

Press Release 5/2013

Allround carefree package: High-tech plant for highly filled compounds

*K special: German Leistritz Extrusionstechnik GmbH and AZO GmbH + Co.
KG built a worldwide unique extrusion line together with further project partners*

Nuernberg/Germany (September 2013) – What happens, if two leading suppliers of extrusion and material handling technology get together in order to build a production plant in a combination the world has never seen before? They set new standards! The German companies Leistritz Extrusionstechnik GmbH and AZO GmbH und Co. KG gave proof of this in Nuernberg. Especially for the K Show, they built an extrusion plant for the production of highly filled compounds with up to 85% CaCo₃. Since the Leistritz ZSE MAXX extruders have a specific volume/torque ratio (OD/ID = 1.66 and 15.0 Nm/cm³) this plant not only can realize maximum throughputs, but also facilitates a very energy efficient production. Leistritz and AZO were supported by GALA Kunststoff- und Kautschukmaschinen GmbH, Maag Pump Systems AG, Reverte Mineralprodukte GmbH, Ultrapolymers Deutschland GmbH and BYK-Chemie GmbH.

“This plant is a very good example of state of the art technology,” explains Anton Fürst, Managing Director at Leistritz. “And when it comes to flexibility, it shows its well-thought-out concept.” With slight adjustments it can run various applications with e.g. talcum, titanium dioxide or barium sulphate. In the field of flame retardants, materials such as aluminium hydroxide or magnesium hydroxide can be processed.

Fruitful co-operation

Since those compounds are not only rather cost-efficient but prove to have very good mechanical properties, they have experienced a real boom lately – especially in e.g. the automotive and packaging industries or for white goods. „How-

ever, the production is very challenging for compounders," knows Anton Fürst. The transport of the material from the big bag stations/silos to the extruder plays a crucial role: This has to be done with minimum dust granting enough settling time and minimum air content in the material. „With AZO we chose a premium partner in the field of material handling," explains Fürst the collaboration. „We approached this project with the aim to show what really counts in order to guarantee stable production conditions and exact reproducibility: the combination of proper equipment and vast know how."

Competence in detail

A particular focus in this process was paid to the stable feeding of the dosing units, which is done by means of pneumatic suction conveyors. The collective feeding system used here, is designed in a very energy efficient way and thus, works with optimum conveying speed. If necessary, the polymer can be combined from various feeding points. Each component is sucked in according to its formula, accurately weighed and homogenously mixed by the AZO Mixomat. Colours and additives are also fed into the process directly above the extruder. Since the dosing unit is pivotable, material can be fed into the extruder from two positions.

„The art of producing highly filled compounds lies definitively in the optimum distribution of the material streams," explains Fürst. „You need proven expertise in process technology to incorporate a large quantity of filler homogenously into a polymer matrix. Particularly, one needs to control the air streams that are brought in with the material feeding." Another challenge is material moisture which can complicate the process. Therefore, the processing unit and the screw geometry have to be designed according to the task. In this plant Leistritz used a ZSE 75 MAXX twin screw extruder with a processing length of 48 L/D. Polymer, additives and calcium carbonate (provided by Ultrapolymers, Reverte and BYK) are fed into the process via the main feed opening and two side feeders. Leistritz implemented the downstream equipment with long-standing partners and designated experts – the companies Maag and GALA: gear pump screen changer and underwater pelletizer. Last but not least the pellets are gently conveyed to the filling station by means of a suction conveyor.

Live demo

Anton Fürst says, „During the K show everyone who is interested will be given the chance to assure himself of the efficiency and process stability of our plant. Because in the framework of our show program we will have several daily live link-ups with Nuernberg.“ End of November Leistritz and AZO will also have a Technology Day focusing on highly filled compounds – filled with interesting information and of course live demos of the high-tech plant.

Leistritz Extrusionstechnik GmbH at the K Show in hall 16/F22

Image:



High Tech Compounding Line in Nuernberg/Germany

Leistritz Extrusionstechnik GmbH

For almost 50 years Leistritz Extrusionstechnik GmbH with its headquarters in Nuernberg/Germany has been building twin screw extruders for the processing technology. Leistritz customers benefit from the know-how in various areas of material processing such as masterbatch, compounding, direct, lab and pharmaceutical extrusion. The company employs around 160 people worldwide and keeps subsidiaries in the US. (American Leistritz Extruder Corp.) and in China (Leistritz Machinery (Taicang) Co. Ltd.) as well as sales offices in Italy and France.

Further Information:

Leistritz Extrusionstechnik GmbH
Head of Marketing
Michael Thummert
fon +49 911/4306-550
fax +49 911/4306-400
E-Mail mthummert@leistritz.com
Internet www.leistritz-extrusion.com