Hall 8a / Stand D08

PRESS RELEASE

Brüggemann at K2019:

For recycled and virgin polyamides:

Performance-enhancing additives to overcome boundaries

Newly developed additives from Brüggemann give polyamide compounders and processors the possibility to produce materials that exceed previous performance limits. © Brüggemann.

Heilbronn/Germany, August 2019 – At K 2019, Brüggemann (www.brueggemann.com) will present its latest developments in performance-enhancing, cost-effective additives for both virgin polyamides and polyamide recyclates. Under the motto "The decisive combination", the range of innovations extends from efficiency-enhancing flow enhancers for shorter cycle times and lower wall thicknesses, through new heat stabilizers for medium and very high temperatures, to reactive additives for the production of recyclates matching the quality of virgin material.

Flow enhancers now available for the full range of polyamides

BRÜGGOLEN® TP-P1810 allows for the first time a significant improvement in the often critical flow properties of polyphthalamides (PPA, such as PA6T, PA6T/6I, PA6T/6.6 etc.) while retaining the overall mechanical properties. Compounders and injection molders can thus significantly widen the processing window and combine high cost efficiency with application-specific optimization. For example, it is possible with BRÜGGOLEN® TP-P1810 to reliably produce and easily process compounds with very high fiber contents (e.g. 60 %). Together with BRÜGGOLEN® TP-P1507 for aliphatic polyamides (such as PA6, PA6.6, PA12 etc.), which was first introduced at K 2016, Brüggemann thus offers flow enhancers for the entire range of polyamides. Producers and processors of the corresponding compounds will benefit in particular from much shorter cycle times. Furthermore, both flow enhancers allow the production of large or complex parts with long flow paths and/or low wall thicknesses.

Heat stabilizers for all temperature ranges – from a single source

Brüggemann will underline its outstanding development expertise and its ability to offer solutions for all stabilization tasks when it presents at K 2019 several new heat stabilizers for polyamides together with its extensive current range.

- Phenolic Plus BRÜGGOLEN® TP-H1803 fills the gap in terms of price and performance between the conventional phenolic-based and the copper-based stabilizer blends. Phenolic Plus improves the long-term stability in heat aging compared with conventional systems, showing otherwise identical properties and high cost efficiency. Furthermore, the long-term stability is also extended to temperature ranges (with peaks up to 180 °C) that were before not inaccessible for phenolic systems.
- In cases where long-term resistance at elevated temperatures up to 180 °C is a priority, Brüggemann offers the new patented, high-performance, cost-effective copper iodide-based stabilizer BRÜGGOLEN® TP-H1607. Based on a new proprietary technology, its effectiveness significantly exceeds that of the traditional copper iodide/potassium iodide stabilizers without making any compromises with regard to the material properties. Consequently, low concentrations are sufficient to attain the desired effect, which is of particular advantage, for example, in E+E applications.
- With the new BRÜGGOLEN® TP-H1805, Brüggemann offers the possibility of stabilizing fiber-reinforced aliphatic polyamides for long-term use at temperatures up to 200 °C for PA 6 or up to 230 °C for PA 6.6. This enables compounders to offer tailor-made products for applications in borderline areas that were until now the preserve of polyphthalamides or other high-performance polymers such as PPS. Injection-molded parts produced with this additive – for example for air ducts and pipes in the engine compartment – offer excellent heat resistance over the entire required temperature range. Separate activation is not needed.

For optimized recyclates with the properties of virgin materials

As an established manufacturer of high-performance additives for polyamides, Brüggemann offers a broad portfolio for the recycling of these polymers. The range covers long-term stabilizers, process stabilizers, flow enhancers, reactive chain modifiers, nucleating agents and other process auxiliaries. Upcycling for high-quality recyclate applications necessitates the targeted selection and combination of these additives. Of particular importance here are reactive chain modifiers that enable the desired molecular weight and viscosity to be precisely set to suit the particular application.

- BRÜGGOLEN® M1251 (and BRÜGGOLEN® M1253, which makes for easier dosage because of the smaller pellets) compensate, through linear chain lengthening, any decline in molecular weight that has occurred during the previous use, and thus improve the mechanical properties of the recyclate to match those of virgin material.
- BRÜGGOLEN® TP-M1417 specifically shortens excessively long molecular chains of high-viscosity polyamide scrap, e.g. from extrudate, fibers or cast polyamides.

Here, only small quantities of additive and a single extrusion step are sufficient to produce high-grade recyclate that is optimally suited for injection molding and with performance properties that match those of virgin material. These chain modifiers are particularly effective in enabling secondary PA material to meet high quality specifications and, as a result, complying with an important requirement for increasing recycling quotas.

L. Brüggemann GmbH & Co. KG is a renowned manufacturer of specialty chemicals with some 200 staff. Founded in 1868, the company, headquartered in Heilbronn/Germany, specializes in developing and manufacturing of high-performance additives for engineering thermoplastics with a focus on polyamides, as well as zinc derivatives and sulfur-based reducing agents. Customers from more than 60 countries have come to value the company's flexibility and innovative product solutions, while subsidiaries in the USA and Hong Kong emphasize its international outlook. The cornerstones of corporate policy are in-house research and development activities, a consistent focus on customer requirements, and major investment in know-how and plant.

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