

Operating Instructions - Spark Erosion

Users that are allowed to operate the spark erosion must have attended an extensive instruction by one of the following contact persons (CPs):

Prof. C. Rentenberger, Prof. T. Waitz, Prof. E. Schafler, Dr. D. Setman, Ing. A. Berger.

Each time a user plans to operate the spark erosion, one of the aforementioned CPs has to be contacted in advance.

Cutting and punching of hazardous materials (i.e. containing hazardous/toxic elements or compounds) is forbidden.

Prior to operating the spark erosion, the exhaust fan has to be switched on. While operating the spark erosion or spilling the container with dielectric liquid the continuous operation of the exhaust fan must be checked regularly.

The contact of skin and clothes with the dielectric liquid has to be avoided. While manipulating with the spark erosion or while monitoring the process of the spark erosion, use of protective gloves, protective goggles and a cotton overall is mandatory. Swallowing or entering of airways of the dielectric liquid might be fatal. In this case, contact the poison center (0-406 43 43) or a medical doctor immediately.

While the machine is switched on, any manipulation at the cutting/punching head, dielectric liquid, specimen and so on is strictly forbidden since it might cause an electric shock. Prior to any manipulation, the voltage has to be switched off first!

While cutting or punching, a prolonged stay in front of the machine should be avoided. If possible, open or tilt the window to allow for fresh air supply. Overnight use of the spark erosion (i.e. without monitoring the process at all) is not allowed. In special cases exceptions might be agreed with one of the CPs.

The spark erosion has to be done applying the smallest power only. In special cases, an application of larger power is allowed when this is agreed with by one of the CPs.

The minimum distance of the erosive zone (the sparks) to the surface of the dielectric liquid is 4 cm. On the other hand, emersion of parts of the cutting head into the liquid other than the guides for the wire is forbidden.

Special care has to be taken in the case of the sensitive and rather expensive parts of the guidance for the wire of the cutting head made by sapphire.

After having used the spark erosion, it is mandatory to close all valves and to turn off all controls including the main switch. The date, user, material and counter reading have to be recorded in the log-book.