



Repkon is a provider of turn-key complete production plants for the metal forming sector as well as a designer, manufacturer and supplier of key metal forming machines for the global market, with a well established reputation for outstanding performance. Our advanced in-house research and engineering capabilities in strategic technologies such as flowforming, shear forming, hot spinning, forging and ex-proof presses allows us to serve our customers part and machine needs.

Repkon Activities

-  Defence Industry
-  Aviation & Aerospace Industry
-  Automotive Industry
-  Oil & Gas Industry
-  Mining Industry



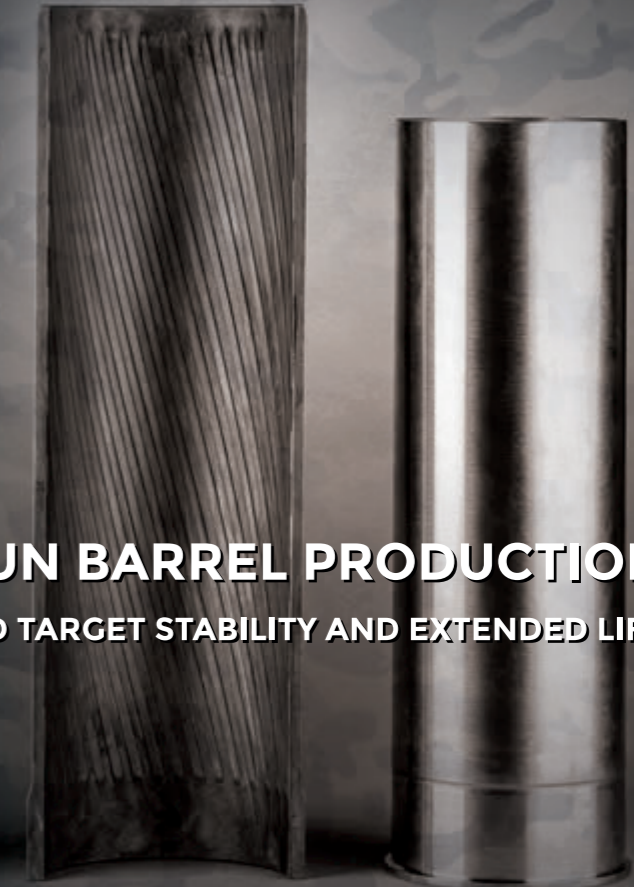
REPKN MACHINE & TOOL INDUSTRY AND TRADE INC.

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40 YEARS
OF QUALITY



GUN BARREL PRODUCTION
IMPROVED TARGET STABILITY AND EXTENDED LIFE CYCLE

REPKN

..setting flowforming 'free'.



Gun barrel production using Repkon Free Flowforming Technology presents a superior alternative to conventional manufacturing techniques such as Single Point or Multipoint Broach Cut Rifling, Button Rifling, Hammer Rifling and Electro Chemical Machining etc.

In addition to advantages listed below this new production technology will help your engineering team to design and develop complex barrels by minimising the manufacturing limitations;

- Superior material properties due to cold forging effect hence increase in the barrel life.
- Net Shape or near net shape forming allows unmatched material savings.
- Increased forming tool and mandrel life due to non-impact forming.
- Possibility of manufacturing vast range of material types or rifle shapes which is not possible with any other forming technique.
- Possibility of the pre tensioning / preloading the barrel hence increase in the barrel life.
- Superior internal and external surface quality.
- Superior geometrical tolerances including the sharp rife edges, concentricity and straightness without secondary machining operations.
- Elimination of micro cracks due to continues cold forging effect.

Flowforming is an advance cold forming technique which is used for production of rotationally symmetric parts using continues cold forging. This forming technique has been around for more than 50 years but very little development is made on its core technology. Although flowform technique is being used in wide range of applications in defence industries since many decades, until now it was not possible to produce rifled gun barrels due to technological forming limitations.



Thanks to the patented state-of- the-art Repkon Free Flowforming Technology which eliminates the existing limitations of the "conventional" forward Flowforming and Backward Flowforming Techniques, it is now possible to produce chip-less and cost effective high precision Gun Barrels using Free flowforming technology.

Although flow forming has numerous advantages, some of the main ones can be summaries as follows;

- Cold work hardening effect resulting in increased material tensile strength due to cold forging of the material.
- Drafted grain structure in the direction of deformation, allowing enormous strength increase on torque transmission parts.
- Increased geometrical tolerances.
- Improved internal and external surface quality.

In addition to aforementioned conventional flowforming advantages, Repkon patented free flowforming technique enhances these advantages to a new level. Some of these advantages are given below;

- Increased reduction ratio resulting in much better material strength.
- Forming material under colder condition resulting in much better surface quality.
- Forming material under colder condition resulting higher geometrical tolerances.
- Up to 6 times faster forming speeds.
- Possibility of producing complex multi internal contours.
- Possibility of non-rotational symmetric internal contours.
- Increase in mandrel life due to frictionless forming.
- Producing exactly same final part from simpler and lighter preform.
- When compared to conventional flowforming, free flowforming technique reduces the number of forming passes required to produce the final part.
- Faster load & unload times when compared with the conventional systems.

