SKANSKA UK

SKANSKA UK, FAMOUS FOR BUILDING THE ICONIC GHERKIN IN THE HEART OF LONDON.

Dextra LIGHTING

ABOUT THE CLIENT

Skanska UK, famous for building the iconic Gherkin in the heart of London and landscaping for the Queen Elizabeth Olympic Park in Stratford, entrusted Dextra Lighting to supply the latest energy-efficient LED lighting for the redevelopment of their modern Bentley Works facility.

Founded over a century ago in Doncaster, South Yorkshire, the group's 5000 sqm 'northern hub' now features contemporary offices and high-tech workshops. The state-of-the-art premises have been designed and constructed in line with the company's 'Journey to Deep Green' environmental initiative – an approach to sustainability that runs deep within the company's core philosophy.

The construction and development giants have often led by example in their industry, often pioneering standards of best and sustainable practice. The company topped the Sunday Times Green List as "The greenest company in the UK across all industries" in 2011 and was awarded the FT ArcelorMittal Boldness in Business Award 2014 for corporate responsibility and environment. Inevitably, with such an exceptional reputation and influential status, comes even greater ethical responsibility.

In 2012, Skanska UK won Construction News' Sustainability award for its green procurement strategy and processes.

Their sustainable procurement policy, clearly states that: "Skanska will only do business with responsible suppliers who recognise their responsibility to protect the environment and foster good relations with their employees and local communities". With this in mind, Dextra Lighting were invited to join Skanska's supply chain because they share ethical principles as service providers and employers with the lighting specialists also offering a comprehensive range of high quality energy-efficient LED products at highly competitive prices.

Like Dextra Group, Skanska makes no mistake in equating green technology with the future. As with the majority of their projects, the Bentley Works facility was redesigned to be 'future-proof', leading to a massive investment in green technology including: LED lighting and energy-saving controls, photovoltaic panels, a biomass boiler, a sophisticated BMS system, to mention only a few. These have reduced energy consumption by 40% in the workshops and by 25% in the office building.

The aim here was not to simply comply with today's legislative requirements, but to meet the environmental standards of tomorrow.

The brief divided the site into three broad locations: the office accommodation, the manufacturing workshops and external areas. Within the category of internal office spaces, LED luminaires and controls were installed in the main reception, meeting rooms, canteen areas, corridors and indoor engineering workshops. The main offices have an open-plan layout, making the most of the natural daylight to create a healthy working environment and reduce energy consumption. It was crucial, therefore, that the lighting would harvest the abundance of daylight accordingly. The solution for both the offices and meeting rooms came in the form of the MODLED Office, MODLED Recessed and MODLED Surface luminaires, installed with compatible sensors and dimming controls from Dextra's Reacta range.

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THE PRODUCTS

As the name suggests, the MODLED Office has many design features purpose-built for office applications. By combining the glare control offered by its central microprism optic and high transmission opal diffuser with the latest high-output Lumileds LED sources, the MODLED can comfortably achieve a 400 lux average with spacings as large as 3m x 3m, whilst simultaneously complying to the BSEN 12464 3000 candela glare limit for areas where monitors are in use. Therefore, the MODLED Office proved ideal for the project, by offering complete compliance with ECA, L2 and BSEN 12464 paired with optimum performance, allowing installations to be designed with the minimum of luminaires, capital cost and energy consumption.

In the meeting rooms the MODLED Office was installed in lower lumen packages of 4400lm in 600mm x 600mm size to suit each room's dimensions. This versatile luminaire can be offered in lumen outputs spanning from 3500lm to as high as 11,000 across four different body sizes. It is also complemented by two optic designs to cater for a range of applications.

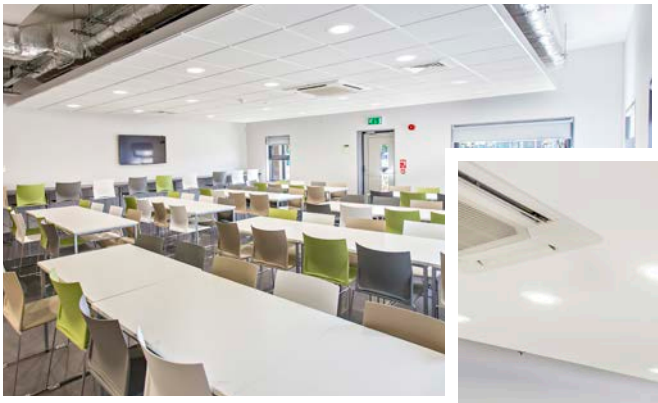
For the 1st floor offices, the MODLED Office luminaire was installed across a series of suspended ceiling panels of different shapes and sizes, floating directly above desk clusters and nearby corridors. Thanks to the 3m suspension wire kit provided, larger MODLED Surface luminaires (1200mm x 300mm) were suspended individually in various locations to suit Skanska UK's aesthetic and practical needs.

The MODLED Surface and MODLED Recessed were both utilised for the ground floor offices as well as the engineering workshops. Both these luminaires share many features including their high transmission panels with up to 93% transmission and LORs of 85%, which together offer efficient and comfortable diffusion alongside genuinely premium performance. Both offer a considerably wide range of lumen outputs (1750lm to 15,200lm for MODLED and 3500lm to 13,600lm for the MODLED Surface) distributed across three available sizes (600mm x 600mm, 12000mm x 600mm or 1200mm x 300mm). The lower output luminaires also offer compliance to BSEN 12464 3000 candela limit where required.

The main difference between the two is that the MODLED is a recessed luminaire suitable for lay-in or pull-up installation, whilst the MODLED Surface can be either surface mounted or suspended. Both have been designed for quick and easy installation and, if necessary can be supplied with user-friendly plasterboard pull-up or suspension kits respectively.

The selected luminaires from the MODLED family were installed with integral R24D.

PIR daylight regulation sensors and DALI dimming functions. These controls combine to adjust the luminaire's output to the room's natural lighting conditions, thereby maintaining the optimal lux levels for the area. The R24D sensor also provides occupancy detection, which was programmed to either dim or switch off when an area has been vacated. Integral three-hour emergency functionality was also made available.



THE PRODUCTS

In the office's break-out areas, the Classic LED offered a traditional style, without compromising on the excellent energy efficiency of today's LED technology. This popular and attractive product combines the latest Philips DLM Twistable LEDs (1100lm or 2000lm) with a traditional spun reflector in a suspended pendant luminaire, offering all the advantages of LED for long-life and low maintenance.

The Classic LED is suitable for a variety of applications including, low-level general lighting and suspension over counters and displays. For the breakout area, the 2000lm luminaire was supplied with a custom 5m suspension kit to match the ceiling height.

The Duet LED luminaire was installed in a continuous run, to act as primary lighting in the corridor leading from the main entrance to the reception area. This luminaire exemplifies versatility, as it can be surface mounted, suspended individually or continuously run. It is also available in 1200mm or 1500mm lengths and lumen outputs of between 5200lm and 11,000lm. Its balanced design and central cable entry point allows additional flexibility and ease for installation on either trunking, conduit, 4 point or 2 point Y suspension.

For the building's main corridor, the Duet LED's continuous run was assembled by alternating between 1200mm long fittings and 1200mm blind units, to achieve the required light levels with uniform spacings and light coverage.

The Duet LED's steel powder painted white housing and TPA Satine blend diffuser with injection moulded polycarbonate end caps, provide an aesthetically pleasing minimalist design, suitable for a variety of high-end applications.

Standard, self-test and auto-test emergency functions, as well as all dimming variants (HFR, Switch Dim and DALI) are also available for this product.

On either side of the Duet LED, Metro display lights were also fitted in a continuous run along the edges of the ceiling. Rows of these attractive spot lights were installed on a slim circuit-track system, with beams angled towards various promotional and decorative features displayed on the walls, including a large 3D bass-relief of the company logo.

The ultra-efficient Protec LED downlight also helped create a contemporary, brightly-lit and inviting reception area. The luminaire was installed in an individually suspended ceiling panel with white custom bezels, hovering above the reception desk and visitor seating area. Again, this product was selected primarily for its impressive energy-saving capabilities and shorter capital cost payback periods compared to fluorescent equivalents, tying in perfectly with the project's 'Deep Green' environmental policy.

THE PRODUCTS

The Amenity Decorative LED bulkhead was used extensively in this project, featuring in the building's stairways, toilets, break-out area and general circulation areas. Available in 1500 or 2000 lumen outputs and offering LORs in excess of 80%, this product gives similar performance to traditional fluorescent sources at a fraction of the energy cost. With a wide range of options including integral sensor, emergency, corridor mode or dimming options, the AMED LED is built for versatility. The combination of efficient polycarbonate opal diffusers and the latest Lumileds LEDs, also provide comfort and safety in areas of frequent circulation.

The luminaire can also be customised with a range of optional coloured ring attachments and semi-recessing kits, to suit a variety of décors or branding colour schemes. For this project the AMED LED was predominantly delivered in a simple, yet elegant white body, with occasional chrome decorative polycarbonate angled rings. In addition to the standard issue IP20 construction, the AMED LED was supplied in an IP65 sealed housing, ideal for WC or storage facilities.

Skanska reported that the outdoor and semi-external LED lighting alone was responsible for saving 3.2. tonnes of CO^2 emissions. Products utilised for these areas included: Dexeco's Impervia LED Column in a 10,200 lumen output with integral R11 Wide sensors for occupancy detection and daylight regulation, covering the building's entire perimeter and car park; the Verteco LED in a high output of 26,400lm for the semi-external high-level workshops and an IP65 rated Amenity Exterior LED bulkhead the remaining external areas. Other products used in the project included: the Graduate LED, Hydra LED, LED3 open area emergency luminaire, Blade LED uplighter, Comtec LED downlight and EXI LED exit signs.
By investing in LED products of the highest quality, Skanska UK has truly made the building 'future proof' in terms of sustainable lighting. In addition to the long-term benefits of LED for extended life and minimal maintenance, greatly enhanced by the luminaires' cutting-edge designs, all Dextra Group LED products were issued with a five-year warranty, providing the global contractor with additional peace of mind. Skanska UK has much to celebrate as its 'Deep Green' building will not only cause near-zero impact to the environment, but bring about substantial returns on investment in record time.

FEATURED PRODUCTS

METRO LED

DUET LED

MODLED OFFICE

PROTEC LED