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Pushing the boundaries of what can be
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One Linear Place demonstrates the potential of large-scale architectural precast in high-rise residential construction.

(Photos: Tim Fisher)



EUROPE'S ONE LINEAR PLACE: AN ENGINEERING-LED APPROACH TO FAÇADE INNOVATION

One Linear Place is a 23-storey residential tower within the Nine Elms Park development in London SW11. Designed by Allies & Morrison and completed in 2025, the development provides 186 apartments overlooking Nine Elms and the wider London skyline. Central to its architectural identity is a precast concrete façade designed, manufactured and installed by **Techrete**, comprising 427 panels and more than 15,000m² of façade. **Derek Russell** reports.

While precast concrete is a well-established façade solution, the approach adopted at One Linear Place pushed the boundaries of what is typically achieved in off-site construction. Working within demanding programme, cost and performance requirements, Techrete developed a façade system based on three-storey-high architectural precast panels, which is believed to be an industry-first, creating a distinctive vertical expression while significantly accelerating the construction programme.

SCALING UP

The move to three-storey panels fundamentally redefined the scale at which precast façades are typically delivered. Conventional façade panels are usually produced in much smaller formats, making the dimensions achieved at One Linear Place highly unusual for a residential high-rise development. The challenge was not simply to manufacture larger units, but to create a solution that could be safely cast, transported, lifted and installed while meeting stringent structural, fire and durability requirements. This demanded a fully integrated approach with the façade, lifting strategy and installation methodology developed as a single engineered solution from the earliest stages of design.

The panels measure up to 9.5m high and 3.7m wide, substantially larger than conventional façade units. Manufactured off-site with windows pre-installed, each completed panel weighed approximately 14 tonnes and arrived on-site as a finished

envelope component ready for installation.

By increasing panel height and reducing the number of individual units required, the design reduced installation interfaces and enhanced the façade continuity across the elevation.

Achieving panels of this scale required close collaboration across design, manufacturing and construction teams. Structural behaviour, fire performance, transportation and installation methodology all had to be carefully co-ordinated to ensure the system could be safely delivered from factory to final position.

BEYOND CONVENTION

A key innovation was the development of a highly coffered panel design incorporating six engineered voids within each unit. These voids significantly reduced concrete volume and overall panel weight, while maintaining structural integrity and fire performance requirements. Only the areas required at slab edges and fire-stopping locations remained solid, creating an efficient structure while preserving strength and durability.

Advanced Finite Element Analysis was used to optimise the panel design, helping engineers to balance strength, stiffness and weight, while developing a safe methodology for lifting, transport and installation. Bespoke lifting points, spreader beams and handling equipment were designed specifically for the project to manage the movement of the oversized units throughout

manufacture and construction.

The façade's repetitive geometry informed the manufacturing strategy and fabricated steel moulds were used in place of traditional timber moulds, delivering high levels of dimensional accuracy, consistency and durability across production runs. This helped maintain the quality and precision required for large-format architectural concrete elements while supporting programme certainty throughout manufacture.

As the panels exceeded standard vehicle bed widths, they could

INSET BELOW:

A three-storey panel is carefully manoeuvred into place.



not be transported to site either flat or in a vertical orientation. The only viable option was horizontal transportation, with the 9.5m edge supported along the trailer bed. Once delivered, a purpose-designed lifting arrangement enabled each panel to be safely rotated into position before installation. Extensive factory trials were undertaken before site works commenced to validate handling procedures and ensure a safe and efficient installation process.

DESIGNED TO PERFORM

Beyond its visual impact, the façade was designed to contribute to the long-term environmental and operational performance of the building. The coffered construction that enabled the large-scale panels also created opportunities to enhance thermal performance. Internal voids were fully insulated, forming a highly efficient composite façade element that reduces thermal bridging while maintaining the structural requirements of the precast system.

The façade benefits from the

inherent thermal mass of concrete, helping to moderate internal temperature fluctuations and support occupant comfort throughout the year. Deep window reveals and recessed glazing provide additional solar control, limiting excessive heat gain while maximising natural daylight within the apartments.

Manufacturing in a controlled factory environment also delivered high levels of quality assurance and airtightness. The use of larger, three-storey panels reduced the number of horizontal joints across the elevation, minimising potential weaknesses within the building envelope and contributing to durability and long-term performance.

Alongside these performance benefits, the system design supports the building's wider architectural ambitions. Strong vertical articulation emphasises the tower's proportions and gives the building a slender, elegant appearance. Deep reveals and carefully framed openings create visual depth across the elevation,

while the consistency achieved through off-site manufacture contributes to the façade's refined appearance.

One Linear Place demonstrates how design, engineering and manufacturing can be brought together to challenge established approaches to façade delivery. Through the adoption of three-storey architectural precast panels and an integrated off-site construction strategy, the project achieved improvements in buildability, efficiency and performance while creating a distinctive residential landmark within one of London's most significant regeneration districts. **C**

BELOW:

At street level, the façade creates a refined and welcoming interface with the public realm.

