

Elbphilharmonie: thirty customized concrete mixes for Hamburg's new cultural landmark

When Hamburg's new Elbphilharmonie opens its doors on January 11, it will be among the world's leading concert venues, thanks to its innovative architecture and outstanding acoustics. This unique project includes thirty different types of high-quality concrete made by LafargeHolcim to meet the architects' aesthetic and technical expectations. The Group was involved in the planning 12 months before construction began in 2007 in order to share its vast experience in the delivery of challenging projects such as this one.

Designed by Swiss architects Herzog & de Meuron, the plans for the building called for a light-colored concrete which was produced by LafargeHolcim with a specific blast-furnace cement and using high-quality round gravel instead of crushed stone to create exquisite surface quality while reducing dust formation and improving pumpability, particularly important for stretches that exceeded 100 meters. Other concrete mixes were designed to deliver the required strength, consistency, setting properties and chemical resistance for each part of the complex design, including the building's load bearing structural pillars which are made out of a particularly high-performance concrete.



Sophisticated logistics

A total of 63,000 cubic meters of concrete were delivered to the project by a consortium led by LafargeHolcim's German subsidiary, Holcim Deutschland.

Located at a narrow point on the Elbe River, the construction site required sophisticated logistics to guarantee reliable delivery in the crowded inner city. LafargeHolcim installed a temporary ready-mix concrete plant one kilometer away from the site. Using state-of-the-art IT systems to control production and scheduling, deliveries were made around the clock, including at night and on weekends.

Extensive experience

The Elbphilharmonie demonstrates LafargeHolcim's ability to provide solutions for iconic projects around the world including: the Philharmonie de Paris by Jean Nouvel; the National Museum of the American Indian in Washington, D.C.; and the Museum of Tomorrow in Rio de Janeiro, designed by Santiago Calatrava.

Facts & figures about the Elbe Philharmonic Hall:

Start of construction: April 2007

Architects: Herzog & de Meuron

Total cost: EUR 865 million

Gross floor area of the entire building: approx. 120,000 square meters

Total weight of the house: approx. 200,000 tons

Two concert halls for 2,100 and 550 people

Expected number of visitors per year: more than 1.5 million

Expected number of concerts/events: 430 plus 1,500 educational events

Apartments: 44

Hotel rooms and suites: 244

Further pictures available on request.

About LafargeHolcim

With a well-balanced presence in 90 countries and a focus on cement, aggregates and concrete, LafargeHolcim (SIX Swiss Exchange, Euronext Paris: LHN) is the world leader in the building materials industry. The Group has 100,000 employees around the world and combined net sales of CHF 29.5 billion in 2015. LafargeHolcim is the industry benchmark in R&D and serves from the individual homebuilder to the largest and most complex project with the widest range of value-adding products, innovative services and comprehensive building solutions. With a commitment to drive sustainable solutions for better building and infrastructure and to contribute to a higher quality of life, the Group is best positioned to meet the challenges of increasing urbanization.

More information is available on www.lafargeholcim.com

About LafargeHolcim in Germany

In Germany, LafargeHolcim employs around 2,200 people working at 150 sites in 13 German federal states. The Group is present through Holcim Deutschland and Holcim Süddeutschland. In its German markets, LafargeHolcim is one of the largest manufacturers of building materials. The Group's core business includes the production and sale of cement and special binding agents, aggregates, ready-mix concrete, and precast concrete parts, supplemented by services in research & development, logistics, and export. The Group's German companies have contributed to landmark projects such as the Elbe tunnel (Hamburg), Nord Stream: two 1,224-kilometer natural gas pipelines through the Baltic Sea (Russia - Mecklenburg-Vorpommern), the newly constructed Schierstein Bridge (Hesse/Rhineland-Palatinate), the Vodafone Germany headquarters (Düsseldorf), and the construction of the highway A7 (Schleswig-Holstein).

More information is available on www.holcim.de