

## 7 Golden Rules: Using Dielectric Fluids

**Storing drums** – Correct storage is a good place to start when it comes to taking care of your dielectrics. Drums should be kept in a cool, dry, environment and protected from heat, direct sunlight, and UV-rays. Fluids should only be stored in their original drums. If the drums are to be stored outside, it is better for them to lie on the ground, rather than stand upright, to prevent rainwater entering the container.

**Selecting pumps** – Use the correct pump or vessel when filling the machine with the dielectric fluid. Pumps which have formerly been used for acids or alkalis can destroy the best dielectric fluid immediately and PVC-hoses are not oil resistant and become stiff after continued use.

**Cleaning your machines** - Chlorine hydrocarbons (such as trichloroethylene, perchloroethylene, trichloroethane) will destroy dielectric fluids. Under the influence of the electric sparks, the hydrocarbons of the dielectric fluid compound with the chlorine atoms and form a hydrochloride acid. Therefore, never clean a spark erosion machine with a tri-compound, or anything similar. Instead, clean out the machine with a few liters of the dielectric fluid itself. Equally, dies coming out of tri-cleaning line must be completely dry before mounting them into the machine.

**Avoiding acid** - Acids used for etching electrodes must be prevented from mixing with the dielectric fluid.

**Minimise additives** - The hydraulic system of a spark erosion machine should be completely isolated. Although an intermixture of 1-2 % may not present a problem for the spark erosion process, higher percentages can lead to a failure of the dielectric fluid. There is zero risk of this when using machines with an electric servomotor.

**Reuse fluid** - Every now and then, leaks in a water cooler can cause an increase of fluid level in the filter system, corroding the machine bed or table. Since Dielectric IME separates quickly and completely from water, it can be carefully skimmed from the top of the tank (or the water vacuumed out) and reused.

**Use a high-quality product** - To achieve the fastest possible production rates, highest quality surface finishes, and closest tolerances, use a high-quality product, such as our IonoPlus dielectric fluid. You will see a big difference in performance and fluid lifespan which can offer huge savings in the long run.



When used and cared for correctly, dielectric fluids can last between 1-2 years in a filter with paper cartridges, and up to 10-20 years if a pre-coated filter is used. For any queries or to discuss your requirements, contact our technical team on 01745 814 777