

News Release



Top performance with Master Builders Solutions®

- **The broad product portfolio of Master Builders Solutions proves itself in stadium construction**
- **Concrete admixtures and waterproofing materials deliver optimum results even under time pressure**
- **Successful project references throughout Europe**

Sports stadiums are major construction projects that normally need to be completed under considerable pressure of time and pose a variety of challenges. “These include the concreting of large areas in city centers, the harmonization of design and safety standards and the construction of grandstands, roofs and parking areas that can withstand wind and weather”, explains Dr. Michael Fischer, responsible at BASF for regional market management for concrete

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150 years

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additives in Europe. “These challenges can be mastered extremely effectively using the broad product portfolio and flexible solutions of Master Builders Solutions.” This has recently been demonstrated by projects throughout Europe. Projects completed using these solutions include the Warsaw National Stadium, the Aviva Stadium in Dublin and the San Mamés football stadium in Bilbao, northern Spain. These stadiums all offer seating for more than 50,000 spectators at sports and cultural events. In addition, for the current construction of the Allianz Stadium in Vienna precast concrete from Master Builders Solutions was used.

Face concrete for nine kilometers of grandstands

Work on the construction of the Allianz Stadium in Vienna started in February 2015. The new stadium, which is to be ready for the 2016/17 season, is to offer space for more than 24,000 spectators. Concrete admixtures from Master Builders Solutions were used for the pre-fabricated concrete components of the nine kilometers of grandstands. This project called for a self-compacting concrete with high segregation resistance. For this reason, the experts from Applications Technology optimized the concrete formulation with MasterGlenium ACE 430. This concrete admixture promotes the fine dispersion of the cement and is therefore suitable for the production of self-compacting concrete. “This type of concrete is especially economical as faster construction reduces time and energy requirements and also means that less personnel is required”, says Thomas Strobl, Technical Services Admixtures. “Deadlines can be met reliably and the construction progress becomes more predictable.”

Appearance was a key factor for the construction of the grandstands. The exposed concrete surfaces were to be free from air inclusions and pores and to show uniform coloring. These objectives were achieved thanks to the use of MasterFinish DF 370. During concrete mixing and placing, this product functions as a “de-aerator”, preventing air bubbles forming on the shuttered concrete surfaces. As a result, it is possible to produce exposed surfaces without pores.

Concrete construction in all weather conditions

The Warsaw National Stadium had to be completed to a tight time schedule as it was needed for the 2012 European Football Championships. No significant interruptions were scheduled and 220,000 m³ of concrete had to be placed at high and low temperatures. Concrete admixtures were required to ensure homogeneous consistency in different weather conditions. The ideal solution was provided by water reducing admixtures from the MasterGlenium series in combination with MasterPozzolith for high ambient temperatures. These products ensured optimum concrete quality in all weather conditions.

A solution package from a single source

The objective in the construction of the San Mamés Stadium was to involve as few suppliers as possible in order to minimize the complexity of the project. Experts from Master Builders Solutions provided a complete solution package ranging from concrete admixtures to waterproofing products. They prepared a detailed manual for the use of these products, which simplified construction work and ensured completion on schedule in August 2014. Concrete plasticizers from the MasterGlenium SKY series ensured smooth and trouble-free concreting. The strong point of this product is the precise adjustment of concrete properties and the ability to maintain workability up to installation on site. The bleachers were waterproofed with MasterSeal, an easy-to-apply membrane with high elasticity. The membrane features good crack bridging properties and prevents water from entering the structure.

A stadium with a long history

Time was also of the essence for work on the Aviva Stadium in Dublin: as the world's oldest rugby stadium it is located in a quiet residential district, the construction of the new stadium was to be completed as rapidly as possible without any adverse effects on local residents. It was intended to use waterproof concrete for the northern stand. A MasterPel admixture was put to good use in order to obtain water-repellent properties. Together with MasterGlenium as a plasticizer, this product ensures a surface with strong, durable hydrophobic properties. Concrete pores are reduced and the

remaining pores received durable water-repellent properties.

Throughout Europe, the broad Master Builders Solutions product portfolio has proven to be beneficial for complex projects such as the construction of stadiums. “Customers benefit from the broad experience and the connectedness of our experts in Europe and they receive a comprehensive package of services and intensive advice”, says Michael Fischer. “This simplifies the construction process and ensures timely completion even of time-critical projects.”

For further information on this and other innovative BASF products for the construction industry, please go to www.master-builders-solutions.basf.co.uk.

Master Builders Solutions from BASF

Under the Master Builders Solutions® brand, BASF bundles its advanced chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than 100 years in the construction industry. The comprehensive portfolio under the brand encompasses concrete admixtures, form release agents, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, repair and protection solutions, performance grouts, and performance flooring solutions.

Master Builders Solutions is backed by a global community of BASF construction experts. To solve our customers' specific construction challenges, we combine the suitable elements of our portfolio, our know-how across areas of expertise and regions, and draw on the experience gained in 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 our customers more successful and drive sustainable construction.

About the Construction Chemicals division

BASF's Construction Chemicals division offers advanced chemicals solutions for new construction, maintenance, repair and renovation of structures: Our comprehensive portfolio encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing systems, sealants, concrete repair & protection systems, performance grouts, performance flooring systems, tile fixing systems, expansion control systems and wood protection solutions.

The Construction Chemicals division's about 5,400 employees form a global community of construction experts. To solve our customers' specific construction

challenges from conception through to completion of a project, we combine our know-how across areas of expertise and regions and draw on the experience gained in 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 our customers more successful and drive sustainable construction.

The division operates production sites and sales centers in more than 50 countries and achieved sales of about €2.1 billion in 2014.

About BASF

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of over €74 billion in 2014 and around 113,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at www.basf.com.