

Application of MIM Technology in Medical Products

Medical Industry looks for superior physical properties, flexibility in selection of materials, corrosion resistance properties & reliability.

Harber Industries has many years of experience in providing metal manufacturing solutions for our medical equipment customers.

we have the experience, technology and dedication to partner with our customers on their most technically demanding metal product requirements. High performance medical materials (e.g. SS316L, 17-4PH, SS420, SS304), stringent quality control, repeatability in dimensions, maintaining tight tolerances, ensuring product with superior corrosion resistance properties, extensive support in design & engineering, proto-typing activities in product development, support in multiple stage of product modifications, performance testing & supply of fully finished components.

1. Medical products manufactured by MIM

Medical products generally require good usability and long service life, and flexible design in structure and shape.

MIM technology was first applied in medical products in the early 1980s, and has become the fastest growing area of MIM market.

Figure 1 shows the proportion of MIM technology in different industries in North America in 2015. It can be seen that medical treatment and dentistry have become the main MIM application field in North America.

At present, most of the MIM products for medical use are stainless steel, the main brands are 316L and 17-4PH, as well as titanium alloys, magnesium alloys, gold, silver, tantalum and so on.

A. Orthodontic bracket

MIM technology was first used to make some dental orthodontics in medical field. These precision products are very small in size, biocompatibility and corrosion resistance. The main material used is 316L stainless steel. At present, orthodontic brackets are still the main products in MIM industry.

Harber Company of China produced a two-way inverted orthodontic bracket by MIM. The mechanical retention force can be increased by 30%. The bracket's friction to the arch wire can be greatly reduced by polishing after one-time forming. The product has been proved by Bjorn Ludwig to have a positive role in orthodontic surgery.

Harbermetal is a professional manufacturer and solution provider of metal powder injection molding process (MIM) and PM process. We provide our customers with high volume structural, functional and appearance parts of various materials with high precision, complex shapes, good performance and exquisite appearance, and we have the ability to develop ceramic and titanium alloy materials to meet the needs of different types of customers. The company mainly provides all kinds of precise and complex hardware structure parts and components to worldwide enterprises in the fields of 3C consumer electronics, new energy, drones, medical devices, automobiles, aerospace, civil consumer goods etc.

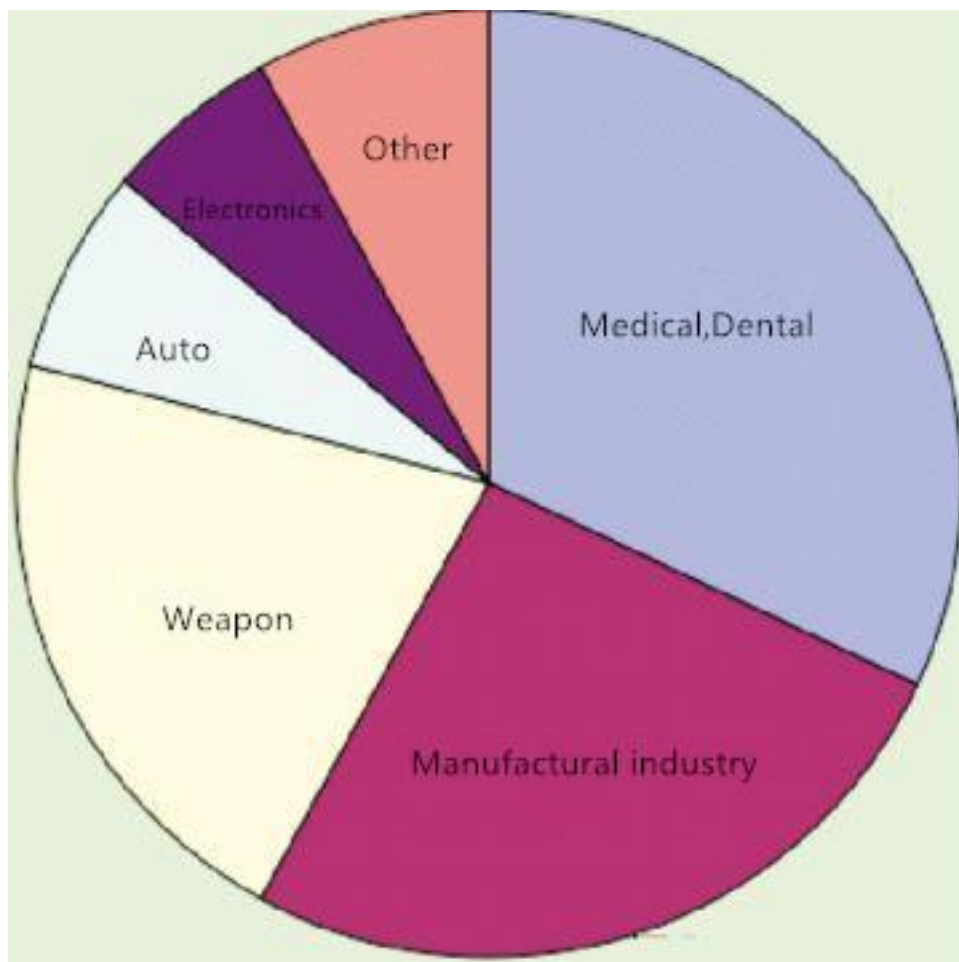


Figure 1

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