

Project:

The Shard

Location:

London, England

Project completed:

2012

Client:

MACE

Architect:

Renzo Piano

Contractor:

Byrne Bros

Technical Consultants:

OTB Engineering

Concrete Producer:

London Concrete

Market sector:

Buildings

Products used:

*MasterGlenium SKY 569,
MasterSet RT 100*

Sales contact:

*Brian Williams
brian.d.williams@basf.com*

The Shard

BASF assists record-breaking concrete pour



The Shard, London

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.

Contact:

*BASF plc,
Construction Chemicals,
Earl Road, Cheadle Hulme,
Cheadle, Cheshire,
SK8 6QG, United Kingdom*

*T: 0044 161 485 6222
F: 0044 161 488 5220*

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Our solution

Our experts from BASF Construction Chemicals 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 BASF's 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.

Benefits to the customer

- Quality of finish.
- Speed of curing to support fast-track working.

Projects facts at a glance

- 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.
- The actual placement time for 5480 m³ was 35 hours, beating the schedule both on time and volume.
- The total volume of BASF admixtures used in the pour was 11,000 litres of MasterGlenium SKY 569 and 5,000 liters 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).

Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF's expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry.

The know-how and experience of a global community of BASF construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global BASF technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts, performance flooring solutions.

Further information is available at

www.master-builders-solutions.basf.co.uk