

Vienna, Austria | 18 February 2016

Borealis introduces lightweight materials for composite applications and expands Fibremod™ capacity at Monza plant

Borealis, leading provider of innovative, value-creating plastics solutions, introduces a complete polypropylene (PP) portfolio for lightweight composite applications. These new polypropylene composite-based application solutions will be presented for the first time at the upcoming VDI International Conference on Plastics in Automotive Engineering taking place in Mannheim, Germany. Borealis also reports a capacity expansion of the long glass fibre reinforced polypropylene (PP-LGF) production line in Monza, Italy.

Borealis PP for composite applications: excellent mechanical properties and lighter weight for most demanding automotive parts

The necessity for vehicle weight reduction to improve fuel efficiency and thus enhance sustainability continues to grow, increasing the use of alternative, lighter materials in all areas of a car. Over the years, various materials, most commonly thermosetting polymers, have been used to replace steel and aluminium especially for high demanding structural and safety related parts. However, thermoplastic resins such as PP have been gaining in favour due to their excellent performance, easy processability and affordable costs.

With the launch of the material solutions for composite based applications, Borealis is leveraging its proprietary technologies and processes to offer a complete PP product package for advanced lightweighting of automotive parts.

Borealis PP for composite applications offers a variety of compelling benefits such as improved strength and impact performance, very good dimensional stability and low thermal expansion, as well as easier and lower energy processing compared to engineering plastics, and full recyclability.

Cultivating partnerships for material innovations

Borealis has been working closely with key value chain partners to develop materials for specific composite applications. The most promising area of development is seen to be in structural carriers, where the substitution of PP for conventional materials like steel and more expensive engineering plastics is being accelerated. In addition to collaboration with composite sheet and tape producers, to whom Borealis supplies its innovative PP resins, Borealis is in the advanced development stage in pilot projects with several Tier 1 suppliers. Working closely with Brose, the Coburg, Germany-based firm known for its innovative mechatronics systems for doors and seats as well as electric motors, Borealis has supported the engineering of a PP composite and PP short glass fibre based seat carrier solution replacing steel. Another PP composite sheet based solution is under development, this time in combination with PP-LGF, for lightweighting of door carriers. Furthermore, the collaboration with Takata, one of the world's leading suppliers of airbags, has led to the development of a next-generation airbag housing made of PP-LGF and composite sheet.

Expanding Fibremod™ capacity in Monza to meet heightened demand

As one of Borealis' most flexible specialty plants, the Monza production facility was first equipped with a Fibremod PP-LGF production line in 2013. Borealis is now expanding its total Fibremod LGF capacity to ten kilotonnes per year to follow the increased market demand for performance materials that enable weight reduction, cost-competitiveness and enhanced sustainability. The customized Fibremod PP-LGF product portfolio brings superior mechanical performance, high purity and excellent surface aspects for a wide range of applications. With the new capacity in Monza, Borealis will be able to provide further weight saving solutions with an extended product portfolio offer.

Launched in 2013, the Fibremod family of engineered short (SGF) and long (LGF) compounds is a cornerstone innovation. Fibremod PP-LGF is produced using a proprietary pultrusion technology to achieve high quality materials with excellent glass fibre impregnation, ultra-broad molecular weight distribution and increased fibre length in both pellets and final parts. The Fibremod PP-LGF also contributes to a more environment friendly production solution thanks to reduced processing temperatures, which require less energy when compared to alternatives such as engineering plastics and metal.

“While our key focus is as always on Value Creation through Innovation, our key driver in delivering lightweight solutions to our automotive customers is Fibremod,” explains Nick Kolesch, Head of Automotive Marketing at Borealis. “By launching new products like this package of PP composite application solutions and also ramping up our Fibremod capacity in Monza, we reaffirm our commitment to delivering material innovations and expanding the mutually beneficial partnerships with our customers.”

Visit Borealis and Borouge at VDI Mannheim in Mannheim, Germany, from 9-10 March at Hall 1, Stand 54 to learn more and view parts from our partners made from the new lightweight composite materials.

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About Borealis Automotive

For over 50 years, Borealis has been a leading supplier of innovative polyolefin plastic materials for engineering applications in the automotive industry. Using its unique and proprietary Borstar® technology and its Fibremod™ post-reactor technology for fibre reinforced polypropylene (PP) compounds, Borealis delivers ideal replacement solutions for conventional materials such as metal, rubber and engineering polymers. Borealis continues to discover new material solutions which help facilitate lightweight construction and thus play an important role in enhancing energy efficiency. In automotive vehicles, Borealis' leading-edge polyolefin plastic materials are used in a wide range of exterior, interior, and under-the-bonnet applications, including bumpers, body panels, trims, dashboards, door claddings, climate control and cooling systems, air intake manifolds and battery cases.

About Borealis and Borouge

Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. With headquarters in Vienna, Austria, Borealis currently employs around 6,500 and operates in over 120 countries. It generated EUR 8.3 billion in sales revenue in 2014. The International Petroleum Investment Company (IPIC) of Abu Dhabi owns 64% of the company, with the remaining 36% owned by OMV, an integrated, international oil and gas company. Borealis provides services and products to customers around the world in collaboration with Borouge, a joint venture with the Abu Dhabi National Oil Company (ADNOC).

Building on its proprietary Borstar® and Borlink™ technologies and 50 years of experience in polyolefins, Borealis and Borouge support key industries including infrastructure, automotive and advanced packaging.

The Borouge 3 plant expansion in Abu Dhabi will be fully operational in 2015. Borouge 3 will deliver an additional 2.5 million tonnes of capacity when fully ramped up, bringing the total Borouge capacity to 4.5 million tonnes. Borealis and Borouge will then have approximately 8 million tonnes of polyolefin capacity.

Borealis offers a wide range of base chemicals, including melamine, phenol, acetone, ethylene, propylene, butadiene and pygas, servicing a wide range of industries. Together with Borouge the two companies will produce approximately 6 million tonnes of Base Chemicals in 2015.

Borealis also creates real value for the agricultural industry with a large portfolio of fertilizers and technical nitrogen products. The company distributes approximately 5 million tonnes per year.

Borealis and Borouge aim to proactively benefit society by taking on real societal challenges and offering real solutions. Both companies are committed to the principles of Responsible Care®, an initiative to improve safety performance within the chemical industry, and contribute to solve the world's water and sanitation challenges through product innovation and their Water for the World™ programme.

For more information visit:

www.borealisgroup.com
www.borouge.com
www.waterfortheworld.net

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