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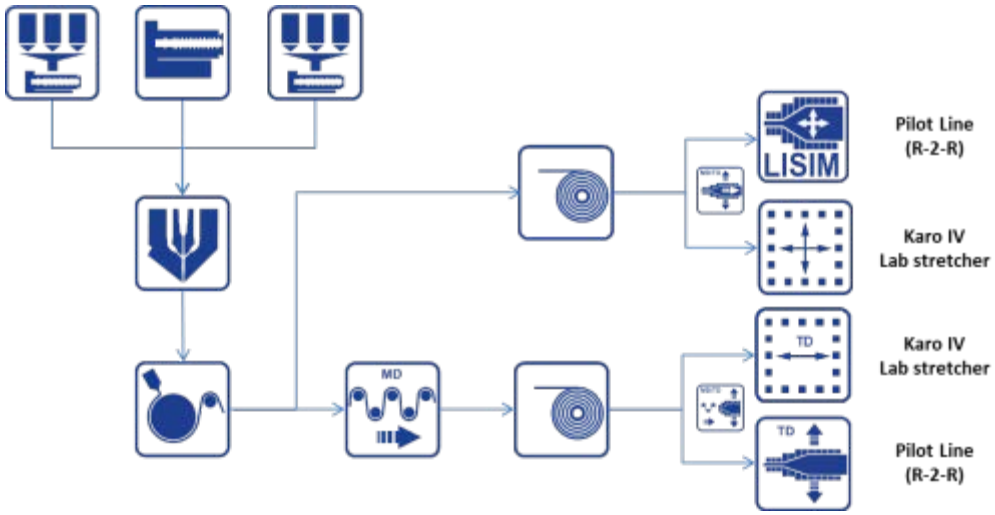
New laboratory extrusion line at Brückner's technology center

Brückner has extended the R&D platform at their technology center with a new laboratory extrusion line (LBE) in order to increase the opportunities for in-house and customer initialized developments. The LBE is specially designed for the development of new film formulations, film structures and new processing and stretching technologies in a comfortable scale. The new line consists of two twin-screw extruders and one single-screw extruder. The extrusion system is equipped with different gravimetric feeding units for powders, granulates or liquids. These extruders can be configured on demand for a single layer film extrusion or a co-extrusion with different layer structures. ABA or ABC film layer structures are possible. The extrusion die is equipped with laminar adaptors to achieve different film layer structures without time consuming modifications.

The casting unit is also especially designed to produce cast films for the biaxial stretching process with or without the water bath and various pinning possibilities. Besides the multiple extrusion possibilities, a MDO (machine direction orienter) unit is installed between the casting unit and the pull roll stand. In combination with the laboratory stretching machine KARO IV or the pilot line the new laboratory extrusion line allows to analyze the simultaneous as well as the sequential biaxial stretching processes on a lab scale with a high transferability to real production processes.

The simultaneous stretching process, which is well known as Brückner's LISIM® technology, can be analyzed in a lab scale by using the cast film of the LBE and perform the stretching in a separate step at the lab stretcher Karo IV in both directions, or in a roll-to-roll process at the pilot line LISIM® oven.

The sequential stretching process can be simulated by the same procedure, but the film is directly stretched in MD on the LBE line. All stretching possibilities are shown in the diagram below.



The LBE is designed to process all materials which are suitable for biaxial stretching. Also the new Evapore® process for producing PE-based battery separator film is implemented on this new laboratory extrusion line in order to test new recipes and process developments.

Starting from now Brückner is ready to offer this unique laboratory extrusion line as a service tool for our customers in order to analyze new film formulation or new stretching technologies for biaxial stretched films. For further information please refer to the LBE flyer or do not hesitate to contact Dr. Jan Barth (jan.barth@brueckner.com or +49 8662-639850).