



From Thixo to Hot Chamber Mg Die Casting

Overcoming challenges and misperceptions

After hearing their Asian thixomold supplier say, “We don’t want your business because your volumes are too low,” a high end producer of electronics with multiple applications for magnesium castings was forced to hunt for a second Asian source to continue manufacturing parts using the existing process.

New Vendor Issues

They found a new thixomold supplier and shortly after moving production, a set of issues began to surface. Getting parts on time became problematic. Stretched lead times resulted in inventory shortages and with parts coming from Asia, they had the added stress of import issues compounding late deliveries. Production was expedited, but that resulted in high set-up fees. In an attempt to leverage the set-up fees, quantities for production runs were increased. However, this resulted in excess inventory, causing yet another set of problems.

It soon became apparent that they would have to find yet another supplier, but they had deep concerns. With unfavorable past experiences and a small number of thixomold suppliers available, their choices were limited and they couldn’t afford to take any chances. They decided they needed to expand their options and that meant looking at entirely new manufacturing processes. They needed a reliable die casting supplier—and that supplier had to be domestic.

Alternative Misperceptions

When the buyer approached CWM’s sales representative for options, magnesium die casting was offered as an alternative, but they had some apprehensions. Could the high pressure hot chamber die casting process provide parts to the same tolerance levels and wall thicknesses? The sales rep explained how CWM’s hot-chamber magnesium die casting process can produce thin-walled parts with high precision. He described how a reduction in process cycle time, lower machine and related maintenance costs, and a lower cost of raw material (ingots vs. chipped material) would lead to a cost reduction. According to the CWM sales rep, “Once they were educated on the capabilities of hot chamber

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magnesium die casting, one by one, each misperception disappeared to the point that it became a very viable solution.”

A ‘No-Brainer’

They decided to make a visit to CWM to see the process and ask questions. A full team of experts from engineering, quality and purchasing toured CWM’s 137,000 ft², ISO-9001 registered facility near Chicago’s O’Hare airport. They spent considerable time reviewing the equipment and processes, auditing the procedures and interviewing CWM employees.

The team was very impressed with the plant’s cleanliness and the experienced staff. They really liked the fact that CWM is one of the largest and most experienced magnesium die casting companies in the world. And with Frech die casting machines ranging from 80 to 650 tons in clamping force, CWM could efficiently produce a wide variety of parts. Dependable service could also be optimized with CWM’s extensive in-house CNC and conventional machining operation as well as contract assembly. And, an extensive array of coatings and finishes is offered via supplier partners with whom they have developed a long and close relationship. It was this full service capability that convinced them that CWM was their supplier of choice. In the words of one member of the customer’s team, “This is a no-brainer.”

The icing on the cake was the fact that CWM offered to build tooling so that either magnesium or zinc could be used in the die casting process. This option allowed the parts to be tested in both alloys so that the alloy with the best combination of properties, finish, and cost could be selected. This gave the buyer an added level of assurance that converting was a good decision. Knowing that CWM provides die casting in magnesium and zinc, plus aluminum, as well as a full complement of finishing operations, the buyer was confident that they found a single source that could handle all their production needs—both now and in the future. And with that, CWM was awarded their business.