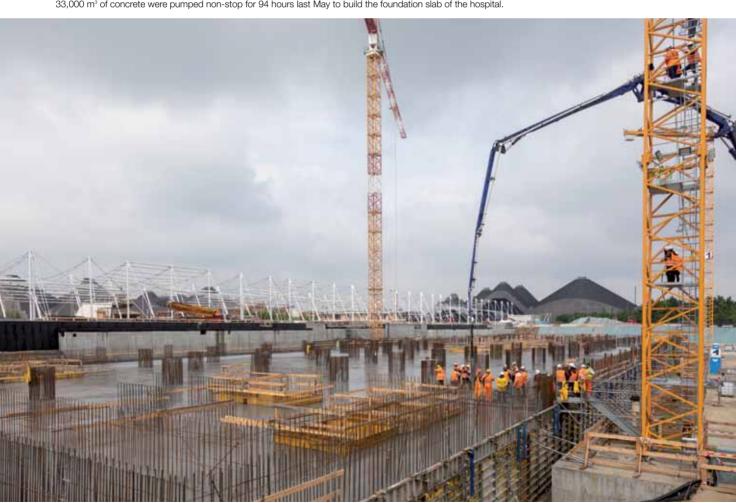






33,000 m³ of concrete were pumped non-stop for 94 hours last May to build the foundation slab of the hospital.





A special, bespoke concrete was designed for the pour. The new Galeazzi Orthopaedics Institute is being constructed in the former Expo area in Milan.

## A TEAM EFFORT FOR MADE-TO-**MEASURE CONCRETE**

Mapei was commissioned by the Works Direction to use its mobile laboratories to take samples and carry out tests on the fresh concrete (slump-flow, J-ring, V-funnel) and to assist during the various preliminary phases prior to carrying out the pour: the design stage, development of the right mix-design, organisation of site logistics, defining the testing schedule and acceptance criteria and monitoring of the concrete after it had been placed.

A special, bespoke concrete was designed for the massive concrete casting which had been carefully developed and modelled using analytical tools to verify its behaviour in terms of temperature trends and rheological characteristics.

Unical Technical Services Department designed the mix so that, once all the components had been charged into the various mixing units, the preparation phase could be completed, and the concrete could be checked when it arrived on site. Two check-points were set up on site and, when the concrete was delivered, staff from the Unical Technical Services Department checked each mixer truck to make sure each batch complied with the specified rheological properties.

DYNAMON XTEND W500 N was used to achieve the results required, an acrylic super-plasticiser for concrete of the latest generation, specifically formulated to mix concrete with a low water/ cement ratio and a good maintenance of workability.

Thanks to its special, innovative formulation, DYNAMON XTEND W500 N is an efficient agent used to disperse cement particles, so that the amount of water required for mixing is considerably reduced.

Compared with normal concrete without an admixture, DYNAMON XTEND W500 N allows to design concrete mixes with more than 20% less water, a good workability time, and negligible loss in workability while being transported and unloaded on site.

This admixture was used together with DYNAMON EW, an admixture based on modified acrylic polymer that allows to extend the workability of concrete for extended periods, and MAPETARD, a liquid set-retarding admixture for concrete with low slump loss.

TECHNICAL DATA Galeazzi Orthopaedics Institute, Milan (Italy) **Period of construction:** 2019 and on-going

Period of the intervention:

Intervention by Mapei:

supplying admixtures for concrete

Client: Real Estate Gruppo Ospedaliero San Donato Design: Binini Partners

Architects

Contractor: Edile Engineering

& Construction SpA

Concrete supplier: Unical SpA

## Mapei coordinators:

Massimiliano Nicastro. Andrea Siboni, Pietro Lattarulo, Mapei SpA (Italy)

## **MAPEI PRODUCTS**

Admixtures for concrete: Dynamon Xtend W500 N, Dynamon EW, Mapetard

For further information on products visit www.mapei.com