

Develop new applications of titanium-based materials by μ -MIM

Titanium and its alloy production are continuously growing 10% annually due to its characteristic properties such as high corrosion resistance, specific strength and biological compatibility. Therefore, it is increasing the demand in eyewear, watch, aviation, medical device components industries. Also a new alloy system development is held intensively these days. However the processing of titanium-based materials is difficult comparing to stainless steels in powder metallurgy since its very reactive property in high temperature. Reaction with light elements such as nitrogen, hydrogen and carbon is likely to occur and those light elements contamination will lead poor mechanical properties. Our μ -MIM production employs finer powder than other powder metallurgy production, thus, it is required high degree of sintering control, like contamination control, crystal structure control and so on. There are only few MIM manufacturers in the world can mass produce titanium products with crystal structure and contamination analysis.

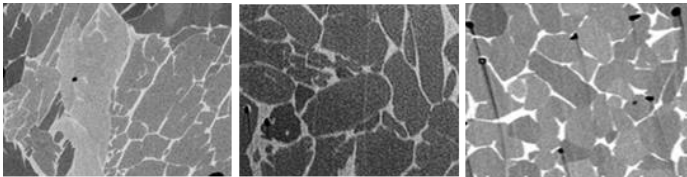
Mass production of complicated design with tight tolerance



- Reduces the number of parts by integrating the shaft and sliding part -

μ -MIM can show its ability in mass production of a component having less than 1 mm diameter hole, many free curved surfaces. Also integration of multiple components will be realised. The difficulty of welding, a weakness of titanium materials, is solved by μ -MIM technology.

New Ti alloy trial



- Production trial with analysis and evaluation -

It is one of the best advantage to create new alloy easily in powder metallurgy. Titanium-based alloys change their structure significantly according to additives and heat treatment parameter. We support your new alloy development not only the production trial but also the analysis of crystal structure and so on.

Additional process consulting



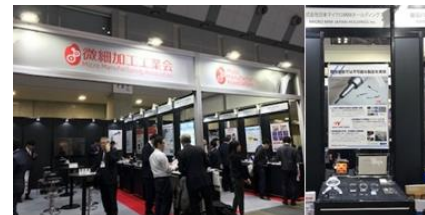
- Cooperation with top manufacturers -

Titanium alloys requires unique technology for secondary or surface treatment. The standard additional treatment such as mirror polishing, nitride, anodizing and laser engraving, not any manufacture can handle titanium product appropriately. We will introduce those titanium capable manufactures not only inside but also outside of Japan.

Column

Market report from this year's exhibition

Thank you very much for visiting our booth at the Fine Process Technology EXPO and Saitama Business Arena. In 2019, we will respond to our customer's issues as much as possible applying our technologies and/or knowledge. In the EXPO, there were many intensive discussions between the visitors and exhibitors about various fine processing technical issues. We have exhibited at many exhibitions but I felt that it is important to keep attending the exhibition because the exhibition can be a place for discovering new needs by our customers.



Ms. Okamura (sales office, Tokyo)

Our upcoming event :



Stuttgart, Germany
May 7-9, 2019
Booth no. 9F55



Bitec Exhibition Hall, Bangkok
May 8-11, 2019
Booth no. AH43