The background

Britain’s highest moving observation tower, the British Airways i360, is under construction on the site of Brighton’s West Pier.

The project has been created by London Eye architects Marks Barfield with the Main contractor being Hollandia Infra BV and JT Mackley providing Project Management.

The tower, manufactured by POMA, will be 162m high and will carry an observation tower that will stand on the main Brighton seafront offering a 26-mile view. There will also be a ground floor development including offices, hospitality suits and shops.

The challenge

The Dudman Group was contracted to provide the concrete for the foundations of the i360 Tower.

The admixture utilised in the concrete (MasterGlenium 123) had to produce a steady slump loss and reliable strength development.

As the pours took place in summer, slump retention was critical to the contract.
Our solution

The concrete supplied by the Dudman Group Ready Mix used MasterGlenium 123, an innovative versatile admixture based on third-generation polycarboxylic ether (PCE) polymers. Due to the potential concern of heat development (mass concrete), 50% GGBS was utilised.

MasterGlenium 123 is specially engineered for the ready-mixed concrete market to replace both a lignosulphonate based water reducer and a superplasticizer. Its configuration allows it to perform as a multi-functional admixture; it is possible to obtain a high-quality concrete mix with good strength development and extended workability without delayed setting characteristics.

The mass pours were shared with another concrete supplier using a lignosulphonate, Hanson, with concrete being supplied from the Dudman Group’s Shoreham and Chichester depots.

Benefits to the customer

- Concrete was pumped at 100m³ - 120m³ per hour
- Good early and late strengths achieved
- Minimum water/cement ratio was maintained

Projects facts at a glance

- C28/35
- Minimum cement content - 320 kg/m³
- Maximum cement content - 0.55
- Two-layer base pours of 1200m³ and 600m³
- The combination of PCE and lignosulphonate provided by MasterGleniniu 123 allowed the required performance characteristics to be achieved.
- Foundation pour for the i360 Tower, which will be the UK’s highest observation tower, standing at 162 metres high.

Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF’s expertise together to create chemical solutions for the 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