

News Release



BASF launches MasterFlow 9000® series ultra-high strength grout solutions for cost-efficient, durable wind turbines in Japan

- **Increases wind farm reliability while significantly reducing installation and operation costs**
- **Proven track record in wind energy projects globally**
- **Achieved DNV GL Type Approval Certificate for offshore wind turbine grouts**

Tokyo, Japan – July 4, 2017 – BASF today launched in Japan the MasterFlow 9000 series, a range of specially formulated grouts to deliver ultra-high strength structural stabilization and provide superior strength and precision alignment, in the most demanding environments for both on- and offshore wind turbine installations.

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Media Contacts

Chiaki Kondo
Tel: 03-3796-9885
Fax: 03-3796-4111
chiaki.kondo@basf.com

Ayako Magome
Tel: 03-3796-4867
Fax: 03-3796-4111
ayako.magome@basf.com

Compared to conventional grouting, the MasterFlow 9000 series shows excellent fatigue durability and resistance to repeated dynamic loads caused by rotational, bending and axial loads from the wind turbine.

Takahiro Ikeda, Director, Construction Chemicals, BASF Japan Ltd. said, "Wind energy is an important alternative energy source and has received great attention as a renewable energy in Japan recently. We have been working closely with wind energy specialists to make the installation and system operation of wind turbines faster, more secure and more cost-effective. Our MasterFlow 9000 series effectively handles rotational, bending, torsional and axial loads. These products are designed to withstand extremely demanding conditions, providing security, stability and alignment for a long service-life."

With excellent physical properties and a high modulus of elasticity, MasterFlow 9000 series grouts not only develop high early strength even at low temperatures but also have splendid flow properties at high temperatures. As premixed products, they are easy to handle on site, and can be prepared by adding a predetermined amount of mixing water during use. When evenly mixed, the grouts maintain flowability, are pumpable and exhibit high early strength, which shortens the overall project construction period.

Three grout solutions were introduced today in Japan:

MasterFlow 9500: An ultra-high strength grout for grouted connections used in offshore installations such as monopile / transition piece foundations, jackets, tripods and tripiles or gravity based concrete foundations.

The Type Approval Certification from DNV GL (Det Norske Veritas Germanischer Lloyd) for offshore concrete structures demonstrates high reliability for the installation and operation of an offshore wind farm.

MasterFlow 9300: an ultra-high strength wind turbine grout, based on a special cement and metallic aggregate, developed for grouting onshore wind power installations.

MasterFlow 9200: a special ultra-high strength grout exclusively developed and customized for use in onshore wind turbines manufactured by Vestas Wind Systems A/S Denmark. This product is highly compatible with the unique design and requirements of Vestas's onshore wind turbine installations.

BASF has a proven track record with the MasterFlow 9000 series wind turbine grouts, which have been installed at wind farms in Europe, Australia, South Africa, Mexico, Brazil, Chile, China, Philippines and Thailand.

"With MasterFlow 9000 series, we can help solve the current challenge facing the construction industry and facilitate the growth of sustainable energy in Japan," continued Mr. Ikeda.

BASF will showcase the MasterFlow 9000 series as sustainable solution in future at Concrete Techno Plaza, held by Japan Concrete Institute in Sendai from July 12 to July 14, 2017.

About the Construction Chemicals division

BASF's Construction Chemicals division offers advanced chemical solutions under the global umbrella brand Master Builders Solutions for the construction, maintenance, repair and renovation of structures. The brand is built on more than 100 years of experience in the construction industry. 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 joints & control systems and wood protection solutions.

The Construction Chemicals division's approximately 6,000 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 €2.3 billion in 2016.

About BASF in Japan

BASF has been a committed partner to Japan since 1888. Activities cover four business segments including chemicals, performance products, functional materials & solutions and agricultural solutions. The main production sites are in Totsuka (coatings), Chigasaki (admixtures for concrete, construction materials), Kitatone (personal care ingredients), and Yokkaichi (thermoplastic polyurethanes and polymer dispersions). Admixture plants for the Construction Chemicals division are also located nationwide. BASF maintains a strong research and development presence in Japan including the BASF Asia Composite Center, established in the Yokohama Innovation Center (engineering plastics), and the Research and Development Laboratory and Application Technology Center for Battery Materials in Amagasaki, as well as Chigasaki Technical Development Center in Kanagawa. As of the end of 2016, BASF employed 1,167 employees in Japan, and achieved sales of about €1.6 billion to customers in Japan. For further information please visit: www.basf.com/jp.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 114,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of about €58 billion in 2016. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.