

ROLL FORMERS

PROCESS



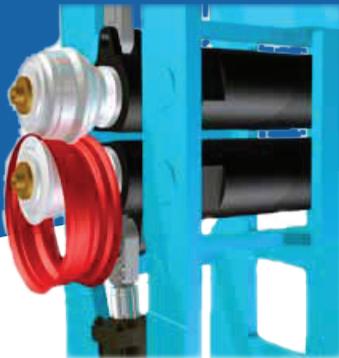
Principle of a Roll Former

The forming rolls are mounted on the upper and lower spindle.

The coiled and welded cylindrical blank is positioned over the rolling die of the lower spindle.

The lower spindle is raised to achieve contact between blank and both forming rolls. As spindles rotate, the part revolves between the rolling dies, and the lower spindle continues to elevate and transmit applied force to form the metal.

Thus, the forming operation is accomplished through a combination of rapid die rotation (forming rolls), part rotation and continuous upward feed of the lower spindle.



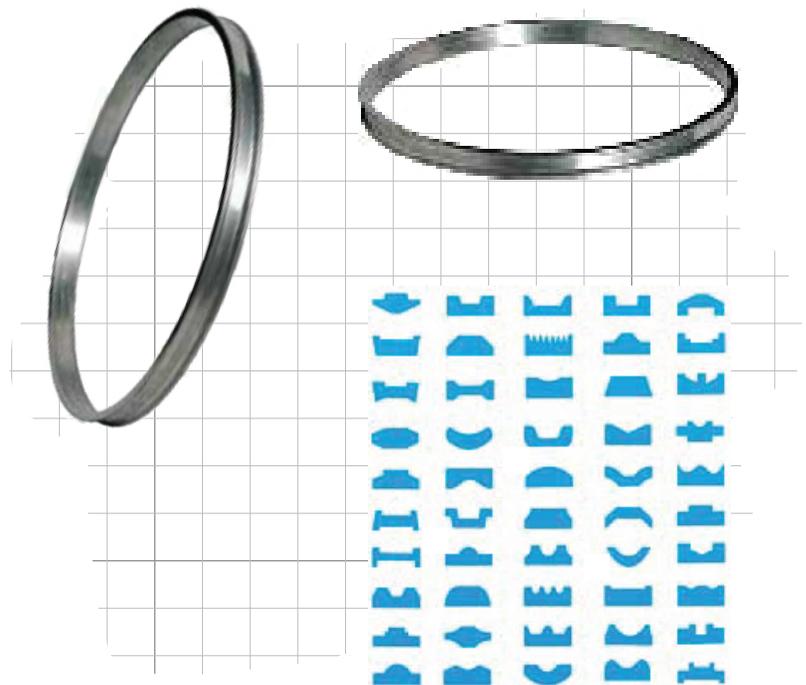
Near Net Shape Rings

Displaced Form Rotary (DFR) Roll Formers are different from conventional Roll Formers as they displace the material of the part both axially and radially. This cold rolling process produces near net shape parts from rings with a simple square, rectangular or round cross section. Therefore, machining is greatly reduced and in many cases completely eliminated. This process is especially beneficial for applications using high value material, for example in the aerospace industry.

Applications

DFR Roll Formers cause the ring to enlarge in diameter and also in width. Certain symmetrical profiles can be rolled in the ring.

DFR Roll Formers are used in the aerospace industry to process thick walled rings to near net shape rings with certain profiles. This reduces or even eliminates the need for further machining.



Benefits

Near net shape rotary roll forming is a repeatable, highly accurate alternative to other processes. This process offers considerable savings of material, which are particularly important in application of expensive alloys.

Roll forming generates savings in material of at least 25% to 75% when compared to conventional machining operations.

Material hardness and grain structure are enhanced, improving the quality of parts.

The profile is formed to precise tolerances. An extremely wide range of simple to very complex profiles can be attained with the process.

