



## News Release

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### **Master Builders Solutions<sup>®</sup> concrete admixtures meet highest esthetic demands for new theater building in Strasbourg**

- **MasterGlenium SKY and MasterPolyheed plasticizers ensure optimum viscosity and consistency retention of the concrete**
- **MasterColor facilitates brilliant, deep-black facade**
- **MasterPel prevents efflorescence in manufactured concrete products and ensures durable esthetics and weather resistance**

The newly constructed Maillon Theater in Strasbourg, France, is set to open its doors in autumn this year. Concrete admixtures from Master Builders Solutions<sup>®</sup> have contributed substantially to the ‘look’ of the new building as well as its durability, whilst also ensuring a straightforward construction process in view of a challenging formwork configuration.

“Using MasterPolyheed 520 and MasterGlenium SKY 841 plasticizers provided all of the 1,700m<sup>3</sup> of concrete used with excellent workability and flowability,” says Dominique Cuadras, responsible at BASF for Master Builders Solutions concrete admixtures in eastern France. “This combination served to significantly reduce the water content of the concrete mix, ensured fluid and uniform consistency and ideal viscosity properties. The emulsion effect could be minimized as well, preventing blowholes and undesired streaks.”

## **Challenging formwork configuration**

The formwork-based in-situ placement of the concrete for the large facade elements presented one of the major challenges of the project. Set up vertically, one on top of the other, the formwork segments reach a height of 14.5 meters, at a thickness of only 10 to 40 centimeters.

Each facade element was cast using 45 to 65m<sup>3</sup> of black concrete. “While filling the formwork with concrete, speed was essential,” notes Alain Albizati, managing director of Albizzati, the project contractor. “The concrete was open for only 2 hours, and any delays in pouring schedule involved the risk of creating excess pressure inside the formwork and, as a worst-case scenario, having to re-start the entire concreting process. Thus, excellent viscosity was a vital prerequisite for concreting.” A customized placing technique was employed to obtain a particularly uniform distribution of the concrete: The concrete was placed using a sacrificial tremie pipe with hatches along its entire length that opened one after the other, triggered by the freshly poured concrete as it rises within the formwork. This technique ensures extremely uniform concrete placement without any fouling of the formwork.

## **Black as design element**

Designed as a ‘black box’, the building derives its characteristic esthetics from the deep black color, employed by French-Italian architects LAN (Local Architecture Network) as a crucial design element. This is why the MasterColor 100 Noir Intense additive – characterized, in contrast to conventional black concrete pigments, by its particular intensity and brilliance – was selected. The effect was increased by using MasterPel 795, which not only further enhances color brilliance but also prevents lime efflorescence. “MasterPel prevents the deposition of calcium carbonate on the surface of concrete elements,” explains BASF engineer Michael Nowak. “This, in turn, prevents water from penetrating the concrete surface and so increases weather and freeze/thaw resistance.” In order to obtain the best-possible protective effect, the Master Builders Solutions experts also used the MasterPel 300 admixture. Nowak: “MasterPel 300 makes surfaces water and oil repellent and prevents efflorescence. It also intensifies colors, facilitating the deep black appearance of the facade. Francisco Martinez, architect with LAN and responsible for on-site execution, considers the color as an important design element of the building: “Black provides objects with an abstract quality. Using the products from

Master Builders Solutions enabled us to obtain the exact color we intended and a brilliance that is compelling and will remain so for a long time.”

Situated in Strasbourg’s Wacken district and only a short distance from the European Parliament, the new theater building provides two auditoriums for a total audience of 950 and an overall floor space of 6,700m<sup>2</sup>. Budgeted at €27.5 million, construction began in October 2016.

For more details on the products of Master Builders Solutions, please visit: [www.master-builders-solutions.basf.com](http://www.master-builders-solutions.basf.com)

Success stories of the Master Builders Solutions sustainability campaign can be found at: [www.sustainability.master-builders-solutions.basf.com/en](http://www.sustainability.master-builders-solutions.basf.com/en)

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The Construction Chemicals division’s approximately 7,000 employees form a global community of building experts. To solve our customers’ specific construction challenges from conception through to completion of a project, we draw on our specialist know-how, regional expertise and the experience gained in countless constructions projects worldwide. We leverage global BASF technologies and our in-depth knowledge of local building needs to develop innovations that help make our customers more successful and drive sustainable construction.

The division operates production sites and sales offices in more than 60 countries and achieved sales of about €2.5 billion in 2018.

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