

STRUCTURAL APPLICATIONS

UHPC BY VICAT



UHPC SMART-UP

Smart-Up UHPC is a durable material offering unmatched structural guarantees for designing, building, and renovating the civil engineering structures and buildings of tomorrow.

Used in applications under high tensile stress and requiring significant mechanical strength, UHPC is employed in the design of new structures as well as the rehabilitation of existing ones. Its use in the renovation of civil engineering structures allows for a significant optimization of material quantities, thanks to its high mechanical performance.

BENEFITS



Mechanical performances

- Compressive strength > 150 MPa
- Excellent tensile strength > 8,5 MPa
- Ductility (postcracking resistance)



Long-term repair

- Low porosity (compact matrix)
- Durability against chemical and environmental aggressions (corrosion, freeze-thaw, and chemical attacks)
- High resistance to impacts and abrasion (matrix hardness)
- Increased longevity and waterproofing
- Reduced need for surface treatments or additional protections
- Modernization of existing structures



Speed and execution timelines

- Accelerated Bridge Construction (ABC)
- Prefabricated elements (bridge slabs / cantilevers / footbridge)



Weight reduction of the structure

- Material optimization
- Extension of roadways with cantilevers without adding weight to the structure
- Reduction of thicknesses
- Thinner elements



FORMULATION

- Cementitious matrix with a micrometric structure
- High dosage of cement and additives
- Fine aggregates
- Highly microfibers dosed
- Additives and water

A dense, reinforced, and durable matrix capable of withstanding the most extreme stresses.



APPLICATIONS STRUCTURAL

Ultra-High Performance Fiber-Reinforced Concrete (UHPFRC) offers exceptional protection for structures due to its waterproofing, durability, and abrasion resistance. These properties extend the lifespan of structures and reduce maintenance needs, making UHPC the ideal choice for robust and durable constructions.



Structural reinforcement

UHPC provides durable reinforcement for bridge decks and buildings, ensuring increased resistance to loads and stresses.



Protection against external aggressions and abrasion

UHPC offers durable protection against environmental aggressions and increased abrasion resistance, extending the lifespan of infrastructures.



Bridge deck reconstruction

Thanks to UHPC, bridge decks are reconstructed with exceptional strength and optimized longevity.



New construction

Thanks to its exceptional strength and flexibility, UHPC provides innovative solutions for new constructions. It allows for the design of lighter, more durable, and aesthetically pleasing structures.



Extend the lifespan of
your structures by over

150 YEARS

A dedicated team at your service

Visit our
website !



@smartup_vicat



Smart-Up UHPC



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