

Hotel opens floating luxury lifestyle destination

The New Glass Crown of Singapore Lighted up with 700 Meter of LED Strips

The newest addition to Fullerton Heritage precinct, the Fullerton Pavilion is envisaged as Singapore's next luxury F&B destination that is set to open its doors in May 2012. The Fullerton Pavilion, a glass dome structure floating on water, anchors itself as the jewel crown that completes the picture of the Fullerton Heritage waterfront.

Fullerton Pavilion comprises a total of 450 square meters of high-end tenant space within its 8-meter high, half-dome structure. With its facade skin almost entirely made of glass, the Fullerton Pavilion provides magnificent, unblocked views of Singapore's Marina Bay skyline. The structure floats on Marina Bay waters on a platform and is connected to the rest of the Fullerton development by a pivoted bridge and deck.

With a 7 million investment, the project is collaboration between a renowned Singapore architectural firm, DP Architects, Light Cibles, an international lighting design company with office in Singapore, and LED Linear, a German manufacturer, which was selected for their high performance LED lighting fixture.

Illuminated crown

In this remarkable building, architecture and lighting design go hand in hand. At nighttime, the pavilion puts on an exclusive display of lights and transforms into a sparkling beacon within the Marina Bay area. "Our objective was to incorporate the lighting to fully enhance the architectural form without interfering with the integrity of the architectural and facade details," explains lighting designer Brice Schneider of Light Cibles Pte Ltd. "The building should look like an illuminated crown without causing any distraction from the interiors. In order to ensure the visibility of the city skyline from inside the glass structure, the luminaires need to be invisible from every interior perspective".



Distinct architectural features are given due emphasis in the lighting design. The curvature of the structure is further enhanced by a series of vertical lines of light that are seamlessly integrated into the facade frames following the shape of the facade skin. Other key architectural elements - such as the main entrance portal, grand staircases and pivoted bridge – are also highlighted to add to the overall nighttime visual impact of the building.

Luminaire specification

Selection of the most appropriates lighting fixtures is one key aspect to the success of the lighting design. At the end of the design process, LED strips of LED Linear GmbH were indentified to be the ultimate solution to the specific requirements of the project: The high flexibility of the strips allows to adapt to the curved shape of the facade. As the LED are of a compact size they can be integrated seamlessly to facade frames. Another important aspect concerning the lighting design within the architecture of the building is the appropriate and homogenous light intensity with possibility of control and dimming. Special attention had to be payed to a high resistance to water ingress, marine environment and UV as well as to a high reliability and warranty on the LED products.

The LED Linear VENUS series consists of flat encapsulated luminaires with differing lengths till up to 7.5 meters. Due to its form, the lighting strip not only fits into smallest installation depths but is also particularly flexible. The polyurethane encapsulation material provides maximum resistance against harsh environmental conditions – such as humidity, water immersion, heat, abrasion, flame - as confirmed by a series of international tests and accreditations. Specially-designed clips were developed, along with Light Cibles, to allow easy installation and neat integration to structural frames.

The VENUS series assures long operating life of LED thanks to its unique patented heat management. The PCB technology specially developed by LED Linear provides



for evenly high luminous flux levels at low thermal power densities. This technology is based on the effective use of the PCB surface and its small structural height. "We put large copper plates underneath the LED, directly where the heat is generated. Those dissipate the heat quickly and widely," explains Mr. Michael Kramer, managing director of LED Linear. In addition, the Led Linear products have a higher protection against voltage spikes ESD (Electro Static Discharge) during operation.

The VENUS series provides optimum colour consistency. Very constant colour is assured from the first to the last LED thanks to their constant colour binning of LED Linear.

All these technical performance and innovation were recognized and awarded with the silver medal "German Design Award" in 2011 by the German government.

Throughout the installation three different lighting fixtures from the VENUS series were used: Warm-white Vario LED Flex Venus front view strips model were introduced as main lighting features of the curved facade skin. Integrated into the vertical frames, the LED strips are subdivided into 5 sections following the glass modules and spanning along the entire height of the facade. This allows individual control of every individual section of the LED strips to maximise the dynamic potential of the lighting scenarios.

Concealed warm-white LED strips such has the Vario LED Flex Venus side view and the Vario LED Aton2 in aluminium profile series were also introduced to the external circulation including the grand staircases and pivoted bridge. This lighting approach provides safe and glare-free illumination of circulation areas without taking the attention away from the dome structure.

RGB LED strips Vario LED Flex Venus RGB TV were applied to the main entrance portal. Schneider explains, "We set up a RGB-Version with different colours around the main entrance. That way we are able to colour-coordinate with specific events or with the interior design,"



Both white and RGB LED strips can be controlled and dimmed individually to allow programming of variable lighting scenarios. The lighting scenarios are intended to provide smooth transitions, creating a fully dynamic yet elegant lighting show.

Lighting Designer:

Light Cibles Pte Ltd. was founded in 1983 as an office for Architectural lighting design. The company implements all kinds of projects, from interior design of shops and museums to great works of modern architecture in Europe, Asia and the Middle East. Aside from the headquarters in Paris, the company now has branches in Madrid, Tianjin, Singapore, Kuala Lumpur and Sao Paolo. The company employs 32 lighting designers, with various education backgrounds (from architects, interior designers, industrial designer up to theatre lighting designer) which at the end are creating solutions and innovative lighting techniques.

Lighting Manufacturer:

LED LINEAR develops and produces high quality LED lighting systems for technically demanding interior and exterior lighting. The main products are linear and scalable Lighting modules as well as LED systems based on a protection rating up to IP68. The product line includes several lighting systems that were awarded international design prizes. Based on a modular system more than 2.5 million individual solutions can be generated, allowing even very specific customized productions. The systems are used everywhere, from ambience to general lighting, from furniture to façade lighting 300 meter above ground. The use of high quality and long lasting elements guarantees energy saving solutions with an extremely long life span. The products are lead-free soldered and RoHS compliant. VarioLED™, xoolum™, xoolux™, xoolight™ und TjAway™ are registered trademarks of LED Linear GmbH. The VarioLED™ Flex VENUS series won the silver medal at the German Design Award 2011. The products of the company are distributed world-wide, e.g. in North America, Singapore, France, the UK and the Middle East. The German office currently has 40 employees.





The Fullerton Pavilion can be reached via the pivoted bridge with concealed led strip given it a floating effect.

Quelle: Brice Schneider





The Pivoted Bridge,1st of its kind in Singapore, allows to dock directly within the development and cast interesting light reflection unto the water.

Source: Brice Schneider

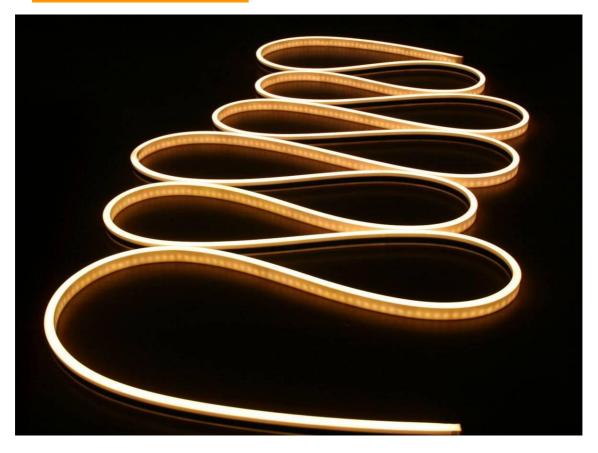




Multiple vertical lighting segments are dimmed enhancing the form of the architecture.

Source: Alistair Chia





The LED Linear VENUS series consists of flat encapsulated luminaires with differing lengths up to 7.5 meters. Due to its shape, the lighting strip not only fits into smallest installation depths but is also particularly flexible.

Source: LED-linear GmbH



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