

## Rotary sheeter for extruded rubber cutting

A solution was provided by the company to a customer who needed a machine to cut .3" thick by 15" wide rubber on their extruder line. Application requirements included the ability to keep up with an extruder line speed of 45 feet/minute. Cut length was 12" - 25" with a cut accuracy of  $\pm .020$ ".

The solution was a rotary sheeter model FRC-630 cut-to-length assembly. There was a loop between the extrusion process and the sheeter. The sheeter became a slave to the process. A loop sensor monitored the presence of the loop. From the loop, the material went onto the infeed conveyor. The conveyor, along with the help of a set of dual drive rollers, indexed the material. Silicone rollers were used to minimize sticking of the material. The rollers were turned by a brushless stepper motor, providing high accuracy and low maintenance, according to the company.

The rotary cutter was designed for continuous material



throughput. Driven by a servo motor, the rotary crush cut assembly cleanly cut the material. After the rotary cutter, the material went on to a takeaway conveyor. The 8' long conveyor, positioned at the end of the cut-to-length unit, pulled the material away from the knife assembly. The assembly also included a jam sensor and a no product sensor, which would automatically shut down the unit when no product was sensed.

The unit was PLC controlled. An operator panel was provided, which included a color touch screen for easy setup and operation of the unit.

This company has over 25 years of experience developing solutions for a wide range of feeding and cutting applications. The firm is said to offer cutting edge, field proven systems and components that are easily adapted to meet the needs of the most complex applications. (Azco)

[www.azcocorp.com](http://www.azcocorp.com)

## Twin screw extruders

Twin screw extruders are used to process many thermoplastic polyurethane (TPU) formulations. TPUs range from being hard like a thermoplastic to being flexible like an elastomer, with the properties determined by the balance between the isocyanates, polyols, chain extenders and catalysts in the formulation. TPUs tend to be heat and shear sensitive, which must be accommodated in the twin screw extruder design, as well as soft and sticky, which may require special downstream system considerations. A TPU reactive extrusion system with underwater pelletization is offered by the company. Liquids can be metered separately or pre-mixed in a reaction vessel prior to the twin screw extruder to increase the residence time for the reaction. Reaction cylinders and high speed mixers for monomer mixtures and prepolymers are commonly integrated into the design. (Leistritz)

[www.leistritz-extrusion.com](http://www.leistritz-extrusion.com)

## Contaminant removal

Blown film extrusion plants can now reduce airborne contaminants by as much as 80% with a patented Saturn Evacuation System (SES) and extend cleanings from every six weeks to



quarterly, or longer, according to the company. The SES comprises a small air ring that fits any air ring or die that is constructed of aluminum and fits between the die and the primary cooling

ring. Connected to the vacuum side of the blower, the system creates a positive vacuum that draws as much as 80% of the contamination from the low-pressure zone at the die exit. (Gloucester Engineering)

[www.gloucesterengineering.com](http://www.gloucesterengineering.com)

## Tire profile extrusion

A wide range of standard and custom-designed systems related to tire profile manufacturing is provided by the company. The firm is said to be a reliable extrusion partner and source of know-how for all major tire companies, as well as a favorite choice for medium-sized and local tire producers. The company's innovative extrusion lines for tread, sidewall, innerliner, apex and other profiles can also be offered as turn-key systems, including downstream equipment and line control. Therefore, the company is said to offer the maximum benefit for its customers' needs. The company provides tire manufacturing lines, extruders, extrusion heads, profile lines and hose lines, and electrical equipment. Pictured is the Quadruplex Extrusion Head 850 in the hammerhead design with hydraulic clamping. (Troester GmbH)



[www.troester.de](http://www.troester.de)

## Extrusion forming tools

A book titled, "Design of Extrusion Forming Tools," provides detailed information on the design of extrusion forming tools. It describes the main problems to be faced when designing dies and calibrators, the most relevant polymer properties to be considered in the design process, the specific problems related to several types of conventional extrusion dies, and recent developments in the design of special dies and process modeling. It is an updated book on the subject, where each chapter is prepared by internationally recognized experts. (Smithers Rapra)

[www.smithersrapra.com](http://www.smithersrapra.com)