

Products and systems for the plastics processing industry



## Benefit from our engineering know-how!

### We build and supply production lines and systems for plastics processing all over the world

ProTec Polymer Processing GmbH is an international one-stop shop supplier to the plastics industry with its headquarters in Bensheim, Germany and is part of the Schoeller Group which operates internationally. With our know-how and our flexible approaches, we are a leader in the areas of material handling, plastic processing, recycling and supplying

complete plants for the production of long-fiber reinforced thermoplastics (LFT-Pultrusion Lines). Our products and solutions successfully support manufacturing by plastics producers and plastics processors in the areas of injection molding, extrusion, and blow-molding.

### Fair and competent

Our engineering services cover a wide spectrum and go far beyond simply developing and implementing individual solutions for you as our customer. We consider you to be our partner. We will advise and support you right from the initial needs assessment to planning the process steps and implementing them, the design and calculation of applied processes, right up to delivery of the equipment and systems. We will assemble and commission them, and then train your staff on how to utilize the technology. Our interdisciplinary team is made up of a range of specialists with many years of experience.

Their areas of expertise complement each other perfectly and cover the whole process and added-value chain in plastics production and processing. Quality and service are important to us. That is why we are there for you at all times. We are always aiming towards continuing to develop with our partners and to create synergy effects.



### SOMOS® Material Handling for your plastics to be top quality



For the area of Material Handling, we can always offer you a suitable solution for processing your plastic bulk materials. Our SOMOS® components for conveying and drying, dosing and mixing as well as our complete systems provide high quality results.

#### Dryers and drying systems

The high powered SOMOS® drying systems meet numerous different, material-specific requirements. They are precisely set up for each different application – as individual aggregates or as systems, for small throughputs of a few kg/h up to extremely large systems with more than 1,000 kg/h. Material-specific drying processes result in high quality end products. Our portfolio ranges from SOMOS® RDX top-mounted dryers for small quantities to mobile resin dryers in the SOMOS® RDM series for medium-sized throughputs up to the SOMOS® RDT & RDC module drying systems for medium to large throughputs.

#### Intelligent dosing and mixing technology

For manufacturers, when producing high quality material mixtures, precise dosing and mixing of components are decisive quality criteria. Reproducible production of a material mixture which is homogenous and complies with the formulation requires state-of-the-art, modern intelligent systems. ProTec supplied these technologies with the dosing and mixing equipment in the SOMOS® Gramix, SOMOS® Volmix, SOMOS® Batchmix and SOMOS® MiniMix series. Depending on the task, the equipment works continuously or discontinuously, gravimetrically or volumetrically and enables throughputs of 150 g/h to 2,500 kg/h.

#### Efficient conveyors and conveying systems

The high performance SOMOS® conveyors and conveying systems made by ProTec are designed for free-flowing and dusty bulk materials in the plastics, rubber, recycling, food, chemical and pharmaceutical industries. They automatically, reliably and efficiently load bins, scales, mixers, dosing devices, drying systems, and processing machines.

#### Engineered systems – needs assessment and planning with know-how

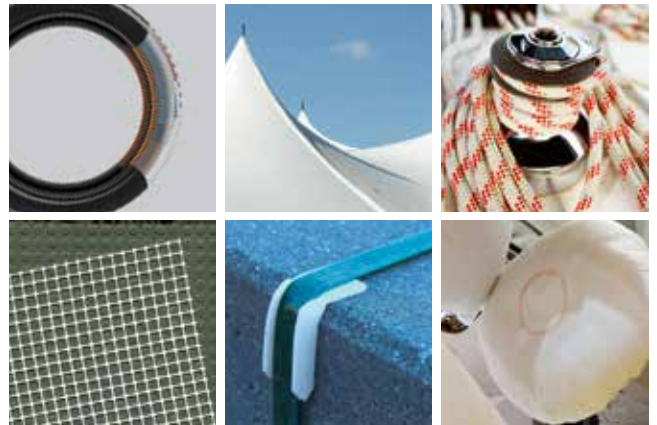
With complete engineered systems, ProTec integrates engineering know-how in material handling. Our experts design individual systems with all the necessary components and systems for plastics processing in injection molding and extrusion processes, such as completely equipping halls with a large number of processing machines for hall throughputs of more than 3 t/h. On the basis of many years of experience with components and systems installed worldwide, we ensure that special climate, geographical and energy-political aspects are taken into consideration when planning and realizing your engineered system. Intelligent SOMOS®-controllers according to industry 4.0 standard link the drying, conveying, as well as dosing and mixing components with each other.



## Material treatment with the tumble reactor from ProTec



ProTec designs and supplies innovative systems for solid state post condensation of plastics as well as complete systems for the entire von "Bottle-to-Bottle" recycling process of PET-bottle flakes – from washed PET flake to rPET resin in virgin material quality. Core system component here is the tumble reactor working in batch operation. It homogeneously mixes the charge with short process times. The IV value (intrinsic viscosity as a comparative measure for the molar mass) of polyesters (PET, PBT, PTT etc.) and of polyamides (PA6, PA66 etc.) can be selectively increased by precisely controlling the temperature, vacuum and process duration.



### The decisive advantages of our tumble reactor:

- Available in dimensions from 16 m<sup>3</sup> to 44 m<sup>3</sup>
- Lower energy consumption compared to double jacket reactors due to savings in heat transfer oil and reduced dead weight
- Optimized volume/heating surface ratio as well as improved heat transfer in the heating system lead to shorter process times
- Optimized mixing effect ensures homogeneous product quality
- Gentle product treatment
- Production flexibility (individual adjustment of viscosity for each batch possible)
- Identical, reproducible results in product quality – even with fluctuating input quality

# LFT-PULTRUSION LINES

**ProTec** Polymer Processing

Innovative solutions for lightweight parts – state-of-the-art system technology to manufacture LFT pellets and UD tapes



## LFT-Pultrusion Lines

ProTec offers complete production systems for manufacturing long-fiber reinforced thermoplastics (LFT) in pellet form and as UD tapes (unidirectionally reinforced tapes). The system works extremely flexibly and is designed for variable formulations. We deliver an LFT system design customized to meet the respective customer requirements, all from a single source – from material development, to testing and commissioning on location at the customer's premises.

## The advantages at a glance

- Standardized & customer-specific systems
- High quality fiber impregnation
- Fully automatic operation
- A wide range of Fiber-Polymer combinations possible
- Development of individual LFT formulations
- Pre-production of LFT samples
- Throughputs up to 1,000 kg/h
- Compatible with SOMOS® material handling systems
- Technical advice & support



Are you interested in receiving additional information?  
Then feel free to call us.

**Headquarters**

ProTec Polymer Processing GmbH  
Stubenwald-Allee 9  
64625 Bensheim  
Germany

**T**+49 6251 77061-0  
**F**+49 6251 77061-500  
[info@sp-protec.com](mailto:info@sp-protec.com)  
[www.sp-protec.com](http://www.sp-protec.com)

**Shanghai office**

ProTec Polymer Processing (Shanghai) Ltd.  
Room 1501, No 138 Pingxinguan Road  
20070 Shanghai  
China

**T**+ 86 21 6132-6371  
[info@sp-protec.com.cn](mailto:info@sp-protec.com.cn)