

The Shard

Admixtures assist in record-breaking concrete pour



Our reference in London (United Kingdom): The Shard

The background:

The Shard is a futuristic, inspirational mixed-use urban village concept tower designed by architect Renzo Piano. Adjacent to London's busiest strategic transport hub at London Bridge, the Shard is the tallest building in Western Europe, standing at 310 metres.

The structure's core was slip-formed in reinforced concrete and progressed at an impressive rate of three metres a day whilst the basement levels were built top down simultaneously.

The challenge:

Key requirements needed for the concrete on this project were quality of finish and speed of curing to support fast-track working without sacrificing other performance properties.

A massive continuous concrete pour was planned as part of the construction of the three-floor basement box, which had a depth of 13.3 metres and required a total volume of concrete of 15,000m³.

Project:

The Shard

Location:

London

Main contractor:

Byrne Bros

Technical consultants:

OTB Engineering

Concrete producer:

London Concrete

Market sector:

Ready Mixed Concrete

Products used:

MasterGlenium SKY 569

MasterSet RT 100

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Our solution

Our experts from Master Builders Solutions worked with technical consultant OTB Engineering to supply admixtures for the concrete being used in the structure's core and basement levels to ensure consistent strength, quality and speed of cure. This resulted in the development of a new product, MasterGlenium SKY 569, with The Shard project in mind.

MasterGlenium SKY 569 is based on Master Builders Solutions Total Performance Control concept, developed to ensure that ready-mix producers, contractors and engineers achieve a concrete that is of the same high quality as originally specified, starting from production at the batching plant, to delivery and application into place, followed by the hardening process. Utilising Rheodynamic concrete technology, it provides a concrete mix with exceptional placing characteristics and accelerated cement hydration for early strength development and high-quality concrete.

The customers benefit

- Quality of finish.
- Speed of curing to support fast-track working.
- The record-breaking concrete pour for the basement's construction, the largest UK continuous concrete pour to date, started at 5 pm on Friday 16th April 2010 and went on until 4 am on Sunday 18th April.
- The programmed time had been 36 hours for 5,000 m³ of concrete, using four concrete pumps.

Project facts at a glance

- The total volume of Master Builders Solutions admixtures used in the pour was 11,000 litres of MasterGlenium SKY 569 and 5,000 litres of MasterSet RT 100.
- Previously, the UK's largest continuous concrete pour from a ready mix supplier was 4,800 m³ (at the new Wembley Stadium).