



INVESTMENT PROTECTION

Low-quality table cutting fluids can cost you money

Family owned and operated Pico Chemical Corp., Chicago Heights, Illinois, formulates and manufactures specialty chemicals and lubricants, with a focus on environmentally friendly options that help improve performance and quality. Mike DeLisa, product sales manager, discusses customers' common questions about proper fluid usage on their plasma tables with *Modern Metals*.

Q: What is the purpose of a plasma/burn table conditioner?

A: A conditioner cools the cutting surface, provides corrosion inhibition, maintains metal integrity for precision work (e.g., no tail-off), and prevents the growth of undesirable bacteria or fungus in the system.

Q: When choosing a conditioner, what features should companies consider?

A: Environmentally friendly, nontoxic and non-smoke-forming are key features.

Conditioners help keep the burn table clean, making it easier to service.

Non-tackiness is also important to avoid both additional cleaning steps in a process as well as gummed-up torches. Our company recommends customers avoid nitrite-containing products, which can easily create cancer-causing nitroase amines. We also advise machine operators to steer clear of the need for tank-side additives for biological control, lubricity, foam and the like. This "cocktailing" will contribute a lot of cost and inconsistency in a system.

Q: Are all conditioners alike?

A: No. When researching options, it is best to evaluate the manufacturer's legitimacy by asking detailed questions. ISO-certified standards are also beneficial for consistent reliability. It is also worth noting that products with similar name or color do not offer similar results. Avoid gimmicky non-performance-related incentives, such as free shipping, that often veil a true use-cost.

Q: Can aluminum and other nonferrous metals be cut with a conditioner?

A: In these applications, two concerns that arise are cosmetics and safety. Cosmetics deal with staining and quality issues that may lead to costly rework or scrap. Safety concerns include a bubble-forming reaction. With enough build-up, this may cause what is called a dangerous and potentially lethal "hydrogen explosion." It is important to confirm product characteristics with your supplier before using them in this capacity.

Q: Are there restrictions on depth/torch amps?

A: Cutting thicker metal requires more amps. For a number of conditioners on the market, when they get up to 250-300 amps, the solution cannot handle the heat, becoming burnt out and black. However, other products can run successfully at double that output.

Q: What are some real-life benefits achieved by customers?

A: One of our customers has been using the Quench Guard G Plasma Table Fluid (QG) on two plasma tables. Compared to water alone, the QG keeps the water table and slats clean, making it easier to clean and service. This customer also has observed that the plasma consumables stay clean, providing a longer service life and saving money all around.

Q: How long will a conditioner last in a typical application?

A: Some solutions lose concentration through evaporation and other means, requiring it to be added regularly. Some emulsify/captivate contaminants, adding load and shortening life. Still others kick out oil and contamination. Through moderate preventive maintenance, removal of stratified material will extend bath life. Strength can be maintained through titration or refractometer testing. This results in avoidance of extra expenses such as chemical consumption and waste disposal. ■

PICO Chemical Corp., Chicago Heights, Illinois, 708/757-4910, picochemical.com.