Media Release
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Sulzer Chemtech and Borealis launch new polypropylene foam extrusion technology enabling lower cost and increased efficiency across the value chain

Sulzer Chemtech and Borealis have completed the development of an innovative process for the cost-effective extrusion of expanded polypropylene (ePP) beads.

Polypropylene (PP) is a highly effective material, offering advanced mechanical properties and being well suited for reusing and recycling. To support the large-scale adoption of ePP, Sulzer Chemtech is now launching a new and innovative production line. Developed together with raw material supplier Borealis, the resulting solution supports the end market efforts towards more circular solutions and is expected to cut manufacturing costs by up to 60%.

As opposed to conventional autoclave production methods, Sulzer Chemtech's innovative system relies on extrusion with direct gas impregnation, offering an easy to implement alternative with a quick return on investment. Foam molders, such as packaging manufacturers, can implement the compounding line to considerably reduce the costs associated with material supply, warehousing and intermediate transportation. As a result, companies can offer ePP parts at more competitive prices while supporting the adoption of easy to recycle polyolefin applications.

Additional benefits include having full control over the properties of the ePP, such as bulk density, closed cell content and bead size distribution, as well as maximum flexibility in fine-tuning the recipes. Also, the highly automatized process keeps maintenance requirements low and simplifies operations. Besides, the extruded beads can be subsequently easily processed with standard steam pressure in steam chest molding machines to obtain molded bead foam products with specific shapes. In addition, Sulzer Chemtech and Borealis are developing an alternative that can use carbon dioxide, supporting different customer needs and plant settings.

"Collaborating with an industry leader like Sulzer has been a pleasure," comments Christopher McArdle, Borealis Vice President Polyolefins Strategy & New Business Development. "Life demands progress. This innovation will further drive the adoption of our PP foam solutions, supporting the transition to a circular economy of plastics. This is how we re-invent for more sustainable living."

Torsten Wintergerste, Division President of Sulzer Chemtech, concludes: "We are extremely pleased with the advanced ePP production line that we have developed together with Borealis. The result of this

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collaboration truly attests to the extensive expertise of both companies. Using our latest solution, customers will be able to benefit from cutting-edge equipment with enhanced performance as well as high-quality PP for the production of best-in-class foams."

Photo: Sulzer Chemtech expanded polypropylene (ePP) beads
Photo: Courtesy of Sulzer

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About Borealis:
Borealis is one of the world's leading providers of advanced and circular polyolefin solutions and a European market leader in base chemicals, fertilizers and the mechanical recycling of plastics. We leverage our polymers expertise and decades of experience to offer value adding, innovative and circular material solutions for key industries. In re-inventing for more sustainable living, we build on our commitment to safety, our people and excellence as we accelerate the transformation to a circular economy and expand our geographical footprint.

With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2020, Borealis generated EUR 6.8 billion in sales revenue and a net profit of EUR 589 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures: Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with Total, based in the US).

About Sulzer:
Sulzer is a global leader in fluid engineering. We specialize in pumping, agitation, mixing, separation and application technologies for fluids of all types. Our customers benefit from our commitment to innovation, performance and quality and from our responsive network of 180 world-class manufacturing facilities and service centers across the globe. Sulzer has been headquartered in Winterthur, Switzerland, since 1834. In 2020, our 15'000 employees delivered revenues of CHF 3.3 billion. Our shares are traded on the SIX Swiss Exchange (SIX: SUN).

The Sulzer Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for petrochemicals, refining and LNG. Chemtech is also leading the way in ecological solutions such as biopolymers as well as textile and plastic recycling, contributing to a circular economy. Our product offering ranges from technology licensing to process components all the way to complete separation

process plants. Customer support ranges from engineering and field services to tray and packing installation, tower maintenance, welding and plant turnaround projects – ensuring minimal downtime.

For more information:

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