



A GUIDE TO THE SERVICES OF THE BREEAM MATERIALS TEAM



breglobal



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Introduction to the team

BREEAM Materials is a long established team in BRE Global who focus on quantifying the environmental impacts of construction products over their entire lifecycle through a variety of tools. Together they have established the world renowned and respected Environmental Profiles Methodology using Life Cycle Analysis to measure and evaluate the environmental impacts of building materials. Using this methodology the team are able to certify the impact of specific building products to produce Certified Environmental Profiles to demonstrate their environmental performance.

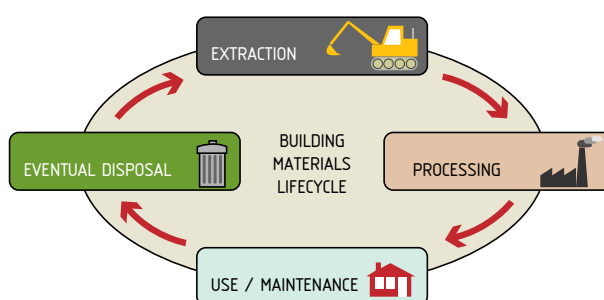
The team has also developed the Green Guide to Specification, a tool to evaluate the impacts of building specifications by ranking them on a scale of A+ to E. These products, along with other tools such as Envest2 link into the BREEAM and Code for Sustainable Homes schemes for assessing the environmental performance of whole buildings. Collectively the BREEAM Materials team offer useful tools, a wealth of knowledge and expertise for manufacturers, architects, specifiers and Engineers to help demonstrate the sustainability credentials of their products and buildings.

Environmental Profiles

The Environmental Profiles Methodology is a standardised method of identifying and assessing the environmental effects associated with building materials over their life cycle - that is their extraction, processing, use and maintenance, and their eventual disposal. This method is based on an analysis called Life Cycle Assessment (LCA) which is illustrated in the diagram below.

The Environmental Profiles Methodology establishes a set of common rules and guidelines for applying LCA to UK construction products in order to produce Environmental Profiles - the aim is a level playing field to enable comparison of different specific actions.

This system enables manufacturers to demonstrate the performance of their product over its entire lifecycle from 'cradle' to 'grave', and provide credible environmental information about their product and for designers to compare environmental information about different specifications.



The goal and scope of BRE Global's Environmental Profiles Methodology is to provide consistent environmental information, covering the most important environmental impacts, for all construction products and building constructions, based on LCA.



BRE GLOBAL Environmental Profiles and International Standards

The Life Cycle Assessment methodology used for Environmental Profiles has been externally peer reviewed and complies with the international standards for Life Cycle Assessment, ISO 14040:2006 and ISO 14044:2006 and the standard for Environmental Product Declarations for Construction Products, ISO 21930:2007. A copy of the full methodology can be accessed from www.thegreenguide.org.uk

These international standards have been developed to cover Environmental Product Declarations (EPDs) such as Environmental Profiles.

How does the Environmental Profiles Methodology work?

The Environmental Profiles Methodology assesses environmental indicators that reflect impacts occurring globally, regionally and locally; in the air, the water and the land; causing damage to humans and to the environment as well as resource depletion. Data associated with a product is 'characterised' into the following impact categories:

1. Climate change
2. Water extraction
3. Mineral resource extraction
4. Stratospheric ozone depletion
5. Human toxicity
6. Ecotoxicity to water
7. Nuclear waste (higher level)
8. Ecotoxicity to land
9. Waste disposal
10. Fossil fuel depletion
11. Eutrophication
12. Photochemical ozone creation
13. Acidification

For further information visit:
www.thegreenguide.org.uk/introduction

There are two types of Environmental profile:

Generic Profiles:

These are created for a typical product (e.g. dense concrete blocks, oriented strand board etc.). This data is usually provided by the trade association working with its members using data on their individual products to build up generic data about a 'typical' product, which can then be used by everyone. Generic Environmental Profiles for most construction products have been developed with UK Trade Associations but BRE welcome the opportunity to add to the generic Environmental Profiles.

Certified Profiles:

These are created for a designated manufacturer's product using specific data collected and verified by BRE Global regarding all processes concerned in the manufacture of the specific product. Product specific or generic 'typical' data is used to represent delivery, installation, use and disposal.

Both types of profile are based on analysis of the product on a per tonne of production basis. This information is then used alongside other LCA data generated by the Environmental Profiles project, to provide Environmental Profiles for the product with an elemental construction, for example 1m² of external wall or wall.





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Certified Environmental Profiles

Many manufacturers want to demonstrate how their product compares to the industry average and find ways to improve the environmental performance of their product. This is achieved through creating product specific Certified Environmental Profiles.

Certified Environmental Profiles are based on data from a detailed verification and audit process of the manufacture facility. Once approved this is reviewed and verified on an annual basis and recalculated every three years. The company and product details then appear in the Red Book www.redbooklive.com and on www.greenbooklive.com. The Certified Environmental Profile scheme has been in operation from 2002. Environmental Profiles provide standardised, reliable and independent information about building materials and components. They measure the environmental performance of materials and products over their entire lifecycle through their extraction, processing, manufacture, construction, use and maintenance to their eventual disposal.

They also provide information on the key issues related to environmental sustainability such as climate change, ozone depletion, acidification, consumption of minerals and water, emissions of pollutants to air and water and the quantity of waste sent for disposal. The overall result is presented in Ecopoints (the measure of environmental impact) - the lower the Ecopoint score the less environmental impact the product has. The information can be used by manufacturers to target areas for resource efficiency improvements and to reduce the overall environmental impact of the product. It can also be used by specifiers to reduce their building's environmental impact.

Benefits of Certified Environmental Profiles

Benefits of undergoing Environmental Profile certification can include –

- Product/market differentiation
- Product sales increase
- Understanding of supply chain impacts
- Improved efficiency
- Understanding of environmental impact
- Benchmarking performance
- Identifying hotspots in process

Once a profile is complete it will be presented as both an Ecopoints score and if relevant, a Green Guide rating. A detailed report examining the environmental impacts of the product process and supply chain are provided to the manufacturer.

How do I obtain a Certified Environmental Profile?

The process begins with an application and proposal stage. On acceptance of the quote manufacturers complete a data collection form which asks for information about the factory, for example, production outputs, input materials, emissions, energy use and waste produced. This data is then reviewed by BRE Global. As part of the certification process the data must then be verified with a site audit. Following successful completion of the verification, the LCA modelling begins which takes around 10 weeks. On completion of the profile a client obtains their Certificate, Certified Environmental Profiles, Green Guide ratings if relevant and report of the study findings.

For further information regarding Certified Environmental Profiles please contact email BREEAMMaterials@bre.co.uk or call: +44 (0)1923 664 462

Uncertified Environmental Profiling and Scenario modelling

BRE Global offer a consultancy service to model the impacts of products and look at scenarios for improved environmental performance, for example changes to mix design, input materials or manufacturing process. This can help manufacturers improve the sustainability of their processes and products and also provide an insight to the possible results of a certification study.

Manufacturers can later certify the data that they have supplied to obtain a Certified Environmental Profile and if relevant a Green Guide rating. We also, in connection with the Carbon Trust, can carry out Carbon Labelling to determine the carbon footprint for products and processes to PAS 2050.

For more information regarding consultancy services, please contact email BREEAMMaterials@bre.co.uk or call +44 (0)1923 664 462

www.bre.co.uk/envprofiles



The Green Guide to Specification

When an Environmental Profile is generated for a construction product, BRE Global model the impact of the product within a building elemental specification (for example a wall or roof). Similar products can be compared that perform the same function within a building.

The Green Guide to Specification presents information on the environmental impacts of building elements and specifications by ranking these on a rating scale A+ - E, specifications with the lowest Ecopoints achieving A+ ratings and specifications with the highest Ecopoints achieving E ratings.

The Green Guide to Specification online www.thegreenguide.org.uk provides designers and specifiers with guidance on how to make the best environmental choices when selecting construction materials and components.

In the Green Guide to Specification, building materials and components are assessed in terms of their environmental impact across their entire life cycle - from 'cradle to grave', within comparable specifications. The Green Guide contains more than 1200 generic specifications used in various types of building

The elements covered are:

- External walls
- Internal walls and partitions
- Roofs
- Ground floors
- Upper floors
- Windows
- Insulation
- Landscaping
- Floor finishes

Across these building element categories the Guide provides an extensive catalogue which is continually being updated with building specifications covering most common building materials.

For more information regarding the Green Guide to Specification please see www.thegreenguide.org.uk/introduction

To purchase a copy of The Green Guide to Specification publication please visit www.brebookshop.com

Greenbooklive.com

The unique reference source for environmental products and services.

Green Book Live is a free online database designed to help specifiers and end users identify products and services that can help to reduce their impact on the environment.

Green Book Live brings together listings from a number of organisations and delivers comprehensive information on 'green' products and services, some approved to stringent environmental requirements and others based on information provided by manufacturers and trade bodies.

Green Book Live provides specifier and end users with an opportunity to select products and services which demonstrate their commitment to environmental best practice.

Certified Environmental Profiles are listed within this site.

For more information please go to www.greenbooklive.com





Other tools and products from the BREEAM Materials team

Invest2

Invest is a software package that informs the design process to deliver buildings with low environmental impact and whole life cost. Invest makes explicit the environmental and financial trade-offs available in the design process, allowing the client to optimise the final design according to their priorities. Due to its versatility Invest is an essential product for Architects, Designers, Engineers, Surveyors, Clients and Specifiers.

Invest is web based allowing design teams to store and share information in a controlled and accessible way, enabling benchmarking and design comparison. Invest is based on Environmental Profiles data and Certified Environmental Profiles data for manufacturer's products can be used within Invest to model impacts within the Building.

For further information on Invest or a free demonstration visit <http://investv2.bre.co.uk>

Responsible Sourcing of Materials

The recently launched BES 6001 Framework Standard for the Responsible Sourcing of Construction products is an independent third-party certification scheme which aims to assess responsible sourcing policies and practices throughout the supply chain of any construction product. Requirements for demonstrating compliance with the Framework Standard fall within three categories:

- Organisational management;
- Supply chain management;
- Environmental and social issues.

Certain requirements within these three categories are compulsory, with additional points available from a range of issues to achieve higher performance levels. Products are rated as Pass, Good, Very Good or Excellent depending on the number of optional points achieved.

The Standard has been developed to allow maximum flexibility. Certification options include:

- Head organisation with multiple sites and products.
- Multiple products within a single organisation.
- Single product within a single organisation.

It is possible to be assessed directly against the Framework Standard, or to develop a sector-specific standard which will allow the most important issues for that sector to be addressed. It is also possible to develop bespoke standards for individual companies which can address their specific targets or practices.

BES 6001 scheme documents can be viewed at:

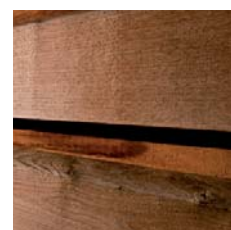
<http://www.greenbooklive.com/BES6001>

For further information, contact 01923 665184.

Training and Awareness

The BREEAM Materials team provide a range of training courses and awareness raising seminars regarding the work that is carried out by the team and how this links to other tools such as BREEAM and the Code for Sustainable Homes. Training can be offered for existing or future clients to educate regarding Environmental Profiles, LCA, the Green Guide, BREEAM and The Code, Invest2 and many other topics. BREEAM Materials team also frequently speak at conferences and seminars.

To explore the training options available or discuss more bespoke options, please contact 01923 665023 or visit www.bre.co.uk/events



About BRE Global

BRE Global Limited (incorporating LPCB & BREEAM) is an independent third party approvals body offering certification of fire, security and sustainability products and services to an international market. BRE Global's product testing and approvals are carried out by recognised experts in our world renowned testing laboratories. BRE Global Limited is custodian of a number of world leading brands including:

- LPCB for the approval of fire and security products and services, listed in the Red Books.
- BREEAM the world's leading environmental assessment method for buildings, sets the standard for best practice in sustainable design and has become the de-facto measure of a building's environmental performance.

BRE Global's mission is to 'Protect People, Property and the Planet' and is a trading subsidiary of the BRE Trust, the registered research and education charity which owns the BRE Group.

Further Information

Visit www.breglobal.com

BRE Group Companies

BRE

BRE is a unique research based consultancy and testing organisation offering expertise in virtually every aspect of the built environment. We help clients create better, safer and more sustainable products, buildings, communities and businesses and we support the innovation required to achieve this.

www.bre.co.uk

BRE Training

With the ability to draw on hundreds of construction industry experts, the BRE Training team develops and delivers training programmes for the public sector, industry and commerce throughout the UK and overseas. www.BRE.co.uk/Training

BRE Ventures

BRE Ventures uses the Group's expertise to take to market new ideas needing development, testing or certification, and to generate income for inventors and all those involved in the commercialisation process. www.BRE.co.uk/InnovationDen

Through the S-Plan, the BRE Group of companies has set challenging targets to improve the environmental performance of its businesses. See www.bre.co.uk/splan

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