Press Release

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Direct dosing of chalk supports sustainable extrusion process

Without premixing to the highly filled PVC pipe

Flexibility, process stability and minimized wear are only some of the advantages resulting from the production of PVC pipes with high filler content using the solution currently being presented by battenfeld-cincinnati. At its booth C 19 in hall 16, the extrusion specialist is showcasing the twinEX 93-34 parallel twin screw extruder model with a gravimetric dosing unit for processing up to 100 parts of chalk without premixing.

High proportions of filler chalk make PVC pipes, which are primarily used as sewer pipes, not only cheaper, but also reduce the use of fossil resources. At the K 2022, battenfeld-cincinnati is presenting the ideal solution for manufacturing PVC pipes with a high filler content. A basic PVC formulation and the filler material are fed separately to the production line. The individual components are then put together in a collection hopper and subsequently blended with each other in the cold mixer connected to it. After mixing, the finished formulation is passed on to the feed opening of the extruder via a vertical dosing unit. Both the mixing ratio and the entire material throughput are gravimetrically monitored and controlled. All containers along the chalk transport and chalk dosing line are equipped with agitators. Thus, the filler material is kept in motion along the entire route to prevent bridging. A twinEX 93-34 parallel twin screw extruder serves as processing unit for the PVC formulation. The processing unit features a specially adapted screw geometry with anti-wear protection to transport and plasticize the blend evenly and homogeneously. The advantage of this solution is its chalk content variability ranging from 30 to 100 parts, which can be easily adjusted at any time and at short notice to the formulation required for the specific product. A further benefit of direct gravimetric chalk dosing is the enormous process stability, which ensures a high-quality end product. Finally, the process eliminates the need for premixing of PVC and chalk in a heating/cooling mixer. This process change involves several benefits. Central heating/cooling mixers can be kept smaller in size, or any mixing capacities which become free can be made

available to other production lines. De-mixing during material transport can be prevented, since the filler material is fed to the production line directly after transport.

With the combination of an extruder and a gravimetric metering unit shown at the fair, solid PVC pipes with filler content can be produced using a mono-layer pipe die. For 3-layer pipes with a filled middle layer and external layers without filler content, battenfeld-cincinnati offers the appropriate three-layer pipe dies and conical co-extruders. In this way, pipes up to 400 mm in diameter can be produced economically and resource-efficiently, which of course can also be recycled after the end of their service life.

About battenfeld-cincinnati

battenfeld-cincinnati has production facilities in Bad Oeynhausen and Kempen (Germany), Vienna (Austria), Shunde (China) and McPherson, KS (USA) and is a leading manufacturer of energy-efficient, high-performance extruders and complete extrusion lines according to customers' specifications. Our customers' end products can be found in infrastructure and construction (pipe, profile, sheet), packaging (thermoforming sheet), pelletizing, as well as calandering and lamination equipment. battenfeld-cincinnati's customers benefit from an extensive global sales and service network.

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Pictures:

PR_20221019_twinEX93R-34
TwinEX 93R-34 with inline addition system