



PRECAST CONCRETE FORMS EXTRAVAGANT ARCHITECTURE

Melbourne has become Australia's centre of contemporary design, and with its grand heritage buildings and striking contemporary infrastructure, it's easy to fathom why. One of Melbourne's most recent architectural delights, 41X, is the new national office for the Australian Institute of Architects (AIA).

Standing as something of an architectural marvel in the heart of the CBD, 41X is a 22-storey tower and a hub for architecture, AIA staff, and the general public. Designed by Lyons Architecture, the building stands proud on a pocket-sized 285m² allotment on the corner of Exhibition Street and Flinders Lane. It boasts 5-Star Green Star and 5-Star NABERS Energy ratings.

WHERE DESIGN MEETS SUSTAINABILITY

When embarking on the design journey, the architectural focus was on creating a hybridised public and commercial space with extensive sustainability benefits. Lyons Architecture's innovative proposal to create a sustainable public building that encompassed the city's traditional stone and masonry aesthetic with a sculptured exterior ultimately won them the contract to design the headquarters for Australia's leading architectural body.

Lyons' Director, Adrian Stanic, says the brief of the project was to create an exemplar strata-titled building from both a design and sustainability point of view, while creating an exciting engagement with Melbourne's city-goers.

DESIGN WITH A DIFFERENCE

The building's façade features angular precast concrete fins as a reference to the chiselled masonry aesthetic of Melbourne's public buildings. Defining a rugged exterior, the fins have been strategically cut away – or chiselled – to make room for the elevated public spaces that are highlighted with refreshing, bright green soffits. The design explores the idea of joining together a public and commercial building, by connecting the city street space with the AIA, which occupies the lower levels of the tower.

"Helping the Institute engage with the public was at the heart of our design focus. We wanted the design to maximise public engagement by fusing the design community with the public, making anyone feel like they could approach the Institute at any time," Mr Stanic explains.

Lyons' vision was to merge the public street with the entrance of the Institute. With cantilevered higher levels allowing wider footpath spaces at the base of the building, as well as a strategically placed publicly-accessible stairway and public perimeter seating, the vision of a hybrid public-commercial space was able to be realised.

Precaster
Euro Precast

Client
Australian Institute of Architects

Architect
Lyons Architecture

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PRECAST PERMANENCE WITH TRANSPARENCY

Lyons explored the idea of a hybrid space by contrasting the permanence and weight of heavy stone-like materials with corporate transparency. "An idea that has been around for thousands of years is the idea of how stone and masonry is used to signify permanence in public buildings," Mr Stanic explains. "They tend to have a significance that often can relate to the public domain."

To achieve this architectural vision, precast concrete was the ideal product. A highly versatile building material, precast allowed Lyons to design a building that is as extravagant as it is durable. Proper design detailing combined with precast's high-quality manufacturing process allowed Lyons to make their mark for generations to come, through what is a timeless and historic contribution to the city.

CONSTRUCTION EFFICIENCY

In addition to its architectural intent, precast concrete was able to deliver construction efficiencies to the project – all important in a congested city location. National Precast member, Euro Precast, was contracted to manufacture an array of prefabricated concrete elements for the project.

The project's precast package comprised 7,600m² of vertical precast, including precast fins to the east and west façades, external façade panels to the north, and internal lift, stair and service room panels. As well, 84 horizontal sunshades, 133 columns, and 6,200m² of BubbleDeck flooring across 230 decks were manufactured by the precaster.

Euro Precast's Director, George Spiropoulos, says the use of precast concrete minimised onsite material and labour. "BubbleDeck precast floor panels and precast concrete columns reduced the need for formwork and maximised construction efficiency," he explains. Unique external precast concrete panels of complex geometry were integrated with high performance glazing as part of a complete energy efficient facade system."

CARBON NEUTRALITY WITH 5 STAR RATINGS

Lyons' brief employed a range of sustainability initiatives that accounted for embodied energy, base building operational energy, transport, and waste. Striving to achieve carbon neutrality, Lyons joined forces with AECOM to develop solutions that took a holistic approach the building's carbon cycle. Designed to achieve a net zero carbon footprint over its 30-year operating cycle, 41X was one of the first strata-titled commercial office buildings in Melbourne to target carbon neutrality.

With 5-star Green Star and 5-Star NABERS Energy ratings, 41X exemplifies how structures can have a positive impact on the development of their cities through cutting-edge and environmentally responsible buildings.

ENRICHING MELBOURNE'S CBD

Complementing Melbourne's juxtaposition of old and new architecture, 41X has enriched the city's CBD with a beautiful and contemporary building, showcasing the inherent benefits of precast concrete. Making a bold statement about the value of design, the AIA's new headquarters is reinforcing the value of architecture to the sustainable growth of Melbourne's city.

41X is undoubtedly triggering inspiration within the architectural space and that feeling of inspiration isn't merely limited to architects. With precast concrete playing an integral role in its aesthetic and sustainability ambitions, there's a growing interest for astonishing architecture using precast concrete. 41X exemplifies unity between the architectural, engineering, and building professions and the general public.



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