ACI Excellence Awards – 2022

The 19M, Center for creation and education in fashion art crafts, Paris/Aubervilliers, France

Project Information

Category for your project : decorative concrete
Name of the project : The 19M, Center for creation and education in fashion art crafts, Paris/Aubervilliers, France
Project quantities
- Built surface: 25 478 m² floor area / 2 600 m2 outdoor spaces;
- Concrete quantities: 750 m3 de BFUP

Address: 2 place Skanderbeg, 75019 Paris, France
Duration of the concrete works: 5 years from the designation of the architectural project to the completion, 3 years from the beginning of the works to the completion
Completion of the structural works: February 2021

Construction Team Members

Owner:
SCI FAIMIN CHANEL MAITRISE D'OUVRAGE
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Email : matthias.valle@chanel-corp.com / imen.bouassida@chanel.com

Architectural Firm:
RUDY RICCIOTTI, ARCHITECTE
Postal address : 17, boulevard Victor Hugo - 83150 Bandol, France
Phone number : 0033 (0)4 94 29 52 61
Contact name : Rudy Ricciotti, architecte dirigeant
Email : agence@rudyricciotti.com

Engineering Firm:
LAMOUREUX & RICCIOTTI INGENIERIE, BET STRUCTURE
Postal address : 20 place Isidore Brun 83150 Bandol, France
Phone number : 0033 (0)4 94 94 80 12
Contact name : Romain Ricciotti, co-director - Guillaume Lamoureux, co-director
Email : contact@lring.fr

General Contracting :
FAYAT BATIMENT
Postal address : Immeuble Axe Seine – 12 rue Rouget de Lisle CS 70175 - 92442 ISSY LES MOULINEAUX Cedex 2, France
Phone number : 0033 (0)3 1 41 14 85 00
Contact name : Charles Chevallet, Directeur Grands Projets - Anthony Verona, chef de projet
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Concrete Supplier:
MEDITERRANEE PREFABRICATION GROUPE VINCI
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Contact name : Daniel David
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Project description (300 words)

The Chanel fashion house has decided to convene, in a single place connected to Paris downtown and the popular district of Aubervilliers, eleven art crafts companies with their workshops, the ERES house (beach dressing fashion) and the 1,200 m² 19M Gallery, a multidisciplinary place open to the public. This investment is a true political and strategic project, aiming to perpetuation and enhancing of world's unique French knowhow in couture crafts, and to ensuring the best work conditions to the crafts persons.

The building represents 25,000 m² distributed in five floors. Keeping natural daylight has determined the project to allow the expert hands of haute couture apply their talents within best conditions of vision acuity. Therefore, the building, with a staple plan surrounding a 2,600 m² garden for calmness and nature revival, deploys its façades over 16,000 m². Acoustic comfort and flexibility of the space arrangement for each of the housed craft workshop are complementary key points. Power efficiency and contribution to biodiversity allowed the project to gain excellence labels for environmental friendliness: BREEAM certification "excellent"; certification LEED V4/ silver + biodiversity; French label "excellent" for environmental quality of activity buildings.

As a result of over 25 years search for ultra-high-performance fiber-reinforced concrete application in an extremely tight and structurally efficient architectural signature, the 19M is an outstanding building with its pioneer exoskeleton consisting in 231 modules of white UHPFRC inter-twisted skinny full-height columns, 24 m-high and 15 cm-thick on average - a world's premiere! This mesh, as an elegant woman's fishnet dress, serves as a mask to sunlight, since its density depends on orientation and daylight exposure.

As a parallel to crafts preservation, erection of the 19M building has also relied on local knowhow and perpetuation of skills development among expert engineers and construction workers.

Concrete in the project (500 words)

Inspiration of the complex ultra-high-performance fiber-reinforced concrete modules is a vertical textile net, that takes benefit of standing efforts over 20 years towards structural full application of the UHPFRC performance and development of elegance in the architectural vision of concrete. Each monolithic 24m-high module comprises 3 extremely slender bearing stands braced by even thinner inclined strands, mimicking a thin fabric, of which the warp and weft threads constitute the building structure and envelope. The 231 modules bear the 2640 m-long exterior passageways and the 660 m-long side canopies on top of the building, which are made of grey UHPFRC harmonized with the glass frames.

Building of each module first consists in making a "positive" around which the mold is realized. Perfect tightness of the forms has been searched, while all fixation devices were included with a millimetric tolerance. A special casting protocol has been optimized for each mold, so that proper fiber distribution and orientation can be ensured as a guarantee of the element final resistance.

Due to the site singularity and architectural choice, each of the 231 modules was specifically spotted: each one had a single location in the façade and a specific height. A specific device has been developed for the demolding operation. A ± 2mm-deviation specified tolerance was to be

met for these 24 m-high elements, which represents a unique achievement for precast concrete technology.
Transport of such all-different elements was a sensitive operation. It was performed by night with special trucks for lengthy loads with a special bearing cradle, 4 modules per truck. Legal conditions for access imposed to realize installation by night, the 4 modules arrived after 10 pm on the jobsite being installed every night. Lifting was the most difficult operation. At this stage, transmitting bending forces into the elements had to be strictly avoided. A special lifting frame had to be designed and realized, on which the elements were fixed. Complexity was increased by the absence of daylight and lack of space for maneuvering.
Detailed design and position of the passageways and top canopy element were optimized to hide the joints between elements along the exoskeleton stands. The connection between the vertical modules and the top canopy elements was realized using stainless steel brackets specially designed and molded for the project.

Photographs


Figure 1

Figure 2

Figure 3

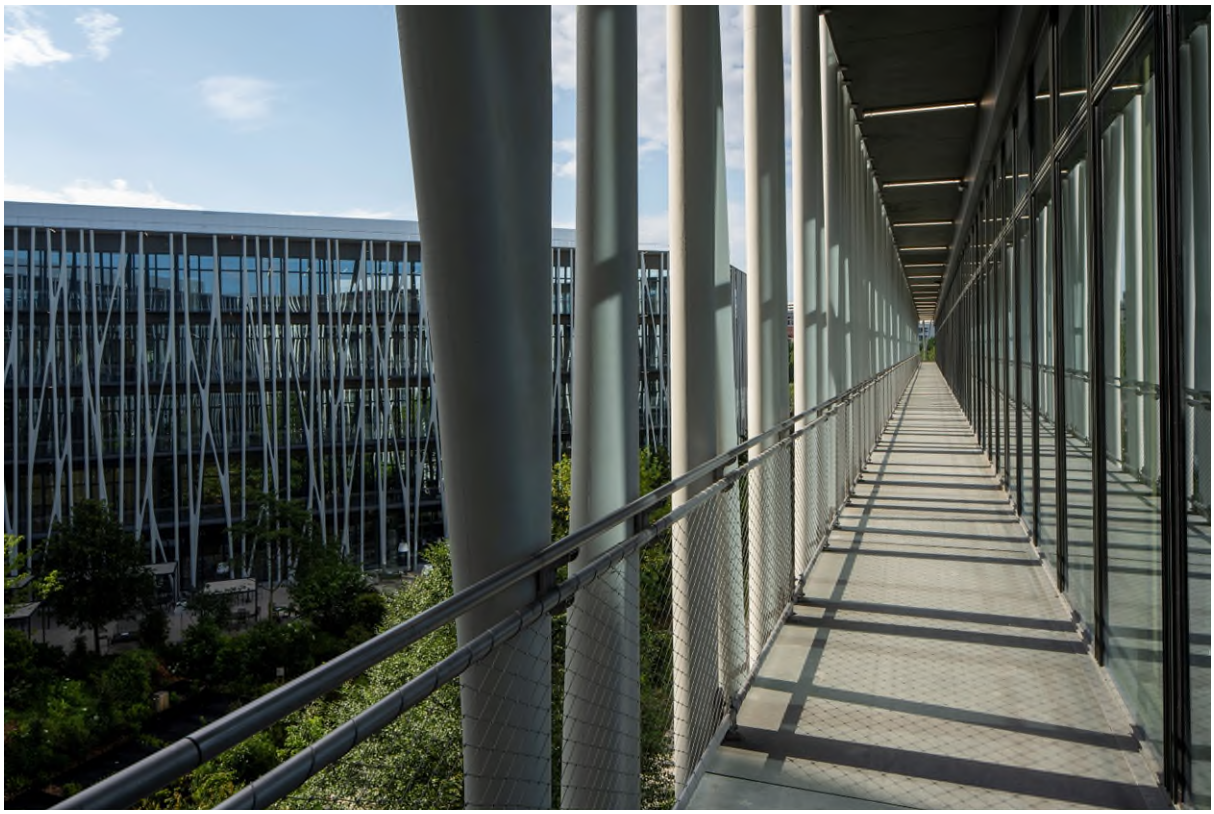

Figure 4

Figure 5

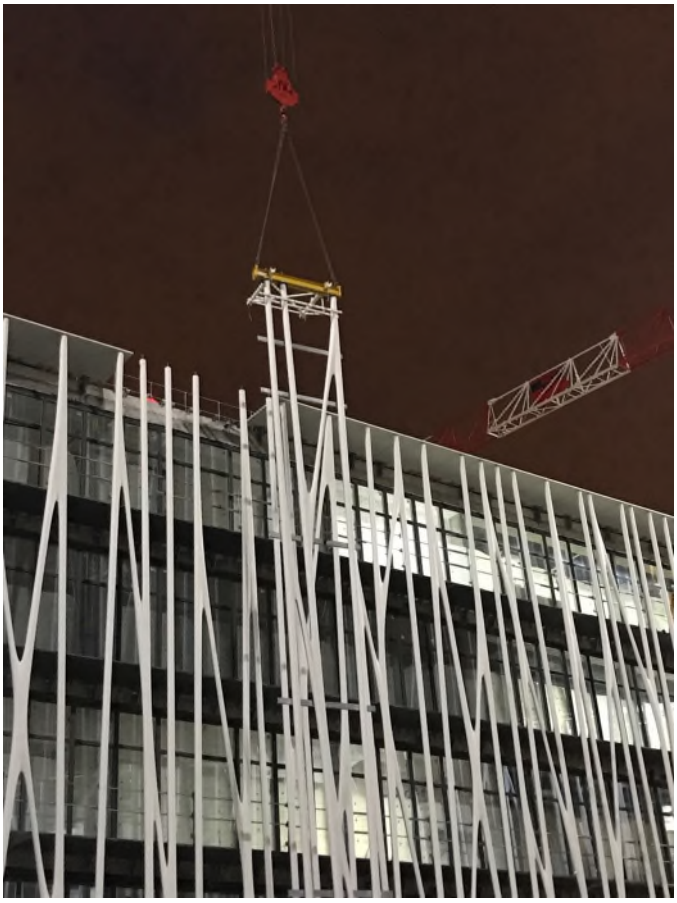

Figure 6

Figure 7

Figure 8

Additional videos :

Building works:
https://youtu.be/isCIfbtrAfc

Rudy Ricciotti's presentation:
https://www.le19m.fr/le-batiment