

Jobreport

High quality concrete for Gateway Gardens



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Situation

Dyckerhoff GmbH belongs to the Italian group Buzzi Unicem and currently employs about 11,000 people in more than eleven countries at locations worldwide. Dyckerhoff is an international producer of cement and ready-mixed concrete. In Frankfurt am Main, Germany a new district - Gateway Gardens - is to be created. After its completion about 18,000 people will work there.

Task

The project was launched at the beginning of August 2016 and was part of the Frankfurt RheinMain infrastructure development program. The Gateway Gardens project area was connected to the local public rail network by the construction of a new four kilometers long city rail line. Half of the new line runs underground in a double-track tunnel structure. The new city rail station is also underground. Dyckerhoff supplied the required concrete for the construction of this city rail section, including the station.

Dyckerhoff needed a high-performance mixing plant to ensure a reliable supply of concrete to the construction site during the construction period of three years. Due to the different conditions and environmental factors on site, several types of concrete were required for the individual construction sections. Essentially, the following concrete types were planned: bored pile concrete for securing the excavation pit, underwater concrete or waterproof concrete to ensure sealing and for the construction of the base (foundation) as well as polypropylene fibre concrete to meet the fire protection requirements in the area of the tunnel walls.

Solution

In discussions with the customer, the Liebherr Mobilmix 3.5-C in container design proved to be the ideal solution for the planned construction project. The Mobilmix 3.5-C offers the great advantage that it is ideally suited for quick installation and rapid relocation in temporary construction projects thanks to its container construction and mounting on steel foundations. The plant can be moved within four days.

The Mobilmix 3.5-C is equipped with a robust and reliable Liebherr DW 3.5 twin-shaft mixer. The DW 3.5 enables optimum concrete homogeneity thanks to the three-dimensional mixing principle. In addition, the Liebherr twin-shaft mixer is especially useful for short-term recipe changes. As there are only a few interfering edges in the mixing trough, hardly any residual material remains. The Mobilmix 3.5-C can theoretically produce up to 150 m³ of concrete per hour, and as a twin plant even up to 300 m³.

The plant is operated intuitively via Liebherr's own Litronic-MPS control system. Thanks to the already integrated isolation in the plant, the Mobilmix 3.5-C is also optimally equipped for winter operation.

In addition, all components are optimally accessible for service work thanks to the generous access ladders and platforms, and offer sufficient space for tools and working equipment.

Technical data	Mobilmix 3.5-C
Theoretical discharge output in compacted mixed concrete	150 m ³ /h
Mixer type	DW 3.5 (twin-shaft mixer)
Max. aggregate storage capacity	600 m ³
Feeding	Skip
Control system	Litronic-MPS
Number of transport units container	approx. 10 - 14

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Liebherr-Mischtechnik GmbH

Postfach 145, 88423 Bad Schussenried, Germany
 Tel: +49 7583 949-0, Fax: +49 7583 949-396
 www.liebherr.com, E-Mail: info.lmt@liebherr.com