

Complexity Simplified

In the last two issues, we brought to you components from the hardware and automobile segments. In this issue, we present a component from the appliances category designed specifically for Metal Injection Molding.

Manufacturing Challenge

The two components have a highly complex shape with many cross holes and knurl features. Tight dimensional tolerances and thin walls make the component hard to manufacture. The rib in Keeper Rear also has a high tendency to bend, cut or crack. The customer explored other manufacturing methods and finally chose MIM to manufacture this part, due to the intricate shape and high volumes. Indo-MIM manufactured the component very close to near net shape and only a tapping operation was required on the front keeper.



Keeper Rear & Keeper Front



Engineering Challenge

The raw material used is 17-4-PH stainless steel which was heat treated to H-900 condition. (solutionizing & ageing at 900°F). After heat treatment, the components were checked through three gauges to ensure that the dimensions were in accordance to the drawings.

Indo-MIM has an in-house laboratory, which is capable of handling steels, magnetic materials, tungsten & titanium alloys.

Newsletter Spotlight

The two parts won the "MPIF Award of Distinction" in the Hardware & Appliances category

Indo-MIM created cost savings of 15% over other manufacturing methods

Indo-MIM delivers twenty thousand pieces (each) annually to the customer

Indo-MIM developed a two cavity complex tool with multiple slides moving at

Keeper Front



Keeper Rear



Indo-MIM Advantages

Indo-MIM reduced the manufacturing cost of the component by 15% over the previous method. 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). Parts made through MIM are near net shape.

Wide range of alloys available:

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