

Green Manufacturing

Manufacturing Challenge

The component was earlier manufactured from a cylindrical piece of metal after passing through six machining processes. This made it very difficult for the component to be produced in high volumes. The customer was looking for an alternate way of manufacturing which would bring down costs, reduce material wastage and make it easy to manufacture in large numbers.

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Component picture

Engineering Challenge

The material properties requested by the customer were very unique, which did not match any of Indo-MIM's existing alloys. The material hardness had to be between 45 to 65 HRB. If the part was too hard, the pinion would wear & if the part was too soft, the component would wear. The toughest challenge was maintaining a balance between hardness and strength (min 445 Psi). Indo-MIM has an in-house laboratory, which is one of the very few MIM laboratories in the world, capable of executing this challenge.



Newsletter Spotlight

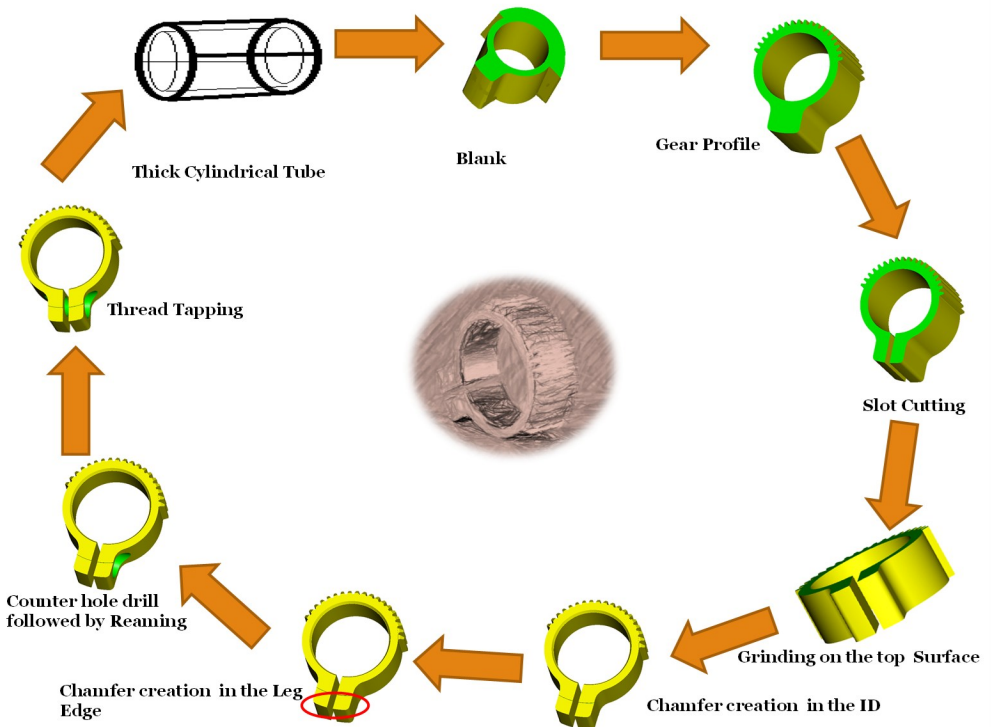
For this amazing piece of engineering, Indo-MIM won a MPIF Award of Distinction in the Gear Segment category

Indo-MIM created cost savings of 80% over the previous method

Indo-MIM delivers three million pieces annually to the customer

Indo-MIM developed a tool which produces 4 components in one shot

How The Component Was Made Earlier

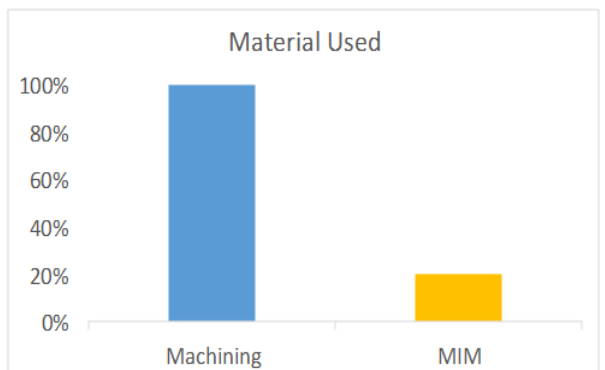


Indo-MIM Advantages

Indo-MIM reduced the manufacturing cost of the component by 30% over the previous method. Material wastage was reduced by 80%. No industrial pollutants were released during the manufacturing process. Indo-MIM's specialty lies in manufacturing highly complex parts. Mechanical properties of parts produced through MIM is superior to castings & powder metallurgy (reflecting fine particle size & high sintered density). Minimum of finishing operations is required.

Wide range of alloys available:

- * Case Hardened Steels
- * Hardened & Tempered Steels
- * Stainless Steels
- * Tool Steels
- * Magnetic Materials
- * Tungsten Heavy Alloys
- * Titanium & Titanium Alloys



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