

Making more of roll forming

Roll forming represents the most efficient technique for shaping sheet metal, at least when dealing with large areas or runs of material. Despite its multiple benefits, however, a lot of the potential inherent in the technology has gone untapped until now, believes the Formia Technology Group – which is why it has launched a major development initiative.

Roll forming is mainly used in the construction industry – in areas such as roofing, cladding, framing, and insulation – although it is very well-suited to any industry that makes use of large volumes of sheet metal. The technique requires a low labour input per square metre of metal processed, is excellent for round-the-clock operations, and can be easily integrated with other types of automated process, such as perforation, bending, or joining.

Technological and business development in the roll forming business has progressed relatively modestly over the last 10 years, however. One of the reasons for this could well be that there has been insufficient financial incentive to push the technology forward. Another reason could be that end-user industries have been seen as fragmented, rather as sharing commonalities.

The players in the field have tended to focus on closed solutions, rather than on developing concepts that cut across industry or customer boundaries. This has also resulted in relatively low capacity utilisation levels. Innovations have been thin on the ground too.

Better know-how means better business

Ensuring that well-designed products are produced to the required quality standards as cost-effectively as possible, and are delivered on-time to the right location, is in the inter-



The Formia Technology Group is focusing on bringing a new type of plant to the roll forming business.

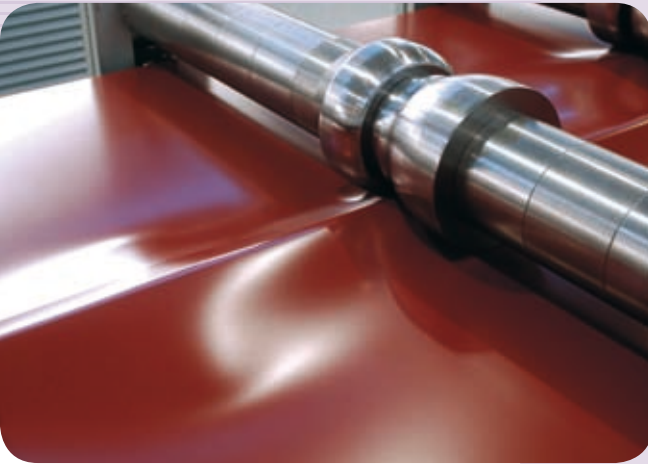
ests of everybody in the chain that extends from specifying, ordering, and producing components to supplying them. In the roll forming business, as in any other.

The Formia Technology Group, which has produced roll forming machinery for over 15 years and is one of the most well-known

companies in the field, has decided to take up this challenge – and launched a major development project to strengthen its technological advantage in 2005.

This is aimed at improving the profitability of the key users of sheet metal, such as the construction industry and civil engineer-





Although roll forming is the most efficient technique available for shaping sheet metal, developments in the field have not moved ahead very rapidly in recent years.

The needs of the construction industry have been at the heart of the Formia Technology Group's business mission since the beginning.

The company produced its first tile profile roll forming lines at the end of the 1980s, and today offers a wide range of roll forming machines and lines for roof products, as well as equipment for trapezoidal profiles, Snap-Lock products, and sheet metal flashings. Machinery for producing trapezoidal profiles for cladding walls and facades has been supplied since the early 1990s.

Frames and purlins produced using Formia Combi, Formia Frame, and Formia Purlin machinery are light and easy to install, and help simplify building site logistics.

The company delivered its first insulation panel line in 1996, and now offers a comprehensive solution for this both roof and wall panels, integrating everything from coil handling to end-product storage – and supplied as complete turnkey project deliveries.

Formia Usability Solutions focuses on eliminating bottlenecks and ensuring maximum capacity utilisation rates by improving production follow-up and analysis.



Formia's vision for the roll forming business envisages levels of efficiency and productivity that current plants simply cannot achieve.

ing companies involved in infrastructure projects, by offering more advanced technology, greater system integration, and new business models.

As part of this, Formia has signed agreements with partners in China and the US, among other countries, and developed an expert network in Finland. This has already resulted in improved output performance from roll forming lines, as well as enhanced process control and end-product design.

Key areas that have been identified for improvement include the introduction of more accurate and faster 3D computer-aided manufacturing (CAM) systems, for both roll forming machinery itself and the end-products produced on them. Work is also being done to develop the use of new 'design-type' materials and encourage their uptake, as well as develop new end-products and update existing ones.

New production control systems are also planned for enhancing the operation of

individual machines and the management of production resources – to reduce through-put times and improve capacity utilisation. Logistics systems will also be improved, and a greater emphasis given to environmentally compatible products and ensuring that the life-cycle of equipment and end-products is more in line with the requirements of sustainable development.

Ideal plants

The ultimate goal of the development process that has been set in motion by Formia and its partners is to build a new type of high-efficiency, high-tech sheet metal processing plant that offers major benefits compared to existing solutions. The aim is to offer a broader-based, solution-type offering to customers using sheet metal components as part of their own manufacturing processes or who use them as end-products.

Shifting from traditional thinking, which tends to see buying a machine as the solution

rather than buying production capability or specific production capacity, this represents a big step forward for many in the industry. Formia wants to offer its customer the type of transparent partnership where everybody wins to help this happen.

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