

# EDM Training Boosts Productivity

Increasing the effectiveness of EDM operations does not come solely with technological improvements in the EDM sinker. This is one of many aspects to consider when working to optimize EDM performance and increase productivity. Other considerations include the type of dielectric fluid, tooling, and electrode material used in the EDM applications.

One area often overlooked or disregarded is the training required to make the most of the many factors affecting efficient operations. A competitive company should seriously consider every opportunity to take advantage of technical training being offered by leading suppliers in the industry. This training is often at no charge with the only investment to the company being travel and salary. Even the shortest training session provides the opportunity to recover any costs incurred in a very short time.

A case in point includes a company engaged in EDMing — primarily carbide — and experiencing significant electrode wear and slow burn times. The wear and slow burn times demanded an increase in the volume of electrodes produced; therefore, not only adding to material cost, but significantly increasing manufacturing costs for machining these electrodes. The manufacturing cost limited profitability in this application, so the decision was made to send an employee to a POCO EDM technical training session. One topic covered in the training included electrode material selection, honing in on the advantages of specific material when EDMing high thermally conductive metals. As it turns out, this company was purchasing the wrong electrode material for EDMing carbide.

When working with metals of high thermal conductivity, the workpiece absorbs the spark energy almost instantly and limits the effectiveness of the EDM process unless changes are made specific to these type metals. In this example, the electrode



material used was a medium grade, non-copper impregnated material and was selected primarily because of lower material costs than others available. The student realized during this training that copper impregnated electrode materials exhibit significantly lower electrical resistivity values than non-copper impregnated materials and allows for maximum spark intensity in the EDM cut. This not only increases the metal removal rate, but also reduces electrode wear as well.

Another factor learned during this training session was the need to reduce the on-time to a length approximately equal to when the work metal begins to dissipate the spark energy in the cut. Any longer on-time will only serve to increase electrode wear without an effective metal removal rate. Upon the employee's return, he began to implement the lessons learned during his time at the training. With sample material provided during the training, he began to experience immediate productivity improvements in the EDM. He claims his productivity has increased so much that the company has recovered the cost of the training and much more.

Be sure to contact POCO Graphite for more details on how your company can benefit from both classroom and laboratory training for the beginner or the experienced EDM operator on the products you use in your EDM operations. Look for a program designed to help you gain a better understanding of how to control the EDM process to achieve predictable results, and a course that equips you with practical information that you can immediately put to use on the shop floor.

#### **FOR MORE INFORMATION**

Please call your local distributor to learn what POCO can do for you. Visit [poco.com](http://poco.com) and select the [EDM Distributors](#) link for the location nearest you.

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