

# Library of Birmingham

## Concrete admixtures used in construction of a new Library



Our reference in West Midlands (United Kingdom): Library of Birmingham

### The background

The Library of Birmingham is a key component of Birmingham City Council's Big City Plan to regenerate the city centre. The new library acts as a hub for the region and an engine for both knowledge and creative economies. This major cultural destination is a landmark in the design of 21st Century libraries.

Low carbon technology for heating and cooling and low energy lighting and water conservation systems are just some of its environmentally friendly features included to help the building achieve a BREEAM excellent rating.

### The challenge

High strength concrete (100 N/mm<sup>2</sup>), with extended workability characteristics, required for the central columns.

### Project:

Library of Birmingham

### Location:

West Midlands

### Client:

US Government

### Main contractor:

Carillion

### Concrete producer:

Bardon Concrete

### Market sector:

Ready-Mixed Concrete

### Products used:

MasterGlenium SKY 569

MasterPozzolith 324N

### Contact:

Andrew Barlow

Phone: +44 (0) 161 727 6300

[andrew.barlow@masterbuilders.com](mailto:andrew.barlow@masterbuilders.com)

[www.master-builders-solutions.com](http://www.master-builders-solutions.com)



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### Our solution

Master Builders Solutions contributed to this iconic building, supplying its MasterGlenium SKY 569 admixture to the mix design for the high-strength concrete used in the building's central columns.

MasterGlenium SKY 569 is an innovative third-generation superplasticizer based on polycarboxylic ether (PCE) polymers. Its specially engineered for Ready-Mixed Concrete and allows its delayed adsorption onto the cement particles, dispersing them efficiently.

Using MasterGlenium SKY 569, it is possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics.

MasterPozzolith 324N from Master Builders Solutions was also used to good effect at the Library of Birmingham. This cost-effective, water-reducing plasticizer based on lignosulphonate disperses and deflocculates the cement particles within a concrete mix. It significantly improves the workability and cohesive properties of a concrete, enabling economies in mix designs to be used.



### The customers benefit

- High-strength concrete in building's central columns.
- Achieved BREEAM excellent rating.
- Concrete with accelerated strength development
- Concrete with extended workability, without delayed setting characteristics

### Project facts at a glance

- Economies in mix designs achieved.
- Achieved BREEAM excellent rating.
- MasterGlenium SKY 569: High range water reducing admixture for concrete
- MasterPozzolith 324N: Water reducing plasticizing admixture for concrete