

## Haier wants to be Number 1 Mold Maker in China

Qingdao Haier Molds Company supplies molds to companies around the world. They are part of the Haier Group, a leading Chinese household appliance manufacturer. In addition to being a leading producer of precision molds for consumer appliances, they have expanded into automotive, electronics, and medical equipment. They are currently producing molds for several automotive manufacturers, including a full set of molds for a local auto manufacturer.

One of the significant changes made in their EDM department was the transition to graphite electrodes from the traditional copper. As a result of this and other changes, they have experienced an increase of 30-40% productivity. To help them reach their goal of 90% graphite electrodes, and to increase their productivity, Haier decided to become a POCO partner.

Changing from copper to graphite electrodes requires a transition because there are many differences between the two materials, from designing to fabrication to machining. Believing that all graphites are the same, they selected a brand based on cost, just as they had chosen their copper supplier. They expected to see a productivity increase as they started using graphite. The results did not meet their expectations when the graphite electrodes had slower speeds and higher wear than they had experienced with copper electrodes, and the graphite was prone to chipping during milling. Support from the vendor to solve these problems was not available.

When Haier was contacted by a POCO distributor that explained the benefits of high performance graphite, they were interested, but wanted to see proof that another graphite material could make a difference in their work. They needed to see better performance before they would consider changing their graphite material.

Prior to making a commitment to become a POCO Partner and switch graphite brands, Haier made an investment to do a full comparative test to understand why graphites are different. The only way to know for sure was to do a complete cavity in a side by side graphite comparison test. They produced a mold with 2 cavities; one cavity was cut with POCO graphite electrodes for the rougher and finisher, the second cavity was cut with their current graphite. Each cavity took over 100 electrodes to produce. Milling of the POCO electrodes was 14% faster compared to the other graphite. The EDM time was 15% faster using POCO electrodes. During the

electrode fabrication, the POCO material did not chip and there was less cutter wear. On a production job, this amounted to a significant decrease in machine time in the EDM and milling sections, plus the electrodes were easier to fabricate. They realized that switching to high performance graphite could increase their profitability on jobs, and allow them to run additional work on these machines.

Haier management was very impressed when the POCO applications engineer used the production data from this job to do a cost/performance analysis to project the increase productivity and profitability that Haier could achieve during the first year as a POCO Partner.

Today 50% of the electrodes at Haier are graphite and their goal is 90%. According to their EDM manager, they have reached the production capacity on their high-speed graphite milling machines and have plans to acquire additional milling and EDM equipment due to increased growth.

## **POCO Partners Achieve Growth Through Partnership**

POCO is the only graphite manufacturer that offers comprehensive classroom training, applications support, technical literature and reference materials. These efforts are supported with technical manuals that include performance charts on all POCO materials that show metal removal rates, end and corner wear, and corresponding surface finish for all graphites at a variety of operating parameters. POCO also provides a plastic surface finish gauge that was produced using standard machine settings on specific brands of EDM machines. This gauge allows a surface finish to be selected by the designer or customer and then produced. This is ideal for producing an EDM finish that does not need to be polished. Basic EDM training classes at POCO locations throughout the world cover graphite technology and graphite selection. On-site training classes are also available.

POCO Partners are companies that have made a decision to only use graphite made by POCO. This commitment is important because POCO works closely with these partner companies to increase their productivity and profitability using their unique, high performance graphites.

POCO Partners can take advantage of:  
Advanced training classes - Subjects include flushing, orbiting, and electrode undersize.