

Press Release



MasterFlow 9500 for offshore wind turbines achieves DNV GL Type Approval certificate

- **Tested and approved to the highest standards applicable in the industry**
- **Higher reliability and significant cost reduction for installation and operation of offshore wind farms**

MasterFlow 9500 from Master Builders Solutions by BASF is the first product of its kind to receive a DNV GL (Det Norske Veritas Germanischer Lloyd) certificate for Offshore Concrete Structures. The Type Approval Certificate issued by the internationally acknowledged test and certification body, which specializes in oil, gas and maritime services as well as in energy and sustainability, officially confirms the quality of the offshore performance grout.

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“Being the first to receive this certificate feels like having received an award”, says Luc Westhof, global key account manager wind turbine grouts at BASF. “The certificate assures that MasterFlow 9500 has been developed, tested and produced to the highest standards applicable in the industry, and it also guarantees maximum reliability across the entire lifetime of the offshore wind farm.”

MasterFlow 9500 is an ultra-high strength high-performance offshore grout, a so-called exa-grout, with documented fatigue performance for time saving and durably secure grouting of offshore wind turbines foundations. The fast curing feature of the grout and its tolerance to very low temperatures speeds up the installation process and prolongs the timeframe for installation.

During the certification process, experts from BASF and DNV GL were working on testing and documenting material properties, assessing quality control of relevant aspects during the manufacturing process, product application and related installation guidelines as well as quality assurance documentation. Project Manager Andreas Lervik from DNV GL confirms: “BASF has successfully completed an extensive certification program for their material MasterFlow 9500. It is considered a suitable material for use in load carrying grouted connections when applied in accordance with the approved procedures and within the stated application limitations.”

The evaluation of MasterFlow 9500 was conducted in accordance with DNV-OS-C502 (Section 9E). DNV GL implemented the certification scheme for structural grouts in this standard for Offshore Concrete Structures in September 2012 to provide a uniform approach for documenting material properties and performance for relevant applications. A detailed summary of the material properties and conclusions from the certification process of MasterFlow 9500 is stated on the DNV Type Approval Certificate (No. K-5944, issued 2014-08-05).

Faster installation, protected investment

In addition, MasterFlow 9500 also reduces the overall costs of offshore installations. The material develops a high strength very early on and can be applied at lower temperatures compared to conventional products. Considering the total cost of implementation, the time MasterFlow 9500 can save is a big factor in lowering the costs.

Also, provided the product is applied correctly, MasterFlow 9500 ensures a maintenance free connection between the tubular steel members for offshore wind turbine foundations.

“Achieving Type Approval Certification for MasterFlow 9500 provides both FoundOcean as installation specialist and its clients with increased reassurance of the performance of this material. This is extremely helpful and protects the investment in offshore wind energy”, says Andrew Venn, Marketing Director at FoundOcean, a globally active specialized supplier of offshore wind turbine installations and oil and gas platforms.

MasterFlow 9500 was recently used on the West of Duddon Sands wind farm project in the UK, where 108 monopile foundations were installed in a record breaking period of just five months. In 2013, the performance grout was used, for instance, on the Gwynt-Y-Môr project with 160 monopiles in the Irish Sea as well as in the grouting of numerous test and demonstration turbines from several manufacturers, including the world’s currently most powerful offshore turbine with a rotor diameter of 164 meters and a capacity of eight megawatts.

Master Builders Solutions from BASF

Master Builders Solutions is BASF’s brand of advanced chemical solutions for construction. The Master Builders Solutions brand is built on the experience gained from more than 100 years in the construction industry. The comprehensive portfolio under the Master Builders Solutions brand encompasses lasting solutions for new construction, maintenance, repair and renovation of structures: Concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, repair & protection solutions, performance grouts, performance flooring solutions.

The Master Builders Solutions brand is backed by a global community of BASF

construction experts. To solve our customers' specific construction challenges from conception through to completion 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.

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 5,700 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 2013.

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 about €74 billion in 2013 and over 112,000 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.