

ProTec Enters Market with One-stop Shop for Customized LFT Pultrusion Lines

Published on 2016-12-30. Author : SpecialChem

BENSHEIM, Germany -- ProTec Polymer Processing has recently entered the market as one-stop shop for customized pultrusion lines for the production of high-quality long-fiber-reinforced thermoplastics (LFT). With planning, construction and commissioning coming from one hand, these lines are capable of reliably processing even difficult pairings of materials, such as carbon fibers and PP. The company provides a fully equipped, versatile pultrusion line for customer- and application-specific developments in its technology center in Bensheim.



ProTec's LFT Pultrusion Lines are Suitable for Producing High Quality Long-fibre-reinforced Pellets with Many Different Polymer Matrices and Variable Fibre Reinforcement

Versatile Technology for High Quality LFT Compounds

- ProTec's LFT technology is suitable for producing a wide range of materials comprising variable fiber reinforcement in a defined pellet length and using different polymers as the matrix.
- The lines are capable of producing LFT pellets with fiber contents of up to 65 wt. % at throughputs of up to 1,000 kg/h.
- Any conventional thermoplastics or even biopolymers such as PLA (polylactic acid) can be used as the matrix, while glass, steel, carbon or aramid fibers can be used as the reinforcing fibers.

LFTs for Automotive

In practice, LFT materials with fiber lengths of 7 mm to 25 mm are conventional. When injection molded LFT compounds with fiber reinforcement along the length of the pellets result in components which combine high strength and light weight with very good surface quality are mostly particularly required in the automotive industry. LFT pellets with a fiber length of approx. 12 mm are ideal for meeting this requirement.

A high-performance twin-screw compounding extruder is the keystone of the line, permitting highly flexible production of a broad range of individual polymer matrix formulations directly in the process. Recycled material and additional fillers may likewise be included in the material formulation. The LFT line's impregnation die, where the fiber strands are spread apart and coated with polymer melt, is designed in such a way that, even at recycled material contents of up to 10% in the melt, consistently high quality impregnation of the fiber filaments is achieved. The various different creel racks required for unwinding glass and carbon fibers in the pultrusion line are also available. The turntables with the bobbins of fibers rotate automatically in accordance with the bobbin diameter, so preventing fiber twisting during unwinding.

The system control centrally controls ProTec's LFT line and all its modules, with line speed, extruder throughput and pellet chopping length all being variably adjustable. Additional functions, located upstream or downstream depending on application, may also be integrated into the controller. These include drying, conveying, dosing and mixing of the feed components.

About ProTec Polymer Processing GmbH

ProTec Polymer Processing GmbH based in Bensheim, Germany, has been a recognized partner to plastics processing and manufacturing companies for many years. Its service portfolio includes systems for the efficient handling of plastic materials, turn-key systems for solid-state post-condensation of plastics, recycling lines as well as complete systems for producing long-fiber reinforced thermoplastics (LFT pultrusion lines). As a member of the Schoeller Group, ProTec Polymer Processing has access to a global sales and service network and has the ideal infrastructure in place to provide comprehensive on-site customer support.