

Mould technology which supports our μ -MIM

The injection moulding process is the only process that gives the shape in MIM, therefore the mould finalises our part shape. Many of the MIM manufacturers are producing the mould in-house, however, we ask our partner to produce the mould. Because we consider differently regarding the injection moulding process to other MIM component manufacturers. We would like to introduce our belief towards the MIM mould this time.

The difference in the moulding process

In most of the metal parts manufacturing processes, net-shape processing is separated from initial processing. For example, in the casting process, the near-net-shape design is fabricated in casting mould and after demoulding the parts, the final net shape is processed by machining. Same applies to the MIM industry. Many MIM component manufacturers are considering that the near net shape should be achieved by the injection moulding process and the net shape by the machining. However, we established our business as a plastic moulding manufacturer, thus we have been focusing on achieving the net shape in the injection moulding process. As a result, we are successful in realizing serial productions of small complicated metal components.

Since we have been focusing on achieving the net shape in the injection moulding process, we also focus on highly precise mould tooling. While we ask our partners for precise mould tooling, we have focused on improving our injection moulding technology and feedstock development.

The partners who have world-leading technologies

We have accepted various types of small metal component serial production, such as micro gear, micro nozzle, medical forceps and so on. Thus, we have selected partnerships with the world's-leading mould manufacturers.

For example, it is not difficult to imagine that the tools and the processing technology for micro gears and for submicron order pins will be totally different. We consider it to be more efficient to have our mould partners manufacture the mould for our micro parts that have complicated shapes, while we concentrate on researching and developing the feedstock manufacturing, injection moulding technology and de-binding/sintering technology. For maintaining the partnership, we develop our MIM technology, and the mould partners develop their tooling technology, thus our partnership encourages us to challenge the difficult designed metal component manufacturing.

Our mould partner will be the panellist in the next webinar

We Micro MIM Japan organise our technology introduction webinar around once a month. The next webinar will be on the 3rd of September, and we will invite Mr. Oba, COO of Sayama Mold Manufacturing Co., Ltd. We ask them to manufacture the moulds for extra fine structure components. We will introduce some fine structure component examples in which the mould was tooled at Sayama Mold Manufacturing. Please visit our website to register for the next webinar.

Column

This is Yusuke Watanabe. It's 10th year I am working for our company. I am in charge of making the samples for R&D projects as well as the measurement & analysis for both prototype and serial production. I try to make the samples paying attention to details and do my best to create reports that are easy for the reader to understand. My hobby is to create models, where I also need to pay attention to details. I now create the soil & moth (see photo). I will keep paying attention to details in both my hobby and my work!

