

Film & Sheet Extrusion

Reifenhauser and Davis Standard shared with *APN* about their latest blow film manufacturing lines that maximizes resin potential yet reduces production costs.

New extrusion models boost industry



Reifenhauser's latest FT 5-2300, a 5-layer blown film extrusion built for optimum performance

The Reifenhauser brand has been established as one of the leading line manufacturers of thermoplastic materials. With the international success of their 3-layer blown film extrusion machines over the years, the company's new 5-layer technology, called the FT 5-2300, is now making its mark in the Asia-Pacific region. Last year and in the 1st quarter of 2009, 2 machines have been handed over for production and a 3rd machine has already been delivered. With the width of 3.4 metres, this is one of the largest lines for production in the market.

The 5-layer technology allows customers to utilize the full potential of plastic resins to manufacture thermoplastic materials from polyolefin structures to engineered barrier structures. With materials ranging from cost effective, Reifenhauser's customers will achieve higher efficiencies, better tailored film properties, cost savings and an extensive broader product range. One way to increase efficiency in blown film production is to utilize the 5-layer-die-head technology paired with energy efficient drive technology and advanced thermo-management for extruders, dies and air-cooling.

The two key objectives of the FT 5-2300 are to reduce production cost per kilogram or metre square of polyolefin film structures and to open the market of barrier films and sophisticated engineered polyolefin film to customers. The machines sold are between 1700 millimetres and 2300 millimetres wide.

In relation to the impact of the current economic climate and adverse market slowdown on Reifenhauser's plans for scaling up capacities globally, Jurgen Rehkopf, Reifenhauser's (Singapore)

managing director, said that it has not dented their ambition and the company aims to emerge from this crisis stronger and better. "While the crisis is a test for many customer - supplier relationships, Reifenhauser has the financial and managerial strength to remain a strong and reliable partner throughout even harder times than now. This is one of the advantages of being a family owned company, with a committed long-standing leadership, that will not be pressured by short term shareholder expectations. With 4 new orders signed in the 2nd quarter of this year, we can clearly declare that times of crisis are also times of opportunities."

According to Rehkopf, when the global market makes a recovery, it is Reifenhauser's goal to hit the recovery running with an extended leadership position in extrusion technology. The measures undertaken for this task are cost reductions throughout the whole value and supply chain, extended research and development budgets for innovations into all fields of operation and product groups, and special after sales service programs. Further developments in the 3-layer technology have given Reifenhauser access to the high-end market of protection and masking films (a material which is very sensitive to any kinds of gels, fisheyes or other contamination in the film).

"Reifenhauser is a company with longstanding track record. We are not in this for the 100 metre sprint. This is more likely the game of fashion and consumer industries. Being a machine builder and technology partner we are more the marathon runners, but watch out for the occasional sprint!" Rehkopf affirmed.

Davis-Standard LLC recently commissioned a co-extrusion pilot line at its new 4,000 square foot blown film lab in Somerville, New Jersey, for equipment development for coextrusion film constructions and new materials. The line, available for trials, is engineered to support growing markets in stretch hood, lamination films, shipping sacks, GP film and technical films. This includes ongoing research with biodegradable films and further development of applications requiring higher rates and tighter gauge control.

According to Rick Keller, vice president of blown film for Davis-Standard Converting Systems, the line enables customers to run trials on a production-size machine with strict confidentiality.

"We designed this line to support customers who strive to bring new ideas and technologies to the marketplace. As such, we anticipate most trials will be proprietary," said Keller. "In addition to highly technical equipment capabilities, we have several degreed engineers on staff with experience in process tuning and film development. Our machine's integrated data logging simplifies trials and by using production-size equipment, any scale-up difficulties should be minimized. We're excited about the potential this line has for our customers and us."

Line components include one 100 millimetres and two 2 ½-inch (64mm) MAC extruders; gravimetric batch blending; a 12-inch (300mm) Vertex three-layer die with new IBC design; 12-inch (300mm) Wes Jet air ring; profile control; an 80-inch (2-meter) finished width, oscillating haul-off; and 1150 turret winder for films rolls up to a 30-inch (750mm) outside diameter. The Vertex die utilizes a large center hole for IBC that is capable of a 25 percent rate increase. The polymer distribution is through a binary divider network that feeds a nested spiral mandrel configuration. All distribution channels are fully circular to allow for faster purging and better flow geometry. The line is controlled by a distributed, commercially available control system employing touch-screen and graphic HMI. Full process trending complements the ability to generate full reports for customer trials.

New extrusion line for Davis-Standard

