

# ETAP AND BREEAM INTERNATIONAL

Lighting solutions for sustainable buildings



BREEAM®

ETAP 

EXCELLENT LIGHTING, SAVING ENERGY

# BREEAM



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BREEAM (Building Research Establishment's Environmental Assessment Method) is the most common sustainability certification for building projects. A building is assigned a sustainability score based on carefully established parameters. In this brochure we show you how ETAP can help you to achieve an optimal score in accordance with BREEAM International New Construction 2013, the latest scheme.

BREEAM was created in 1990 on the initiative of the Building Research Establishment. The certification would rapidly become a standard in the area of sustainability: in 2015 more than 425,000 had secured certification. In an increasing number of construction projects, BREEAM certification has become the obvious choice, if not actually a requirement.

## PROCESS

BREEAM factors in some 70 parameters within ten categories: Management, Healthcare and Wellbeing, Energy, Transport, Water, Materials, Waste, Land use and Ecology, Pollution and Innovation. Each parameter imposes several sustainability requirements on the building, which results in one or more credits. This results in an overall sustainability score of 'Pass' to 'Outstanding'.

The process runs as follows: the client registers with the Building Research Establishment (BRE) and appoints an official assessor, who collects and verifies the necessary evidence during the course of the build. After the design stage, this documentation leads to a provisional rating. After completion of the building, the assessor checks whether reality corresponds with the design. Only then will the final rating be assigned.

## BREEAM®

Building Research Establishment's Environmental Assessment Method

\*1990, United Kingdom

> 425,000 certified buildings in 2015

Possible levels:

Pass > Good > Very Good > Excellent > Outstanding

Certification takes place through an official assessor

Distribution: international



## ADVANTAGES

BREEAM certification does not come free of charge, but on the other hand it has a number of distinct advantages:

- Contributes to a sustainable society
- Positive impact on wellbeing and health
- Reinforces a business's sustainable image
- Objective instrument to compare buildings with each other
- Lowers energy costs
- Increases a building's market value
- Potential financial incentives from the government

## BREEAM AND LIGHTING

BREEAM takes into account all aspects of a construction project. Lighting is but one, albeit important component. Well-chosen lighting can lead to credits in six out of the ten BREEAM categories. Light control also plays an important role.

## ETAP: SUSTAINABILITY IN THE GENES

Sustainability has always been an important point of special interest within ETAP's product development. Our luminaires belong to the most energy-efficient on the market. Light control systems, which dim or switch off the light, have been part of our range for a long time. During the production processes and in the choice of materials, sustainability plays an important and sometimes decisive role (\*).

ETAP is therefore also your logical partner during the BREEAM process. ETAP will advise and assist you with the lighting component. With the help of an external consultancy we carried out a product analysis on our full lighting and light control range (see also the following pages).

The correct documentation is of critical importance for a smooth process. Incorrect, irrelevant or needless information may lead to delays or even loss of points. ETAP has the expertise to provide you with the correct information for all relevant BREEAM parameters.

(\* ) For further information, consult ETAP's sustainability report at [www.etaplighting.com](http://www.etaplighting.com)



# Product analysis



From development over production up to services: each aspect of ETAP's product flow has been examined.



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BREEAM assesses the sustainability of a complete building, but it goes without saying that the materials, products and technologies used play a decisive role in this context. We took a close look at our lighting products and light control systems to determine which lighting solutions are most suitable to score points in the various BREEAM International 2013 categories.

Depending on the category, various aspects of our range were analysed: energy-efficiency, specific power, raw materials, etc., including the installation of the luminaires or light control systems. To do so we split our range into nine series: recessed luminaires; surface-mounted and suspended luminaires; downlights; spots; wall luminaires; light line systems; luminaires with high protection factor; modular lighting and light control systems.

In each BREEAM category we determined which series could contribute points. Furthermore we also checked the suitability for each series: some lighting solutions happen to be more suitable than others.

|  |  |
|--|--|
|  | Recessed luminaires                      |
|  | Surface-mounted and suspended luminaires |
|  | Downlights                               |
|  | Spots                                    |
|  | Wall luminaires                          |
|  | Light line systems                       |
|  | Luminaires with high protection factor   |
|  | Modular lighting                         |
|  | Light control systems                    |

## CHARACTERISTICS

|     |  |
|-----|--|
| -   | <ul style="list-style-type: none"> <li>Not suitable for this issue</li> <li>Product specifications are not in line with BREEAM requirements</li> <li>Credit will probably not be earned</li> </ul>               |
| +   | <ul style="list-style-type: none"> <li>Not fully suitable for this issue</li> <li>Product specifications are not fully in line with BREEAM requirements</li> <li>Unsure whether credit will be earned</li> </ul> |
| ++  | <ul style="list-style-type: none"> <li>Suitable for this issue</li> <li>Product specifications are in line with BREEAM requirements</li> <li>Credit will probably be earned</li> </ul>                           |
| +++ | <ul style="list-style-type: none"> <li>Pre-eminently suitable for this issue</li> <li>Product specifications fully in line with BREEAM requirements</li> <li>Credit will be earned in all probability</li> </ul> |
| N/A | <ul style="list-style-type: none"> <li>Not applicable to this issue</li> </ul>   |



# BREEAM international categories

The ten BREEAM International categories each have a maximum number of credits and a weighting factor. The score is determined as follows: per category the percentage of the number of earned credits is calculated

compared to the maximum number of credits. That percentage is multiplied by the weighting factor. The sum of all percentages adds up to the total score.



| Category          | Management | Health and Wellbeing | Energy | Transport | Water | Materials | Waste | Land Use and Ecology | Pollution | Innovation |
|-------------------|------------|----------------------|--------|-----------|-------|-----------|-------|----------------------|-----------|------------|
| Weighting factor* | 0,12       | 0,15                 | 0,19   | 0,08      | 0,06  | 0,125     | 0,075 | 0,10                 | 0,10      | 0,10       |

● Maximum number of credits\*
 ● Credits to be earned with ETAP

Possible levels:  
 Pass: ≥ 30% | Good: ≥45% | Very good: ≥55% | Excellent: ≥70% | Outstanding: ≥85%

\* May differ depending on type of building





# Health and wellbeing



When designing a luminaire, ETAP always keeps user comfort in mind.



The product development department designs its own reflectors of diffusers that prevent glare.

## HEA1 Visual comfort

### GOAL

Ensuring the greatest possible visual comfort for the building's users by means of daylight, artificial light and light control.

### RELEVANT CRITERIA

- The installed lighting is LED lighting or fluorescent lighting with high-frequency ballasts.
- The lighting satisfies the best practice example (EN12464-1).
- The zones for light control are divided in such a way that the building's users can easily adjust the lighting to their own preference (by switching or dimming).

### NUMBER OF CREDITS

- Maximum number of credits: 4
  - Credits to be earned with ETAP: 1
- The use of LED lighting or high-frequency fluorescent lighting is prerequisite for accreditation and does not earn credits. You get one credit if the lighting meets the other two criteria.

### ETAP SOLUTIONS

- ETAP has LED solutions for all applications. In addition, ETAP's fluorescent luminaires are fitted with high-frequency ballasts. You will therefore always satisfy this prerequisite for certification.
- ETAP solutions always satisfy the European standard EN12464-1 on illuminance, UGR and uniformity. The product development department designs its own reflectors, lenses or diffusers that prevent glare. In addition, our luminaires also satisfy the requirements in terms of luminance control for optimal visual comfort (for example, when working on monitors).
- For optimal control of the lighting, ETAP has designed the Excellum2 light control system. Individual users can adjust the lighting to their own preferences with pushbuttons or on a smartphone or tablet. ETAP's other light control systems also provide sufficient personal control per lighting zone.

|             |     |     |    |    |    |    |    |    |     |
|-------------|-----|-----|----|----|----|----|----|----|-----|
|             |     |     |    |    |    |    |    |    |     |
| Credits     | 1   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1   |
| Suitability | +++ | +++ | ++ | ++ | ++ | ++ | ++ | ++ | +++ |



Simulation software tests reveal that ETAP's U25 recessed luminaires can earn 6 credits.

## ENE1 Energy efficiency

### GOAL

Promoting the lowest possible power consumption in a building.

### RELEVANT CRITERIA

Credits can be earned in two ways:









- Calculating the building's energy-efficiency with simulation software approved by BREEAM. The greater the savings compared to a reference building, the more credits. The energy performance of the reference building is determined by means of national or local building codes.
- Establishing the building's energy-efficiency by means of BREEAM checklist A5.

### NUMBER OF CREDITS

- Maximum number of credits: 15 with the first method, 10 with the second
- Credits to be earned with ETAP: from 3 to 6 credits with lighting fixtures; up to 4 credits with light control. You can earn up to 10 credits with ETAP-solutions. This always requires an analysis on project basis.

### ETAP SOLUTIONS

- You can earn ETAP credits in both ways. BREEAM requires that simulation software be used, where possible. The second method (BREEAM checklist A5) may only be used if the software is not available. Use of the software provides a more accurate prediction of the energy-efficiency.
- For lighting energy savings are calculated on the basis of the specific power ( $W/m^2/100$  lux). The most suitable ETAP lighting solution therefore also depends on the type of building. On this basis ETAP lighting can contribute up to 6 credits towards BREEAM certification.  
For example: an external consultancy conducted the test for lighting solutions in a 7-floor reference office building. To do so they used BREEAM-approved simulation software (TAS). Our lighting solution with U25 recessed luminaires resulted in an EPRNC score of 0.36, equalling 6 BREEAM credits.
- The use of a light control system also earns credits.

|             |   |   |   |   |   |  |   |   |   |
|-------------|---|---|---|---|---|--|---|---|---|
|             |  |  |  |  |  |  |  |  |  |
| Credits     | 6   | 6   | 5   | 3   | 3   | 5  | 5   | 5   | 4   |
| Suitability | +++   | +++   | +++   | ++  | ++  | +++  | +++   | +++   | +++   |







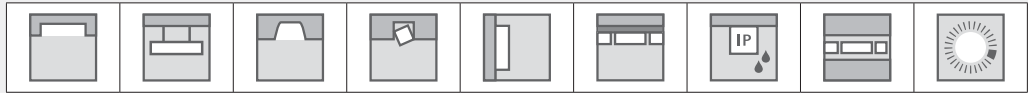








# Survey



## MANAGEMENT

|      |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|
| MAN1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
|------|---|---|---|---|---|---|---|---|---|

## HEALTH AND WELLBEING

|      |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|
| HEA1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|------|---|---|---|---|---|---|---|---|---|

## ENERGY

|      |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|
| ENE1 | 6 | 6 | 5 | 3 | 3 | 5 | 5 | 5 | 4 |
| ENE2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| ENE3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

## MATERIALS

|      |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|
| MAT1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
|------|---|---|---|---|---|---|---|---|---|

## POLLUTION

|      |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|
| POL4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|------|---|---|---|---|---|---|---|---|---|

## INNOVATION

|     |   |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|---|
| INN | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|-----|---|---|---|---|---|---|---|---|---|

# Reference projects

ETAP has many years of experience in the certification of building projects. Your ETAP adviser will be happy to assist you with the right solutions for BREEAM or LEED certification, the two most popular systems (\*). Below are some examples of reference projects.



**Head office PriceWaterhouseCoopers,  
Gasperich, Luxemburg**  
*BREEAM Very Good / Completion 2014*  
*ETAP solution with UT1 recessed luminaires, R8 and R4 mounted luminaires and E6 industrial luminaires.*



**Chamber of Commerce,  
Dubai, United Arab Emirates**  
*LEED Certified / Completion 2011*  
*ETAP solution with bespoke fluorescent lighting, D42 LED downlights and Flare LED spots*



**Regional head office Naturgas Energía,  
Bilbao, Spain**  
*LEED Platinum / Completion 2013*  
*ETAP solution with Kardó modular light lines and D42 LED downlights*



**Headquarters Majid Al Futaim,  
Dubai, United Arab Emirates**  
*LEED Gold / Completion 2014*  
*ETAP solution with Flare spots, D42 downlights, R7 suspended luminaires with occupancy detection and U7 recessed luminaires (all LED)*

**Laboratory Red Cross,  
Mechelen, Belgium**  
*BREEAM Outstanding / Completion 2015*  
*ETAP solution with D2 LED, R8, E6, Flare spot, U5, Kardo, E1 LED, E5, US*

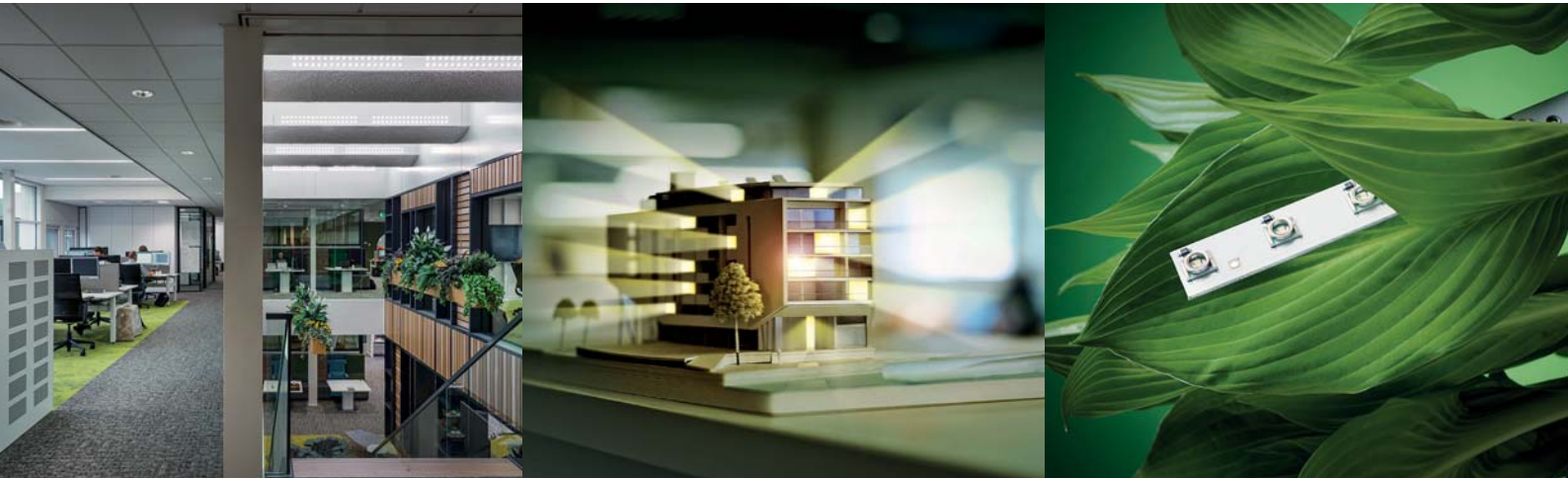
**Education Centre,  
Utrecht, the Netherlands**  
*ETAP solution with D42 LED downlights, Flare LED spots, U1, U5, D1 and D2 downlights, Kardó and R6*

**Lightline, Zoetermeer, the Netherlands**  
*BREEAM Very Good / Completion 2015*  
*ETAP solution with downlights D1 and recessed luminaires UT1*

**Transavia, Schiphol, the Netherlands**  
*LEED Platinum / Completion 2010*  
*ETAP solution with R4 suspended luminaires with daylight harvesting and D1 downlights*

**Coca-Cola offices, Madrid, Spain**  
*LEED Gold / Completion 2009*  
*ETAP solution with UT recessed luminaires*

\* You can download the brochure 'ETAP and LEED' from our website. The printed version is available upon request.



## ETAP AND BREEM INTERNATIONAL

### Lighting solutions for sustainable buildings

- Maximise the number of credits for your building with ETAP solutions
- Seek assistance from your ETAP advisor
- Choose your lighting and light control in accordance with the BREEM guidelines

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