

KONE AND BREEAM INTERNATIONAL NC 2016

GAINING CREDITS WITH ELEVATORS*

KONE's eco-efficient People Flow® solutions for BREEAM and net zero energy buildings help to combat climate change and contribute to the development of next-generation green buildings.

Using our eco-efficiency expertise, we provide in-depth analysis of traffic patterns as well as the energy consumption and potential carbon footprint reduction of our solutions over their entire operational lifespan.

WHAT IS BREEAM INTERNATIONAL NC 2016 ?

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's first sustainability rating scheme for the built environment.

The BREEAM International New Construction (NC) 2016 scheme is a performance-based assessment method and certification scheme for new buildings.

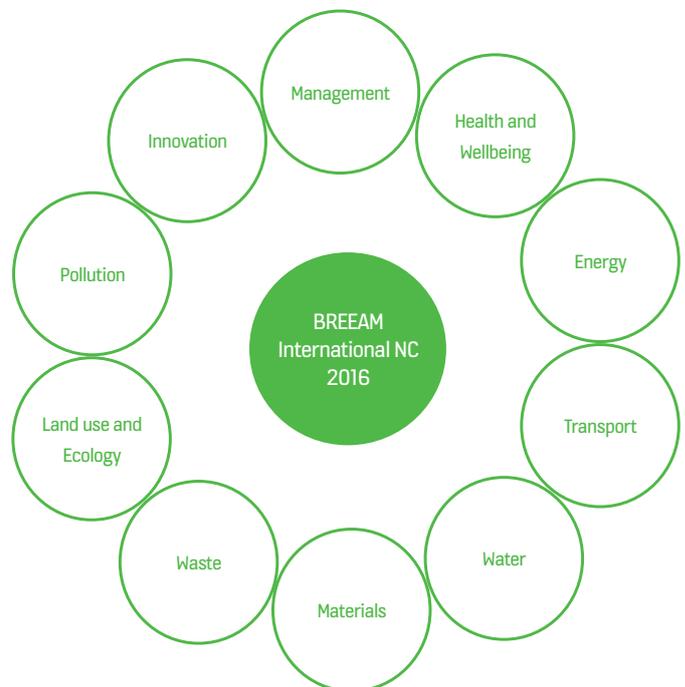
The primary aim of BREEAM International NC 2016 is to mitigate the life cycle impacts of new buildings on the environment in a robust and cost-effective manner. This is achieved through integration and use of the scheme by clients and their project teams at key stages in the design and construction process. 'New Construction' is defined as development that results in a new standalone structure, or a new extension to an existing structure, which will come into operation or use for the first time upon completion of the works.

HOW KONE CAN CONTRIBUTE TO BREEAM INTERNATIONAL NC 2016 ?

KONE elevators can generate BREEAM International NC 2016 credits, which can help the building achieve the best possible rating. We can also help our customers achieve additional BREEAM credits in other categories. Please see the below section 'Additional BREEAM International NC 2016 categories relevant to KONE' for more information.

HOW WE SUPPORT CUSTOMERS BY

- Providing detailed information about BREEAM certification schemes
- Helping to reduce on-site energy consumption and the overall carbon footprint of buildings
- Helping to meet applicable BREEAM requirements



BREEAM International New Construction 2016 environmental sections

BREEAM INTERNATIONAL NC 2016 CREDITS FOR ELEVATORS – ENE06

Category	Credit	Credits available
Energy	ENE 06 Energy efficient transportation systems	3

One credit achieved when all assessment criteria are fulfilled:

Category	Credit	Assessment criteria	How KONE contributes	Documentation required
Energy	ENE 06: Energy efficient transportation systems – Energy consumption	a. An analysis of the transport demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts.	Traffic analysis using two tools: BTS (Building Traffic Simulator) and/or PFA (People Flow Analyzer) depending on specific case.	YES: Detailed information provided in a dedicated report, available on request.
		b. The energy consumption has been estimated in accordance with ISO 25745 Energy performance of lifts, escalators and moving walks (Part 2), for one of the following: <ul style="list-style-type: none"> • At least two types of system: comparison between two types of model. • An arrangement of systems (e.g. for elevators, hydraulic, traction, MRL): present the same elevator model with different options e.g. with and without regenerative drive or different lighting. • A system strategy 'fit for purpose': offer other energy-saving possibilities e.g. standby mode. 	KONE has an ISO 25745 offering for several elevator platforms to predict their energy performance. KONE tools can provide information about the energy performance of a specific elevator according to the ISO 25745 standard to fulfill BREEAM International NC 2016 requirements.	YES: Customer is provided with a dedicated energy report.
		c. The use of regenerative drives should be considered where it produces an energy saving greater than the additional standby energy used to support the drives.	KONE regenerative drives are high speed, high capacity, and high performance. The range covers all types of applications and building types. The drives are compatible with KONE EcoDisc™ hoisting machines.	YES: KONE can provide evidence of the potential energy savings enabled by a regenerative drive on request.
		d. The transport system with the lowest energy consumption is specified.	KONE elevators can include a range of standby solutions that enable substantial energy savings.	YES: Customer is provided with a dedicated energy report.

Two credit Once the first credit has been achieved, two further credits can be achieved by fulfilling the additional criteria for energy-efficient features for elevators described below.

Category	Credit	Assessment criteria	How KONE contributes	Documentation required
Energy	Ene 06: Energy efficient transportation systems - Energy efficient features	a. For each lift, the following three energy-efficient features are specified: <ul style="list-style-type: none"> i. The lifts operate in a standby condition during off-peak periods. For example, the power side of the lift controller and other operating equipment such as elevator car lighting, user displays and ventilation fans switch off when the elevator has been idle for a prescribed length of time. 	KONE elevators can include a range of standby solutions that enable substantial energy savings, including car light/fan saving mode and signalization dimming.	YES: Customer is provided with a dedicated energy report.

ii. The lift car lighting and display lighting provides an average lamp efficacy (across all fittings in the car) of >55 lamp lumens/circuit Watt.	Selected LED lights for KONE elevator cars fulfill BREEAM criteria.	YES: Customer is provided with visual and technical evidence on request.
iii. The lift uses a drive controller capable of variable-voltage, variable-frequency control of the drive motor.	Because our solutions use variable-frequency drives, the peak starting current is lower compared to hydraulic and traction units, which means reduced energy consumption and fuses with lower ratings.	YES: Customer is provided with a dedicated energy report.
b. Where the use of regenerative drives is demonstrated to save energy, they are specified.	The KONE regenerative drive can recover up to 35% of the total energy used by an elevator and make it available for immediate reuse in the building to power, for example, lighting, heating, or other elevators.	

ADDITIONAL BREEAM INTERNATIONAL NC 2016 CATEGORIES RELEVANT TO KONE

We can help our customers achieve credits in the following categories by complying with the requirements. Some of the categories require us to provide our customers with documentation.

Category	Credit	Assessment criteria	Documentation required / other comments
Energy	ENE 02: Energy monitoring	<p>ENE 02 requires a Building Management System to monitor energy use from main building services systems.</p> <p>KONE can provide support on a case by case basis according to customer need. It is typically recommended to monitor the energy consumption of elevators using a bidirectional energy meter in order to take into consideration the regenerated energy.</p> <p>In some building types, such as high-rise buildings, the energy consumption of elevators and escalators may be significant.</p>	NO: Please contact your local KONE representative if you require support.
Health & wellbeing	HEA 02: Indoor air quality	<p>HEA 02 PREREQUISITE: materials containing asbestos are prohibited from being specified and used within the building.</p> <p>HEA 02 requires to be complied with VOC (Volatile organic compound), formaldehyde and carcinogenic emissions limits.</p> <p>For KONE, the elevator car is the only space that is considered to be in direct contact with people flow. The internal finishes of elevators, regardless of whether they are installed on site or at the factory, could impact building emission levels.</p>	YES: Customers will be provided with evidence of compliance on request.
	HEA 05: Acoustic performance	<p>HEA 05 requires good noise levels using ISO-717 as reference standard for airborne transmission of sound. The building acoustic performance depends on the material from which it is built and the elements and materials used to provide its finishes.</p> <p>KONE considers only the "apartment" in its analysis because it is the most restrictive case.</p>	YES: Customers will be provided with evidence of compliance on request.
	HEA 06: Accessibility	<p>HEA 06 requires minimum dimensions to guarantee the accessibility to all types of users, including persons with disability or with reduced mobility.</p> <p>KONE offers accessible elevators that comply with the EN81-70-2017 European standard.</p>	YES: KONE can deliver an elevator car that fulfills the requirements of HEA 06 upon request.
Materials	MAT 01: Life-cycle impacts	<p>MAT 01 requires the use of an appropriate life cycle assessment tool and consequently the specification of construction materials with a low environmental impact over the full life cycle of the building</p> <p>KONE processes aim to maximize positive environmental impacts and minimize adverse ones throughout the life cycle of our solutions.</p>	YES: Environmental Product Declarations (EPDs) reporting life cycle impacts of elevators are available for most KONE elevators on request.

	MAT 03: Responsible sourcing of construction products	<p>MAT 03 PREREQUISITE: all timber and timber-based products used on the projects are legally harvested and traded timber.</p> <p>The aim of the requirement is to recognize and encourage the specification and procurement of responsibility sourced construction products.</p> <p>For KONE this concerns timber products that remain in the building.</p> <p>Some parts or elevator car finishes may contain wood, for example flooring, walls, or ceilings.</p>	YES: KONE can provide written confirmation such as FSC or PEFC certificates for the wood used in its products on request.
	MAT 05: Designing for durability and resilience	<p>MAT 05 requires adequate protection of exposed elements of the building and landscape, therefore minimizing the frequency of replacement and maximizing materials optimization.</p> <p>For KONE this means that the materials inside the elevator need to be resistant to wear and tear.</p>	YES: KONE can provide resistant materials for the elevator car (EN81-71). Visual evidence can be provided on request.
Management	MAN 04: Commissioning and handover	<p>MAN 04 defines how to ensure users awareness regarding the 'green features' of their building and how to interface with them. These guides are often intended for non-technical personnel with little or no knowledge of the building or the systems within.</p> <p>KONE strives to deliver the best customer and user experience. We work closely with customers to promote safety and deal with situations that could lead to potential safety risks.</p>	YES: KONE can provide user guides for its elevators on request.
Waste	WST 01: Construction waste management	<p>WST01 requires to reduce waste generation and encourage its diversion from landfill through good design and construction practices.</p> <p>KONE helps customers to contribute to the reduction, reuse, and recycling of waste. KONE also has its own global guidelines for waste handling and recycling at installation sites.</p>	YES: KONE can provide documentation on the waste management plan (reduction, reuse, recycling, and energy recovery) on request.

 **For further information visit**
www.breem.org or www.kone.com



Southmead Hospital
 Bristol, UK

- **Building type:** Medical
- **Elevators:** 41
- **Special solutions:** KONE E-Link™ monitoring system
- **Architect:** BDP
- **Construction company:** Carillion plc
- **Construction completed:** 2014

Additional information:
 The new 800-bed super-hospital concentrates on acute services and provides world-class healthcare to over 500,000 people in the area.

Southmead Hospital has earned an 'excellent' BREEAM rating.

KONE CORPORATION

www.kone.com