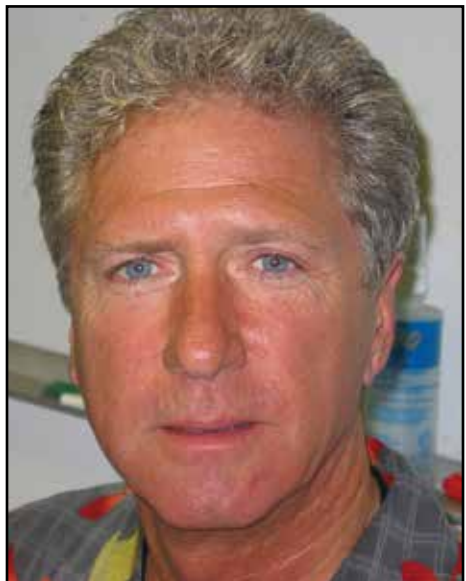




RTMS NEW ROLL TECHNOLOGY PART 1



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With the exception of the introduction of CNC turning machines, the manufacture of roll tooling for tube, pipe and roll forming machines has changed little in 80 years, suggests Joe Olson of Roll Machine Technologies and Solutions (RTMS). He explains how such conservatism causes bore wear and face wear.

In the 1930's, when tube, pipe and roll forming started to come into its own, there were some serious problems with the manufacturing of the roll tooling.

Not Surprisingly, the limitations in this production process had detrimental effect on the overall

quality of the resulting tooling. More surprisingly, the antiquated methods have changed little in 80 years.

The only exception to this general truth is that the introduction of CNC turning machines has created a situation where tooling contours are turned rather than ground – leading to some improvement in manufacturing speed and accuracy.

For those companies able to invest in this CNC technology, the advance is fine as far as it goes. However, profiling a tool is a three stage process, covering

its contours, bore and face. While there is now the option of turning the contours, the bore and face still have to be ground.

It cannot be emphasized enough that grinding of any part of the tube, pipe or roll forming tool will reduce the tool's ability to withstand frictional wearing forces (*fig. 1*). As a consequence, the footage of tube or pipe that can be processed by a particular roll – before it needs to be refurbished or reground – is reduced. I use the term reground because, until recently, that has been the means by which tooling contours – both bores and face – have been refurbished.

Tool grinding destroys both the internal diameter of the bore of the roll (fig. 2) and the tool's ability to process more footage between reconditioning. The former effect is hugely expensive. If the roll's bore falls out of tolerance, it will

