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OSCARA BILGICCI'S

WALLS AND ROOFS

FOR THE INFORMED ARCHITECT

VOL 22.1

The Sound
Pavilion:

TACKLING ACOUSTICS

Reshaping the
architect's role
with the client

CELEBRATING
STEEL:

2020 **STEEL
AWARDS**

ROBOTS

BUILD
CONCRETE
WINERY WALL

MUSHROOMS:

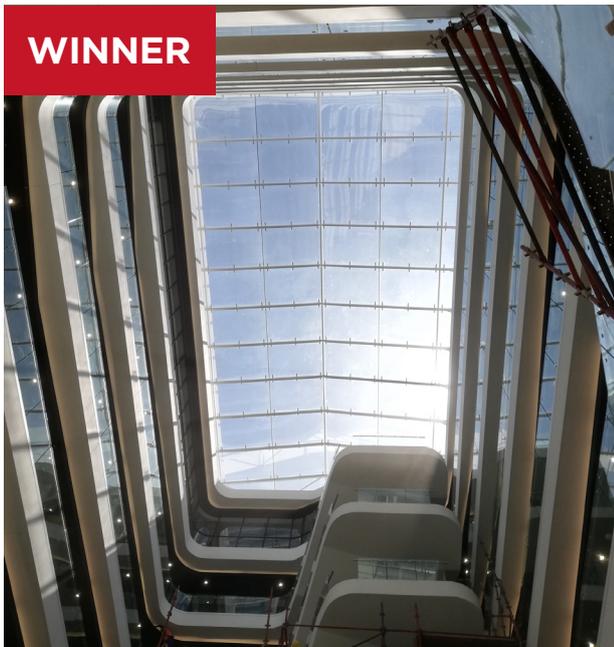
the new
leather?

FEATURE

Steel awards

WINNER: TUBULAR CATEGORY**Winning Project: The Menlyn Maine West Atrium skylight project.****Complexity and precision**

The recent world-class Menlyn Maine, Park Lane West project included a modern skylight manufactured from lightweight steel, which earned this project several awards. Boogertman + Partners Architects approached design build specialists, LEAF Structures, to assist with the specialised development for the Park Lane West atrium glass skylight.



Due to the stringent deflection requirements of the glass, both during installation and over the long term, the high stiffness of the structure meant the joints between each glass panel could be sealed with just a strip of silicone.

WINNER: ARCHITECTURAL CATEGORY**Winning Project: The Precinct Lifestyle Hub, Midrand**

The client, Century Property Developments, wanted to attract tenants for a Midrand apartment development by providing a “lifestyle hub” which features a movie theatre, spa, games room, restaurant and gym.



The Precinct Lifestyle Hub: The design incorporated a natural hill and features a bridge and walkways, which limited the environmental impact of the construction.

Construction on The Precinct Lifestyle Hub: Tass Engineering designed the project. The design incorporated a natural hill and features a bridge and walkways, which limited the environmental impact of the construction.

Atrium project a winner

The recent world-class Menlyn Maine, Park Lane West project included a modern skylight manufactured from lightweight steel, which earned this project several awards.

The architect's brief called for the creation of a modern skylight with lightweight steel members and clean geometry that would bring the right balance of heat and light into the atrium below. Boogertman + Partners Architects approached design build specialists, LEAF Structures, to assist with the specialised development for the Park Lane West atrium glass skylight, which also needed to address the following considerations:

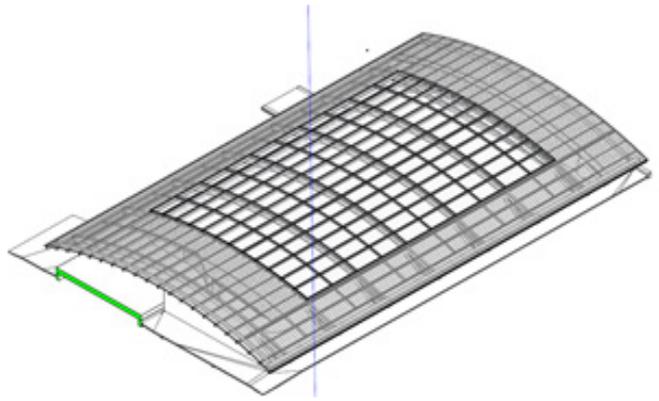
- Provide a single-source solution which includes the structure and cladding.
- Maintain the architectural intent while improving transparency (using lighter steelwork and eliminating mullions).
- Reduce interface details between different cladding materials.
- Consider interior and exterior maintenance requirements.
- Consider ease of installation.



A close-up of the skylight.



The atrium skylight at the prestigious Menlyn Maine, Park Lane West viewed from the ground floor.



Glass atrium - initial renderings.

Courtesy of Boogertman + Partners

Having had a look at the initial concept and renderings, which included a primary steel structure and aluminium frames for the glass, LEAF Structures presented several optimised solutions along with the design-build cost for each solution.

Following a few design iterations, the architect and quantity surveyor approved the concept which consisted of a structural frame made of duo-pitched, three-pin beams. Painted hollow structural sections were scoped to ensure neat, hidden connection details, making the architecturally exposed structure aesthetically pleasing, while reducing the need for site welding.

The glazing consisted of large fully tempered laminated glass lites with a high-performance coating on the #2 surface. Each panel is approximately 2,2m wide by 3,2m long and weighs approximately 350kg. Since adjacent glass lites could be sealed with silicone, no aluminium mullions were required.

This is another successful project showcasing the innovations being made in structural design.

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