SIKA AT WORK

OLYMPIC ATHLETES' VILLAGE, PARIS, FRANCE

CONCRETE PRODUCTION: Sika® ViscoCrete®

BUILDING TRUST

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PROJECT DESCRIPTION
The Olympic Athletes' Village for Paris 2024 was developed as part of the Grand Paris urban regeneration program and designed from the outset for post-Games conversion into housing, offices, and public facilities within a sustainable eco-district. Located across several municipalities in Seine-Saint-Denis, the project transforms a former industrial area along the Seine into a long-term urban neighborhood.

Construction was completed within a 15-month timeframe (October 2021 – December 2022), requiring high efficiency and coordination. Sika France supplied 134 tonnes of concrete admixtures for the production of approximately 70,000 m^3 of concrete, supporting a wide range of structural elements and exposure classes. The project demonstrates how optimized concrete technology can meet demanding sustainability targets while delivering a durable and high-quality concrete solution.

PROJECT REQUIREMENTS AND CHALLENGES
The Olympic Village presented multiple technical and environmental requirements, driven by both the Games' construction timetable and the legacy objectives of long-term sustainability.

Low-carbon footprint: A key requirement was to achieve a 40% reduction in CO_2 emissions for the concrete mix compared with standard concrete production, aligning with Paris 2024's goal of organizing one of the most environmentally responsible Games ever. This was achieved through both building material selection and concrete production strategy.

Extended work cycles during winter: To keep the project on schedule across the full 15-month delivery window – including winter conditions – concrete mixes needed to maintain workability for extended 16-hour cycles without compromising performance.

Diverse mix requirements: The project incorporated 40 different concrete types, spanning performance classes from C25/30 XC1 D3 S3 to C60/75 XF1 D3 S4, reflecting a range of structural and exposure conditions.

Compatibility with 3 cements: To fine-tune carbon emissions while meeting technical and temperature performance requirements, three cement types were deployed:
- CEM III/A 42.5 N LH (lowest carbon footprint)
- CEM IV/A 42.5 R (optimal balance of CO_2 footprint, performance, and temperature behaviour)
- CEM I 52.5 N (high-performance concrete grades).

These mix demands required the concrete admixture solutions to have:
- Flexibility
- Compatibility with 3 cements
- Performance at every temperature

SIKA SOLUTIONS
To address the specification and performance requirements, Sika® ViscoCrete® admixtures were supplied as the primary concrete technology solution, combined with technical support to optimize mix designs at the plant.

Concrete mix optimization:
The concept Mix&Flow, part of Sika® ViscoCrete® admixtures, allow to produce each concrete class, enabling adjustments in rheology, setting behaviour, and strength development that were necessary for both the low-carbon footprint targets and the diverse set of structural applications.

By using a three-lever admixture concept, Sika assisted in balancing mix performance with cement type selection, ensuring that each concrete batch met its target strength, durability classification, and thermal performance requirements while also contributing to focused CO_2 reductions.

Performance across conditions:
The admixture strategy provided flexibility for variable temperatures – critical for the extended work cycles – and maintained consistent performance regardless of seasonal variations.

Compatibility with all three chosen cement types ensured that the specified performance parameters could be reliably met across the project's full concrete portfolio.

Technical partnership at plant and site:
Sika's technical team worked closely with the concrete producer and the contractor consortium to calibrate mixes, support on-site testing, and adapt formulations as required, forming an integrated plant-to-site quality assurance approach.

Collectively, these solutions enabled the concrete works to meet the project schedule, environmental goals, and the structural performance needs for what will become a vibrant district of offices, housing, and public amenities post-Games.

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PROJECT PARTICIPANTS
Project Owner: SOLIDEO – Société de Livraison des Ouvrages Olympiques (Olympic Works Delivery Company)
Contractors: Eiffage Construction, Outarex, Bouygues Bâtiment
Architect / Urban Design Leadership: Dominique Perrault Architecture (urban masterplan lead; architect and urban planner); Associated teams of urban planners, landscape designers and sustainability specialists coordinated under SOLIDEO's integrated design framework.
Sika Organisation: Sika France

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