

Excellent News for manufacturers and developers of profiles

„Rapid Prototyping“ speeds up profile development and reduces cost.



The freedom of profile design facilitated by the roll forming process is hard to match by other sheet metal forming processes. The nature of roll forming imposes almost no restrictions onto developers of profiles. Innovative and winning solutions many times involve the use of customized profiles that are not readily available on the market. Time to market schedules usually do not have allowances for conventional development of new profiles. Designers are often forced to compromise and as a consequence, the quality of the whole design might suffer. This would be extremely unfortunate, as roll forming could be a particularly cost-effective manufacturing process for customized profiles providing a high degree of functionality.

To solve the dilemma, Dreistern and one of its customers had to cooperate in unfamiliar ways. The Solution: Rapid Prototyping, a common process in the Automotive Industry, was pointing the way for quick and cost effective supply of prototype parts produced in ways similar to the process selected for future production. The Goal: Quick provision of pre-production assemblies for function testing, confirmation of cost estimates and production processes and foremost for early market research with actual product samples. To achieve this goal close cooperation between product designer and equipment and/or tooling supplier are essential starting right from the launch of the project.

The success from the first project was so encouraging that other projects followed shortly after. The modus operandi is similar every time. To find the optimal cross section with reference to functionality, material savings and production feasibility of the profile, the profile manufacturer is working closely with Dreistern through many revisions of the profile design, confirming each change with a computer simulation of the forming process. Only after all areas of improvement have been exhausted and the final version of the cross section has been approved will Dreistern start to design and manufacture the roll form tooling. Prototype parts will then be rolled on one of Dreistern's 10 try-out roll forming machines. First parts can usually be delivered only 8 weeks into the project. Dreistern's contributions are certainly focused but not limited on the roll forming portion. As such welding- and punching operations could be integrated into the process to add more value in line and provide components ready for assembly.



Along with product development this course of action provides an opportunity to assess the manufacturing process. Another advantage, additional to protecting from unforeseen risks, is a clearly shortened time to market. Since the production concept can be fine-tuned parallel with product testing lead-time for needed production equipment and tooling can be shortened significantly. In the meantime more product samples could be manufactured, for example to make sales organizations familiar with a new product during the early stages of product development.

Upon successful completion of the first "Rapid Prototyping" projects Dreistern developed and implemented a systematic methodology for the development of profile innovations. This Innovations Workshop provides a comprehensive set of tools to shorten the time from the first product idea to its market launch while reducing total cost at the same time. This is certainly good news for profile manufacturers and designers.

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