the economy with our values in mind.

What is BREEAM?

BREEAM is a third-party certification program which provides a benchmark for the design, construction and operation of high-performance green buildings. BREEAM gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance.

Projects assessed by the BREEAM standards are rated according to ten key categories: management, waste, health and well-being, pollution, energy, land use and ecology, transport, materials, water and innovation. The weightings of each category are tailored to meet the respective building's use whether offices, educational, health care, retail, domestic or industrial. Buildings outside the UK can be assessed using BREEAM International, which is tailored to suit local circumstances. BREEAM has over 110,000 certified buildings around the world and over half a million projects registered for certification.



Can products be certified under BREEAM

No. BREEAM can only be used to certify a green building project as a whole. However, individual products can contribute to points under the certification system; the criteria are performance based. BREEAM's Green Guide to Specification has been developed to aid selection of key building components such as external wall structures, insulation and windows (which contribute significantly to building performance) according to an A+ -to- E-rated "Ecopoint" system; ranking individual products according to their impact on 13 environmental issues (examples: climate change (CO₂ values), ozone depletion, waste disposal). In attempting to meet these requirements, BREEAM practitioners identify products that have desired attributes. However, some criteria do require specific product data as part of a successful submittal.

Hilti assists you in achieving BREEAM credits

Hilti is aware of customer needs with respect to green building and proactively incorporates green building performance criteria in its most valuable products. Therefore, a wide range of Hilti products provide the customer with an additional integrated service. To create enthusiastic customers it is essential to understand the customer needs in the first place. With this brochure Hilti aims to provide the most convenient assistance in achieving BREEAM credits for our customers.

How BREEAM works

BREEAM rewards performance above regulation which delivers environmental, higher comfort or health benefits. BREEAM awards points or 'credits' and groups the environmental impacts into the various sections. The total number of points or credits gained in each section is multiplied by an environmental weighting factor which takes into account the relative importance of each section. Section scores are then added together to produce a single overall score.

BREEAM score and rating calculation

BREEAM Selection	Credits Achieved	Credits Available	% of Credits Achieved	Section Weighting	Section score
Management	7	10	70	0.12	8.40
Health & Wellbeing	11	14	79	0.15	11.79
Energy	10	21	48	0.19	9.05
Transport	5	10	50	0.08	4.00
Water	4	6	67	0.06	4.00
Materials	6	12	50	0.125	6.25
Waste	3	7	43	0.075	3.21
Land Use & Ecology	4	10	40	0.10	4.00
Pollution	5	12	42	0.10	4.17
Innovation	1	10	10	0.10	1.00
Final BREEAM score				55.87 %	
BREEAM Rating				VERY GOOD	

Minimum Standards for BREEAM "Very Good" rating	Achieved?
Man 4 - Building User Guide	✓
Hea 4 - High frequency lighting	✓
Ene 2 Sub-metering of substantial energy uses	✓
Wat 1 - Water consumption	✓

Once the overall score for the building is known this is translated into a rating on a scale of:

- Pass - Good - Very Good - Excellent - Outstanding

BREEAM 2009 rating benchmarks

BREEAM Rating	% score
UNCLASSIFIED	< 30
PASS	≥ 30
GOOD	≥ 45
VERY GOOD	≥ 55
EXCELLENT	≥ 70
OUTSTANDING*	≥ 85

*Please note: there are additional criteria for achieving a BREEAM Outstanding rating. Please refer to the guidance below.

Hilti's contribution to BREEAM certification:

*The use of Hilti products stated in this brochure should help raise the potential for gaining possible BREEAM points for your building project. Due to the fact that the usage of individual products does not directly result in possible BREEAM points (only the total building project can earn possible BREEAM credits and be certified), an exact calculation of how many possible BREEAM points you can earn by using Hilti products is not possible.

Criteria	Description	Possible BREEAM points
Management		
Man 2	Constructors' Environmental & Social Code of Conduct	2
Man 3	Construction site impacts	4
Health and well-being		
Hea 9	Volatile organic compounds	1
Hea 13	Acoustic performance	1
Energy		
Ene 1	Energy efficiency	15
Ene 6	Building fabric performance and avoidance of air infiltration	1
Materials		
Mat 1	Materials specification (major building elements)	4
Mat 5	Responsible sourcing	1.5
Mat 6	Insulation	2
Waste		
Wst 1	Construction site waste management	3
Overall Hilti contribution toward gaining possible BREEAM credits:		34.5

The overall Hilti contribution is as much as 34.5% of a BREEAM rating.

Hilti can provide you with health, safety and environment (HSE) product profiles for all relevant green building products. The HSE product profiles list all the important information concerning the issues of health, safety and environment. This way the customer gets full transparency on the HSE performance of a product. If you need additional information or documentation on a certain HSE issue, such as VOC certificates, acoustic/insulation tests or others, please do not hesitate and contact your local Hilti partner – we are happy to provide you with additional information required to make your green building project a success.

This list of potential points is only applicable to the BREEAM Europe 2009 scheme released by BREEAM International. Updated versions of the BREEAM Europe standard may impact the potential points based on altered, new and/or additional requirements. These potential points are suggestions only and need to be verified by BREEAM International. BREEAM International has the final authority to resolve any discrepancies regarding points.

Not all products listed in this document are available in all areas. Check with your local Hilti sales representative or distributor to determine available products in your area. Please consult technical support or your local sales representative if you have questions about whether a particular product can help earn BREEAM points.

Product HSE-profile
CFS-BL (CP 657) Issued 01.Oct.2010

Criteria incl. explanation	Value/Result
Disinfection	Pre-fermed block on PU basis
Manufacturing location	Germany
CO ₂ resp. (GDP)	Under evaluation
Climate adaptation potential (GDP)	Under evaluation
Recycled content	No recycled content as Prestop products need traceability of raw materials
Share rapidly renewable materials	No renewable materials
Labeling material / dangerous goods	Not
End of life status	Household waste
Reuse of materials / Convertibility	Yes, blocks can be reused
Packaging (recycling)	Yes
Water efficiency	No water used during application
Dust value	No dust during application
Application requirements	No electric tool needed
Air lightness acc. to EN 5026 / ASTM E 243	< 6 m ³ /h m ² at 50 Pa - see test report
ISO acc. to ISO 10000 / DIN 504	A 4 - Green - see test report
Acoustic properties in gypsum wall	See = 10 dB - refer to test report A 4839 (2005)
Thermal insulation	0,066 W/mK - see test report
Moisture capability acc. ISO 11800	Green, but not determined
Fire protection according to European and US standards	Please contact Hilti US Chemicals for details
Roof resistance acc. to ISO 848 / ASTM C 21.1	Not applicable - see test report
Life-time	No information
MSDS	Not needed

*Number of statements concerning water status traceability, standard displayed in accordance of with products incl. availability

Product HSE-profile
CFS-Speed Sleeve (CP 653)

CFS-Speed Sleeve is used for permanent firestop seals in small openings offering 2 dimensions (diameter 2" and 4") for cable penetrations.

Criteria	Result / Value	Rating
Description	See drawings for installation and glass fiber as smoke stop	++
Disinfection	Not applicable	0
CO ₂ resp. (GDP)	Under evaluation	0
Climate adaptation potential (GDP)	Under evaluation	0
Recycled content	No recycled content as Prestop products need traceability of raw materials	0
Share rapidly renewable materials	No renewable materials	0
Labeling material / dangerous goods	Not applicable	0
End of life status	Household waste	0
Reuse of materials / Convertibility	Yes, Speed Sleeve is re-usable	++
Packaging (recycling)	Not applicable	0
Water efficiency	No water during application	++
Dust value	No dust during application	++
Application requirements	No electric tool needed	++
MSDS	Not needed	0

*Number of statements concerning water status traceability, standard displayed in accordance of with products incl. availability

How Hilti products and services contribute to BREEAM credits:



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Management



Man 2: Constructors' Environmental & Social Code of Conduct

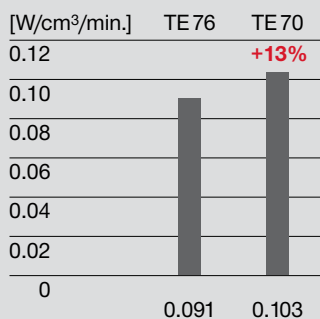
Hilti contribution

Energy efficient equipment

Hilti develops innovation in power tools with the specific objective to deliver higher energy efficiency in use and long tool life with the backup of a professional tool servicing program to ensure continued high energy efficiency throughout a tool's life. Hilti's unparalleled Fleet Management program offers customers the latest, safest, most energy efficient tools with full servicing included and provides transparent tool fleet records. Hilti tools improve performance and energy efficiency generation by generation. The 7 kg combihammer class improved its performance per watt by 13%! The efficiency increase is even greater concerning the 10 kg breaker class where the new TE 1000-AVR outperforms the TE 905-AVR by 36%. State-of-the-art SR drive technology is partly responsible for the enormous efficiency improvement combined with the latest system improvements.

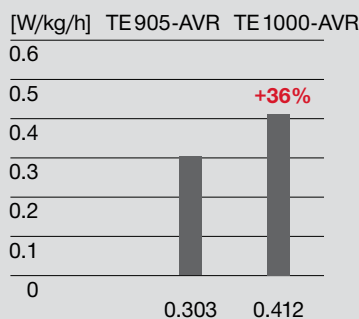
Example

Combihammer 7 kg class



Example

Breakers 10 kg class



The efficiency improvement of the TE 70 compared to the TE 76 results in an energy reduction of 11%. Energy efficiency for the TE 1000-AVR compared to the TE 905-AVR is even more impressive with a remarkable 26% reduction in energy requirement. This means that customers get work done faster while using less energy!

Criteria

Aim

To recognise and encourage construction sites which are managed in an environmentally and socially considerate and accountable manner.

Assessment criteria:

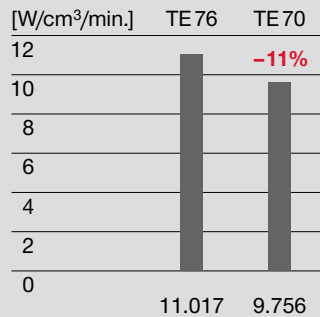
Contribution to credits awarded to contractors for being environmentally aware through:

- Choosing energy efficient equipment.
- Considering alternative energy sources.

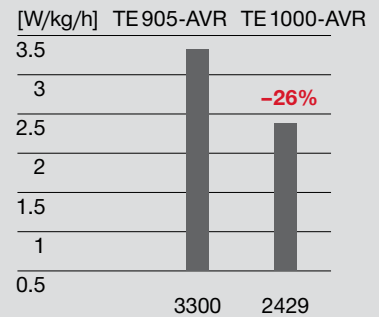
Technical Checklist A2:

Man 2 Constructors' Environmental and Social Code of Conduct

Example
Combihammer 7 kg class



Example
Breakers 10 kg class



Alternative energy sources

Hilti offers fastening solutions with alternative energy sources such as Hilti Direct Fastening technology utilising Hilti Clean-Tec cartridges to power a captive piston which can drive fixings into concrete, steel and masonry. There are significant environmental advantages to be gained by using this cordless technology in place of drill and fix since there is no vibration to the operator, minimal exposure to dust and no electrical energy use. Hilti Direct fastening also provides a tested reliable fixing method with a range of small steel fasteners which can also reduce the amount of raw material in the fixing application.

Man 3: Construction site impact

Hilti contribution

Unlike other suppliers, Hilti offers alternative solutions for many common applications, resulting in more productive energy use and greatly reduced exposure to dust with best practice solutions to safeguard water. Hilti offers a range of power tools, vacuum cleaners, insert tools and accessories which allow significant reduction of dust emissions. A comparison of rotary hammers and breakers, direct fastening and diamond coring techniques highlights the advantages.

Dust removal systems

Hilti DRS dust removal systems make countless jobs virtually dust-free. All system components, including power tools, drill bits, discs, blades, or other accessories as well as fully integrated systems, are perfectly matched to maximise the amount of dust removed at its source and collected efficiently by the vacuum removal system. This not only minimises dust but optimises productivity in use and protects the tools and inserts for optimal energy efficiency and a useful life.

Fastening

The Hilti DX and GX direct fastening systems are based on a range of powder- and gas-actuated fastening tools that use a self-contained energy source to drive fasteners into concrete or steel in an easy, virtually dust-free operation. These systems allow you to work up to four times faster than conventional fastening methods. DX and GX usage does not require any electrical power and is therefore cordless. This provides each worker on the jobsite significant flexibility and safety. In conjunction with the new Clean-Tec cartridges, which have allowed Hilti to set a new standard for heavy metal cartridges worldwide, this underlines the environmental innovation that Hilti is striving to achieve. DX and GX fastening systems will allow more efficient, safe and environmentally friendly work to be carried out than ever before.

Innovation

Hilti develops innovative high performance fixings with close attention to the environmental benefits at an early stage in product development and right through the product lifecycle. Thus, the Hilti HVA resin anchor system and Hilti HIT-RE-500 are fully approved by the Water Regulations Advisory Scheme (WRAS) for use in contact with potable drinking water.

Foams, firestopping and air sealing

Furthermore, most Hilti foams and firestop products are dust-free applications. An example of this is cast-in products which are installed before the floors are cast. This means that there is no drilling necessary. The sustainability of sites is improved with Hilti products by supporting the following important characteristics of a building: movement capability, firestop and watertightness. Movement capability allows the tracing of building movement. Firestop properties of Hilti products are tested to various worldwide standards to reduce damage due to fire, even during the building phase. Watertightness aids in avoiding jobsite damage due to water penetration, either through rain or during a fire.

Thus, using Hilti tools and accessories can further improve the potential for BREEAM credits.

Criteria

Aim

To recognise and encourage construction sites managed in an environmentally sound manner in terms of resource use, energy consumption and pollution.

Assessment criteria (Hilti can contribute to credits for criteria a, d and e):

- a: Monitor, report and set targets for CO₂ emissions or energy use arising from site activities.
- d: Implement best practice policies in terms of dust pollution arising from the construction site.
- e: Implement best practice policies in respect to water (ground and surface) pollution occurring on the construction site.

Health and well-being



Hea 9: Volatile organic compounds

Criteria	Hilti contribution
<p>Aim</p> <p>To recognise and encourage a healthy internal environment through the specification of internal finishes and fittings with low emissions of volatile organic compounds (VOC).</p> <p>Feeling good in our homes or offices isn't just a matter of having a beautiful space. A poorly designed indoor environment can literally make you sick. Building green means considering not only the environmental impact of materials and construction, but also the physical and psychological health of the occupants. Companies that make the move to green buildings have employees with lower turnover rates, fewer sick days and higher productivity. Schools demonstrate higher test scores, lower absenteeism and heightened academic enthusiasm. Low levels of volatile organic compounds and noise are key factors in providing maximum comfort for building occupants.</p> <p>Assessment criteria:</p> <p>To achieve exemplary performance, all relevant product types must have been tested against and meet the relevant standards for VOC emissions.</p>	<p>The VOC values of Hilti foam and firestop systems as well as the full range of chemical anchors are undergoing testing. So far they have all met the standards set forth by South Coast Air Quality Management District Rule 1168 and by ISO 16000. Coating and paints are applied on large areas where, in a short time, massive quantities of organic compounds could be released in the workplaces and living rooms. Requirements must be set higher to minimise the quantities of VOCs inside buildings. Studies have proven that poor indoor air quality is largely responsible for so-called "sick-building syndrome" which may cause illness or headache to the occupants in new or remodeled buildings. To avoid further contribution to organic compounds</p> <p>Hilti has formulated its paints and coatings with water-based polymers. If you need a specific VOC value for a Hilti product for your green building project, please do not hesitate and contact your local sales representative or consult our technical support. We are happy to provide you with VOC values according to LEED (USA) the Green Star (Australia), DGNB (Germany) and HQE (France).</p>

Hea 13: Acoustic performance

Hilti contribution

Hilti is happy to provide you with relevant test certificates showing the acoustic performance of products in tested applications. Hilti has a team of firestop specialists and account managers who can recommend the most appropriate product for any given application. Hilti also works closely with FIRAS accredited approved contractors to ensure precise installation of product is achieved.

Example: CP 617 putty pad.

This product is used to protect the passage of sound through electrical outlet boxes. Tests were performed at British Gypsum in November 2007.

A base gypsum wall with 2 electrical socket boxes at each side was built up in a way that the boxes were back to back. The electrical socket boxes were covered on the inside with Hilti CP 617 putty pad. The result was the following:

- Gypsum wall without electrical socket box: $R_w = 71$ dB
- Gypsum wall with four socket boxes back-to-back filled with Hilti CP 617: $R_w = 71$ dB

This means that the socket boxes were successfully protected in regards of passage of sound and against the passage of fire by using Hilti CP 617 putty pads.

Criteria

Aim

To ensure the acoustic performance of the building meets the appropriate standards for its purpose.

Assessment criteria:

- Compliance with indoor ambient noise levels according to occupancy.
- Fitted buildings must also have sound insulation between acoustically-sensitive rooms and other occupied spaces in compliance with section 7.6.3.1 of BS 8233 and Document E.
- Pre-completion acoustic testing is carried out by a suitably qualified acoustician.

Energy



Ene 1: Energy efficiency

Criteria	Hilti contribution
<p>Aim To recognise and encourage buildings that are designed to minimise their operational energy consumption.</p> <p>Assessment criteria: Credits are awarded for percentage improvement over local building regulations for the energy efficiency of buildings.</p>	<p>Buildings account for about 40 percent of energy use and represent a significant potential for reducing energy consumption and greenhouse gas emissions.</p> <p>Uncontrolled air leakage in buildings affects both the heating and cooling of buildings. The weak points in buildings are doors and windows, cable and pipes penetrations and the structural joints. These weak points in buildings can be effectively closed and filled with Hilti foam and firestop products. Both product ranges show excellent adhesion to the surface and are impermeable to air and, in case of fire, toxic gases.</p> <p>Hilti firestop systems provide thermal resistance, reducing the amount of energy needed for climate control and any added materials needed for soundproofing. This credit only applies to Hilti materials when used within the building envelope. Several Hilti firestop products are designed to provide a maximum in airtightness and thermal insulation and support the BREEAM energy efficiency criteria.</p> <p>Hilti foam systems show good thermal insulation properties and therefore reduce heat loss which results in lower heating and cooling costs. Hilti foams provide equal thermal insulation to standard mineral wool and insulation boards. Several Hilti foam products are designed to provide a maximum in airtightness and thermal insulation which contributes to support the BREEAM criteria as well.</p>

Ene 6: Building fabric performance and avoidance of air infiltration

Hilti contribution

Reduced air infiltration in a building is extremely important for several reasons:

- There is a significant loss of energy caused by air leakage, especially when the building is equipped with air conditioning. There is also a certain overpressure in the rooms which forces the heated or cooled air out of the building.
- There is an increased risk of mold growth at the spots where the heated air escapes. This mold may then start to spread.
- Openings and gaps in buildings also dramatically reduce the noise protection against the outside environment. Even small holes can have a significant effect.

Furthermore, airtightness prevents the passage of smoke during a fire. This is important as most deaths in fires are caused by smoke inhalation. Products providing a good airtightness can also effectively protect the passage of smoke and give people additional time to escape from buildings.

Hilti foam and firestop products are tested based on their air leakage rate. The approved Document L provides a guideline as to the maximum allowed quantities of air leakage: 10 m³/h m² at 50 Pa pressure.

Hilti foam and firestop products are tested according to EN 1026 at 50 Pa and show values below 6 m³/h m².

You can ask Hilti's technical service unit for the test certificates.

Criteria

Aim

To recognise and encourage measures taken to minimise heat loss and air infiltration through the building fabric.

Assessment criteria:

- Specification or installation of specific design measures to minimise heat loss and air infiltration through treated confined spaces.
- Thermographic inspection confirming a building's performance.

Materials



Mat 1: Materials specification

Criteria

Aim

To recognise and encourage the use of construction materials with a low environmental impact over the full life cycle of the building.

Assessment criteria:

A nationally recognised LCA tool has to be used in line with the international ISO 14040/14044 standard to evaluate material specification according to the CO₂ contained in the material.

Hilti contribution

In 2009 Hilti began measuring the product carbon footprint (PCF) for all products. We are dedicated to working closely with our customers and suppliers to reduce carbon emissions. In working toward this target, we take into account all life cycles of a Hilti product starting with the material extraction/provision, internal production, transportation, product usage and end of life. All Hilti products will be analysed by using the PCF with the aim to reduce the carbon footprint of the next generation of Hilti products.

By understanding the PCF of our products and having full transparency on major impact factors, Hilti will also reduce the CO₂ emissions of its products in the coming years. We follow existing standards (ISO 14040/44, PAS 2050 and first drafts of ISO 14067) and work closely together with an external partner in Germany. The PCF data provided is partly based on the databases GaBi and ecoinvent (e.g. materials, production processes etc.). Additionally, Hilti participates in essential associations and conferences to ensure the highest possible credibility of PCF data for customers.

Example: HUS-H 10x75/5/15

The total CO₂ emissions of a package of HUS-H 10x75/5/15 anchors are almost 15 kg. Looking at the 5 life cycles (see table below) it becomes clear where the CO₂ reduction potentials are:

- Material extraction/provision, with 6 kg, is responsible for about 40% of the total CO₂ emissions of the anchor and thereby offers the greatest reduction potential.
- The production phase of the anchor is the second main source of CO₂ emissions (3.42 kg). Hilti is constantly implementing new innovative production technologies to reduce associated CO₂ emissions.

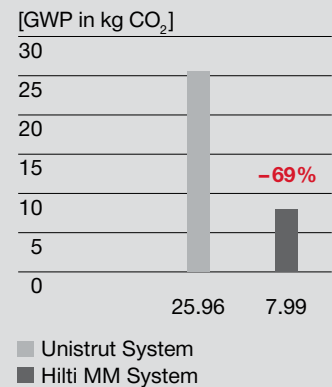
Material	Production	Transport	Usage	End of life
Global Warming Potential (GWP 100 years)				
6.16	3.42	1.64	1.51	1.82
Total CO ₂ : 14.36 kg				

CO₂ Reduction using Hilti MM Channel System

The innovative Hilti MM Channel System reduces the amount and weight of steel required to support pipe runs without compromising on load performance thanks to intelligent engineering.

Hilti has taken an holistic approach to analyse the CO₂ savings made by installing the Hilti MM system having commissioned a third party accredited environmental consultant to compare full LCA data for the Hilti MM channel system along with standard traditional Unistrut products. The steel weight difference for the typical installation methods below is significant presenting further advantages on the jobsite such as lower manual handling risk and higher productivity.

69% CO₂ reduction in Traditional Trapeze Installations



Mat 5 - Responsible Sourcing

Hilti contribution

Certified EMS for the Key Process and Supply Chain.

Hilti maintains accreditation to ISO 14001 for its Environmental Management System and has traditionally taken a systematic approach to sustainability for many years. Hilti’s global process management system, GPMS, covers all core aspects of the company, including quality and environmental management, according to ISO 9001 and ISO 14001.

Hilti products that may be taken into consideration for this BREEAM section are items such as Hilti channel systems (grid systems for ceilings and raised floors), Firestop mortars, putty pads and coated boards. Please ask your Hilti representative for details on specific products which can be verified by BRE.

Criteria

Aim

To recognise and encourage the specification of responsibly sourced materials for key building elements.

Assessment Criteria:

Up to 3 credits are available where evidence provided demonstrates that 80% of the applicable materials (listed below) comprising each of the following building elements are responsibly sourced:
Structural Frame, Ground floor, Upper floors (including separating floors), Roof, External walls, Internal walls, Foundation/substructure, Staircase

Mat 6 - Insulation

Hilti contribution

As Hilti foam and firestop products are not used for large areas the thermal conductivity was only measured for selected materials.

Hilti is happy to provide you with relevant technical details for the tested materials which confirm their thickness and thermal conductivity.

Criteria

Aim

To recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties and has been responsibly sourced.

Assessment criteria:

Credits are awarded for embodied impact of insulation materials used and their responsible sourcing.

Waste



Wst 1: Construction site management

Criteria	Hilti contribution
<p>Aim To promote resource efficiency via the effective and appropriate management of construction site waste.</p>	<p>Hilti solves the issue of construction waste management with a four-layered approach consisting of reuse, recycling, incineration with energy recovery, and minimal landfill disposal. Hilti tries to reuse and recycle as many products and product parts as possible to reduce the environmental impact of building activities.</p>
<p>Assessment criteria: Credits are awarded for effective waste management planning, targeted waste reduction and specific diversion of waste from landfill.</p>	<p>Reusable Hilti products Several Hilti products are designed for reuse. Some examples are:</p> <ul style="list-style-type: none"> • Hilti Clean-Tec cartridges designed with a numbering system to allow reinsertion into the tool which facilitates full productivity from each strip and changes the nature of waste to leave fully recyclable empty cartridge strips; • Unique HIT foil resin packs are designed to dispense an exact dosage of resin and can be reused for multiple applications; • Hilti Firestop Bricks, cushions and plugs are designed to provide passive fire resistance for multiple cable penetrations, where access is required to add new cables over the years. Existing cables can also be removed and the resulting holes can be closed with minimum effort. If we take a closer look at the CP 651N firestop cushion, we see that no material waste is created as cushions can be reused, no waste and dust is generated at all during installation or during re-penetration.
<p>Diversion from landfill: Any waste management operation that diverts construction and demolition waste material from the waste stream and which results in productive use will be considered as acceptable for the purpose of the third credit. Acceptable routes are as follows:</p>	<p>Hilti products that can be recycled: Hilti products are designed with a cradle-to-cradle approach to leave as little residual waste as possible at end of life. Indeed many products or product components can be fully recycled at end of life. For example, more than 98 percent of the components in the Hilti TE 6-A36-AVR cordless lithium ion rotary hammer drill (including the battery pack) can be recycled or recovered at end of life. Hilti provides free of charge tool and battery take back facilities throughout our network of Hilti Centres across the UK and encourages customers to utilise this service to ensure Hilti tools are treated in an environmentally sensitive manner at end of life.</p>
<ul style="list-style-type: none"> • Reused on site in-situ for new applications • Reused on other sites • Returned to the supplier via a “take-back” scheme 	

Hilti packaging is also largely recyclable. The recycling symbol and the green dot symbol are generally applicable to all Hilti packaging. The green dot scheme is captured under the European “Packaging and Packaging Waste Directive – 94/62/EC”, binding for all companies if their products use packaging. Hilti is in line with green dot requirements, which include a well established European network of industry-funded systems for recycling the packaging materials of consumer goods. In GB, Hilti works closely with Recycle Pak to ensure full compliance with packaging waste legislation. The Hilti Group wants to demonstrate that the recycling of used packaging is an important step on the path towards the sustainable development necessary to safeguard our planet for future generations. In some cases Hilti managed to provide products that do not generate any construction site waste (HVU, HVU-HWB, HVU-TZ, HVU-G/EA).

Summary: Hilti contributions within BREEAM

Management

Area for assessment	Hilti product	Key VP and evidence	Number of credits
Man 2: Constructors' Environmental & Social Code of Conduct			
Checklist A2: 3 Environmentally aware: Choose energy efficient equipment	Power tools and DX/GX tools: e.g. TE 70 vs. TE 76 TE 1000-AVR vs. TE 905-AVR	Hilti tools improve performance and energy efficiency generation by generation	Contribute to up to 2 credits.
Man 3: Construction site impact			
a: Monitor and report on CO ₂ and energy arising from site activities	Hilti CPC technology Hilti DX and GX use a self contained energy source to drive fasteners into concrete and steel	Cordless technology - reduction of energy	Contribute to up to 4 credits.
d: Implement best practice policies in terms of dust pollution arising from site	Hilti DRS/gas saw Hilti DX and GX - virtually dust free working Hilti CP 680 cast-in firestop device is directly cast in the floors	Drill and cut in a virtually dust free environment No drilling needed	Contribute to up to 4 credits.
e: Implement best practice policies in respect of water	Hilti diamond drilling Hilti low VOC resin products	Water recycling Prevent water and ground pollution	Contribute to up to 4 credits.

Health and well-being

Area for assessment	Hilti product	Key VP and evidence	Number of credits
Hea 9: Volatile organic compounds			
Use of low VOC products	All chemical anchors, most Hilti fire protection products, penetration systems and foams	Provide the customer with high technical integrity with low VOC certification	1 credit
Hea 13: Acoustic performance			
The building achieves appropriate indoor ambient noise levels in office areas	Most Hilti fire protection products, penetration systems and foams are tested for acoustic performance	Depending on the application the required sound insulation can be achieved	1 credit

Energy

Area for assessment	Hilti product	Key VP and evidence	Number of credits
Ene 1: Energy efficiency			
To recognise and encourage energy efficiency concerning air infiltration/leakage etc.	Hilti foams and firestop systems	Use of Hilti products to support energy improvements in the building - test data available on air seal products	Up to 15 credits
Ene 6: Building fabric performance and avoidance of air infiltration			
Avoidance of air infiltration	Hilti foams, window sealing systems and firestop systems	Hilti products comply with national standards, e.g. Document L	1 credit

Materials

Area for assessment	Hilti product	Key VP and evidence	Number of credits
Mat 1: Materials specification			
Use a nationally recognised LCA tool based data referring to these norms: <ul style="list-style-type: none"> • ISO 14040: 2006 Environmental Management – LCA- Principles & Framework • ISO 14044: 2006 Environmental Management – LCA requirements and guidelines 	All Hilti products will get a product carbon footprint or LCA	Hilti products are comprehensively analysed concerning their environmental impact	Up to 4 credits
Mat 5: Responsible Sourcing			
Up to 3 credits are available where evidence provided demonstrates that 80% of the applicable materials (listed below) comprising each of the following building elements are responsibly sourced: Structural Frame, Ground floor, Upper floors (including separating floors), Roof, External walls, Internal walls, Foundation/ substructure, Staircase	Channels systems, firestop mortars, putty pads, coated board	Hilti is certificated according to ISO 14001	1.5
Mat 6: Insulation			
To recognise and encourage the use of thermal insulation	Hilti foams	Hilti foams show excellent insulation properties comparable to mineral wool	Up to 2 credits

Waste

Area for assessment	Hilti product	Key VP and evidence	Number of credits
Wst 1: Construction site management			
Diversion from landfill Reuseable products <ul style="list-style-type: none"> • Returned to the supplier via a take-back scheme 	Clean-Tec cartridges, firestop cushions...) Power tools and batteries	Innovation Compliance with battery and WEEE regulations. Take back of power tools and batteries for assessment, recovery and recycling	Up to 3 credits

Hilti supports green building worldwide

Hilti can assist you in achieving green building standards

Hilti is a responsible company and therefore is dedicated to reducing the environmental impact of its products and services. As one of the world's largest manufacturers of power tools, high performance accessories (including state-of-the-art fire protection systems) and integrated services, Hilti recognises the value of designing buildings to meet green building standards. A great number of Hilti products and services help to comply with certain green building standards around the globe such as BREEAM, HQE, DGNB and LEED. Customers requiring assistance with product selection to support green building projects can contact Hilti Customer Services or speak with their local Hilti representative.

Environmental databases

Many of the Hilti Chemical products are registered in environmental databases which support GREEN buildings.

breeam



DGNB
Deutsche Gesellschaft für Nachhaltiges Bauen e.V.
German Sustainable Building Council

BYGGVARUBEDÖMNINGEN



Hilti chemical products contributing to Green Building with BREEAM

Chemical Anchors	BREEAM Section														
	Application	Hilti Product Reference	Health & Wellbeing					Materials		Waste					
			Free of styrene (no strong odour)	Free of phthalates	Free of restricted substances (REACH)	Free of MDI	Free of ozone depleting substances	Low VOC* (air quality)	Label-free mortar	Product Carbon Footprint or LCA Data	Non hazardous waste after curing	Re-sealable/re-usable foil pack for 80% less waste than plastic tubes	No waste (capsule)	Recycling of empty packaging	Partially empty packs non-hazardous
Label-free non hazardous resin for concrete and rebar	HIT-CT 1														
Medium duty injection mortar for various materials	HIT-HY 10														
Injection mortar for hollow masonry	HIT-HY 20														
Injection mortar for solid masonry	HIT-HY 50														
Flexible strong reliable fastening in masonry	HIT-HY 70														
Injection mortar for concrete	HIT-HY 150														
Max load max productivity for anchoring and rebar	HIT-HY 150 MAX														
High performance fast curing mortar for cracked/ uncracked concrete (eliminating hole cleaning with unique HIT-Z rod)	HIT-HY 200														
Universal chemical anchor for various base materials	HIT-MM														
Low temperature adhesive (-18% in solid base materials)	HIT-ICE														
Professional fastening of reinforcing bars	HIT-RE 500														
High performance mortar, cracked concrete & seismic	HIT-RE 500 SD														
Universal adhesive anchor mortar	HFX														
Heavy duty adhesive anchor, high loads in concrete	HVU														
Special adhesive anchor, fastening façade plates	HVU-HWB														
First foil capsule adhesive anchor for cracked concrete	HVU-TZ														
Glass capsule adhesive anchor	HVU-G-EA														

Contributes to Green Building
 Not Applicable for this product
 No contribution to Green Building

* All stated products are well below the BREEAM VOC requirements. These potential points are suggestions only and need to be verified by a BREEAM Assessor. BRE has the final authority to resolve any discrepancies regarding points. Not all products listed in this document are available in all areas. Check with your local Hilti sales representative to determine available products in your area. Please consult technical support or your local sales representative if you have any questions about whether a particular product can help earn BREEAM credits.

Hilti chemical products contributing to Green Building with BREEAM

Joint and cable protection systems			BREEAM Section																
Firestop (FS) Application	Hilti Product Reference		Management Construction Site Impact			Health and Wellbeing				Energy		Materials		Waste					
			No power tools required for installation (no energy source required)	Virtually dust free installation	Saves water during application, no water pollution	Low VOC (air quality)	No ozone depletion potential (ODP)	Low global warming potential (GWP)	Smoke and gas tightness	Noise reduction	Air Tightness	Avoidance of Air Infiltration	Product Carbon Footprint or LCA Data	Thermal Insulation	Recycling of packaging	Reuse of materials	Repenetration in existing opening (no waste)		
	GB Products	European Items																	
Joints																			
Elastomeric sealant	CP 601S	CFS-S-SIL																	
Backfill for joints	CPR 287	CFS-CO																	
Primer high movement joints	CSP 264	CFS-PRIM																	
Self levelling elastomeric sealant	CP 604																		
Elastomeric sealant	CP 606	CFS-S-ACR																	
Sprayable joint sealant	CP 672	CFS-SPWB																	
Cable protection																			
FS cable coating	CP 678																		
FS cable coating	CP 679A																		
Fire protection cable bandage - outdoor	CP 695																		
Fire protection cable bandage - indoor	CP 690																		

Contributes to Green Building

Not Applicable for this product

No contribution to Green Building

Electrical and mechanical penetrations

BREEAM Section

Firestop (FS) Application	Hilti Product Reference		BREEAM Section														
			Management Construction site Impact			Health and Wellbeing				Energy	Materials		Waste				
	GB Products	European Items	No power tools required for installation (no energy source required)	Virtually dust free installation	Saves water during application, no water pollution	Low VOC (air quality)	No ozone depletion potential (ODP)	Low global warming potential (GWP)	Smoke and gas tightness	Noise reduction	Air Tightness	Avoidance of Air Infiltration	Product Carbon Footprint or LCA Data	Thermal Insulation	Recycling of packaging	Reuse of materials	Repenetration in existing opening (no waste)

Electrical penetrations

Intumescent FS sealant	CP 611A	CFS-IS															
Intumescent FS sealant	FS-One																
FS foam	CP 620																
Flexible FS foam	CP 660	CFS-F-FX															
FS putty	CP 617 CP 618 CP 619T																
FS brick	CP 657	CP 657-EN															
FS plug	CP 658	CFS-PL															
FS mortar	CP 636	CFS-M RG															
FS mortar	CP 637 / 638																
FS coating and board	CP 670 / 613	CFS-CT															
FS coating and board	CP 671-C CP 671-F																
FS cushions	CP 651N	CFS-CU															
FS sleeve	CP 653	CFS-SL															

Mechanical penetrations

FS jacket	CP 643N CP 644	CFS-C / CFS-CP															
FS wrap	CP 648-E/S	CFS-W EL/SG															
FS bandage	CP 646	CFS-B															
FS cast-in device	CP 680 P CP 680M																

Contributes to Green Building
 Not Applicable for this product
 No contribution to Green Building

Hilti chemical products contributing to Green Building with BREEAM

Foam systems			BREEAM Section																
Firestop (FS) Application	Hilti Product Reference		Management Construction site Impact			Health and Wellbeing				Energy		Materials		Waste					
			No power tools required for installation (no energy source required)	Virtually dust-free installation	Saves water during application, no water pollution	Low VOC (air quality)	No ozone depletion potential (ODP)	Low global warming potential (GWP)	Smoke and gas tightness	Noise reduction	Air Tightness	Avoidance of Air Infiltration	Product Carbon Footprint or LCA Data	Thermal Insulation	Recycling of packaging	Reuse of materials	Repenetration in existing opening (no waste)		
	GB Products	European Items																	
Electrical penetrations																			
Elastic window foam	CF 812																		
Seal gaps and cracks	CF 810																		
All purpose foam esp cold applications	CF 512																		
All purpose foam	CF 116																		
Window foam	CF 125-5W50 B2																		
Window foam	CF 126 B2																		
Window foam	CF-I B2	CF-I 750/B2																	
Window foam	CF-I B3	CF-I 750																	
Seal gaps and cracks	CF-F B2																		
Seal gaps and cracks	CF-F B3																		
Window foam esp for cold applications	CF 710																		
All purpose fixing foam	CF 162																		
Door frame fixing foam	CF 101																		
Special fixing foam	CF 102																		
Sealing of form work elements	CF FW D																		
Sealing of form work elements	CF FW N																		

Contributes to Green Building
 Not Applicable for this product
 No contribution to Green Building

Hilti Clean-Tec innovations

Hilti products meet stringent environmental requirements, but Hilti Clean-Tec products go even further. For the sake of the environment and to the benefit of our customers.

The Clean-Tec logo stands for especially environmentally-friendly Hilti products which:

- make efficient use of resources and energy during production and are free from critical substances
- offer customers the highest level of environmental performance, exceeding statutory requirements and supporting countless standards in the field of green building (LEED, BREEAM, CEEQUAL, HQE..)
- support customers in their efforts to work on the jobsite in a healthy, sustainable, environmentally-friendly manner

For more information on Hilti Clean-Tec products, please contact your local Hilti representative.



Hilti. Outperform. Outlast.

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