

BREEAM Saving energy with Copaco sunscreens.





What is BREEAM?

BREEAM stands for **B**uilding **R**esearch **E**stablishment **E**nvironmental **A**ssessment **M**ethod. It is a method to assess and classify the sustainability of building projects. Meanwhile this method had been extended so as to be also usable for clinics, retail, industry, schools ...

On the basis of different criteria, classified in ten categories, the sustainability of a building is evaluated objectively. For each of these criteria it is being verified to what extend a building scores better than legal instructions and the standard market performances. On this basis the building obtains eventually a classification ranging from 'Pass, Good, Very good, Excellent to Outstanding'. This classification allows to compare a building objectively with other buildings.

Copaco®'s fabrics can contribute to 11 credits for BREEAM certificate, which increases permanently the value of the building project.

BREEAM has ten categories:

- | | |
|-------------------------|-----------------------|
| 1. Management | 6. Materials |
| 2. Health and Wellbeing | 7. Waste |
| 3. Energy | 8. Land use & Ecology |
| 4. Transport | 9. Pollution |
| 5. Water | 10. Innovation |



Copaco® and the environment

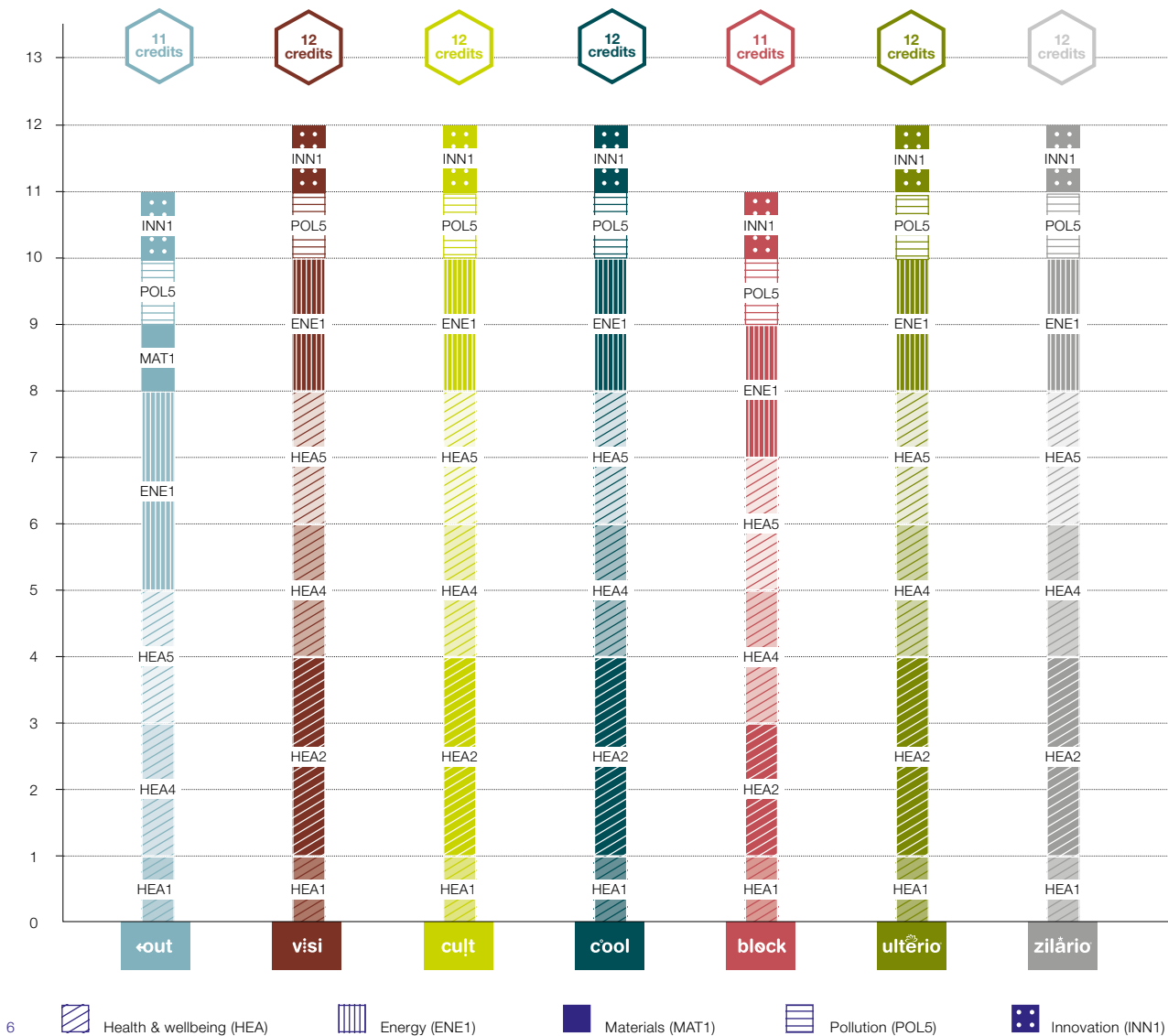
At absolutely no time during the production process does Copaco® lose sight of the environment. Via **green electricity and ecological installations**, Copaco® contributes to an environmentally-friendly and low- energy production process. But the end products also save energy. Using the sun screen fabric means significant savings on air conditioning, resulting in lower CO₂ emissions and thus a better environment. Copaco® delivers a reliable assurance that the products contain no harmful materials.

More and more companies are feeling the need to opt for sustainable projects for new builds or renovations. And with a sustainability certificate, they can facilitate this complex process. BREEAM is one of the best known certification systems. Over 561.000 buildings have been BREEAM certified worldwide. LEED is the counterpart of BREEAM in the United States.

Discover what Copaco® can do for your BREEAM credits.



BREEAM summary



Overview BREEAM credits

Copaco®'s fabrics can contribute to 11 credits for BREEAM International New Construction 2016 certificate, which increases permanently the value of the building project.

Category	Issue	Max. credits	←out	visi	cult	c'ool	bløck	ulteriorio	zilário
Health & wellbeing	HEA1 - visual comfort	4	1	1	1	1	1	1	1
	HEA2 - indoor Air Quality	5	0	3	3	3	2	3	3
	HEA4 - thermal comfort	3	2	2	2	2	2	2	2
	HEA5 - acoustic performance	2	2	2	2	2	2	2	2
Energy	ENE1 - energy efficiency	15	3	2	2	2	2	2	2
Materials	MAT1 - life cycle Impacts	6	1	0	0	0	0	0	0
Pollution	POL5 - noise attenuation	1	1	1	1	1	1	1	1
Innovation	INN1 - innovation	10	1	1	1	1	1	1	1



BREEAM categories

During the assessment process, each category is sub-divided into a range of issues, which promotes the use of new benchmarks, aims and targets.

When a target is reached credits are awarded.

Once the development has been fully assessed, depending upon the total number of credits awarded, a final performance rating is achieved.



Health & Wellbeing 10



Energy 14



Materials 15



Pollution 16



Innovation 17

Health & wellbeing 1 – visual comfort

4 credits

AIM

To ensure daylighting, artificial lighting and occupant controls are considered at the design stage to ensure best practice visual performance and comfort for building occupants.

Parameters

Daylighting 1

- High frequency ballasts for all fluorescent lamps or LED lighting
- Provision of daylight designed in compliance with national best practice
- Daylight simulation study required

Glare control & view out 2

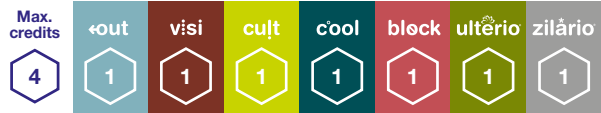
- Disabling glare through building layout and/or design
 - Provision of shading systems with possibility to control
- Shading control for all ‘relevant building areas’
 - Areas where lighting and resultant glare could be problematic for users
 - Workstations, projector screens ...
- Providing adequate view outs
- Specifications of shading systems and controls required as evidence

Internal & external lighting levels 1

- Light parameters in compliance with national best practice
 - Illuminance levels (i.e. lux)
 - UGR limits (i.e. avoiding blindness)
 - Uniformity ratio (i.e. uniform distribution)
- Optimal zoning of lighting controls
- Light simulation study required

Copaco solutions

- Excellent Copaco® characteristics for ‘glare control & view out’ of HEA1
- Provision of adequate view out is also necessary to get the credit
- Glare control & view out requirements are achievable with all Copaco® products in scope



Health & wellbeing 2 – indoor air quality

5 credits

AIM

To recognise & encourage healthy internal environment through the specification & installation of appropriate ventilation, equipment and finishes.

Parameters

Air pollution 2

- Minimising sources of air pollution
- Indoor Air Quality (IAQ) plan
- Sufficient distance between air intake & exhaust
- CO₂ or air quality sensors

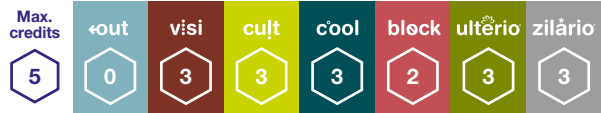
Volatile Organic Compounds (VOC) 2

Minimising Volatile Organic Compounds (VOC)

Natural ventilation strategy 1

Copaco solutions

- Credits earned by minimising VOCs
- Analysis results based on Oeko-Tex certificate report (2013-06-25)
- IAQ plan & post-construction VOC measurement required at project location
- Importance of other finishing materials (floor, wall, ceiling)
- Feasible natural ventilation credit: possibility to combine openable windows with Copaco® sun shading



Health & wellbeing 4 – thermal comfort

3 credits

AIM

To ensure that appropriate thermal comfort levels are achieved through design and controls are selected to maintain a thermally comfortable environment for occupants within the building.

Parameters

Option 1

1

- Thermal modelling
- Analysis of thermal comfort level using Predicted Mean Vote (PMV) & Predicted Percentage of Dissatisfied (PPD)
- Thermal comfort levels in accordance with European Standard EN ISO 7730:2005

Option 2

1

- 1st option achieved
- Thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment

Option 3

1

- Thermal zoning and controls
- Zones within the building and how the building services could efficiently and appropriately heat or cool these areas
- Occupant control required for these zones

Copaco solutions

- Dynamic building simulation required

Max. credits

3

out

2

visi

2

cult

2

c'ool

2

block

2

ultério

2

zilário

2

Health & wellbeing 5 – acoustic performance

2 credits

AIM

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

Parameters

Sufficiently low internal noise levels

Adequate sound insulation between rooms

Remedial works if necessary

Noise study by qualified acoustician required

Copaco solutions

- (*) No indoor sound absorption with outdoor sun shading
- Importance of acoustic value of other building materials

Max. credits

2

out

2

visi

2

cult

2

c'ool

2

block

2

ultério

2

zilário

2

Energy 1 – energy efficiency

15 credits

AIM

To recognise and encourage buildings that minimise their operational energy consumption through good design.

Parameters

most important BREEAM issue

Option 1 15

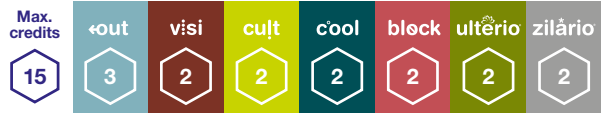
- Using Approved Building Energy Calculation software
Percentage improvement over notional building compliant with local regulations or ASHRAE Standard
- Defining the building energy performance using building energy calculation software
 - Assessed building compared to notional equivalent
 - Notional building = local regulations or ASHRAE Standard (if local regulations are less rigorous)
- Energy modelling study & qualified engineer required

Option 2 10

- Using BREEAM Checklist A5
Implementation of energy efficient design features (requirements) listed in checklist A5
- Defining the building energy performance using Checklist A5: Energy Efficient Design Features
 - Covers issues as U-values, lighting efficiency, renewable technologies
- Remarks:
 - Less credits achievable for this ENE1 option
 - Option 1 must be used where available

Copaco solutions

- Best performance with ‘OUT’ products
- ENE1 credits & suitability for best performing products within the series
- Project specific analysis required



Materials 1 – life cycle impacts

6 credits

AIM

To recognise & encourage the use of robust appropriate life cycle assessment tools & specification of materials with low environmental impact over full building life cycle.

Parameters

Measuring the life cycle environmental impact of building elements

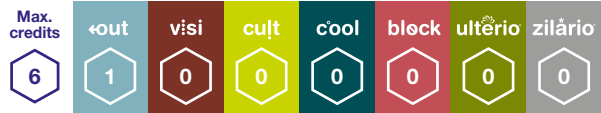
- Building fabric, services & landscaping

Evaluating a range of material options for the building with a Life Cycle Assessment (LCA) tool

Output from BREEAM MAT1 Calculator required

Copaco solutions

- External solar shading represented in MAT1 Calculator
- 1 MAT1 credit for ‘OUT’ products (external) and Solimbra, if included in LCA
- Mandatory building elements to be included in LCA



Pollution 5 – noise attenuation

AIM

To reduce the likelihood of noise, arising from fixed installations on the new development, affecting nearby noise-sensitive buildings.

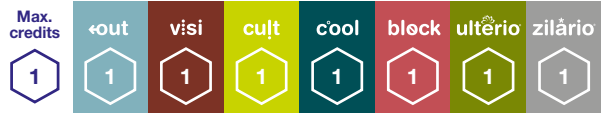
Parameters

Credit awarded by default

- Sufficiently low external noise levels
- Remedial works if necessary
- Noise impact study by qualified acoustician required

Copaco solutions

- (*) No indoor sound absorption with outdoor sun shading
- Importance of acoustic value of other building materials



Innovation 1 – innovation

AIM

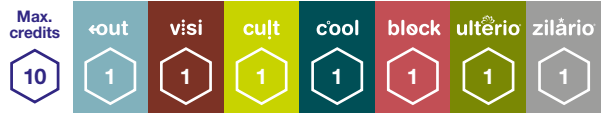
To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Parameters

- Exemplary performance in existing BREEAM issues
- and / or
- Innovation application(s)
 - Greenguard® & Oeko-Tex® certification for several Copaco® products
 - (Blockout) Serge 600
 - Déco N203
 - Ulterio
 - Blockout Déco N203 (Greenguard)
 - Cradle-to-Cradle® certification for Ulterio & Zilario
- For each application: assessment of BRE required
 - (Dis)approved by BRE (project-by-project)

Copaco solutions

- Credit not automatically awarded, but approved on a project-by-project basis
- Maximum one innovation credit achievable for the same product types



What can Copaco do for your BREEAM credits?

BREEAM is a popular GREEN BUILDING certification system for building projects.

Copaco® is dedicated to producing enduring, energy-efficient screenfabrics in ways that will support a greener future. At Copaco®, we believe constructing buildings in ways that protect the environment and safeguard the health of those that use them is not just good business sense, it's common sense. Copaco®'s long-lasting and energy-efficient fabrics can be an integral part of your project's **BREEAM** certification. **Using Copaco®'s fabrics, 11 credits can be achieved.**

The feasibility to obtain these credits were analyzed and confirmed by an independent and qualified expert engineering company, ENCON, specialized in optimizing energy consumption.

To help you in achieving these credits, Copaco®'s specialists can help you to select the most appropriate solutions for your project and provide you with the necessary documents, required for the BREEAM assessment. This will include the general documents and certificates, but also project specific information, all to increase your BREEAM score.

Copaco® references:

- Campus Skejby - Denmark
- NRGi - Denmark
- Park House - London
- ETDE - Paris
- The Shard - London
- Central St-Giles - London
- Infinity Building - Bilzen



Copaco screens that fit you

As a producer of sun and insect screen fabrics, Copaco® offers long-lasting and decorative solutions throughout the world. Thanks to its many years of experience, in-depth product knowledge, an up-to-date production system and an extensive product line, Copaco® today stands at the top of the global market for sun and insect screen fabrics.

Copaco® constantly invests in new top-quality products, an excellent service and the inexhaustible enthusiasm of its employees, with its greatest objective being: a satisfied end customer. To be a worldwide trendsetter with regard to long-lasting and decorative sun screens and high-quality insect screens.





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