

Application Note

Some recent improvements on our Boehler mdriller EDM has allowed drilling holes down to 35 μm . It is now possible to drill such small holes on pre-indented gaskets using conical tungsten tips (see Figure 1). Combining changes of the drilling rod and some modifications of the electronic controlling board, allowed decreasing the size of the drilled holes using the Boehler mdriller.

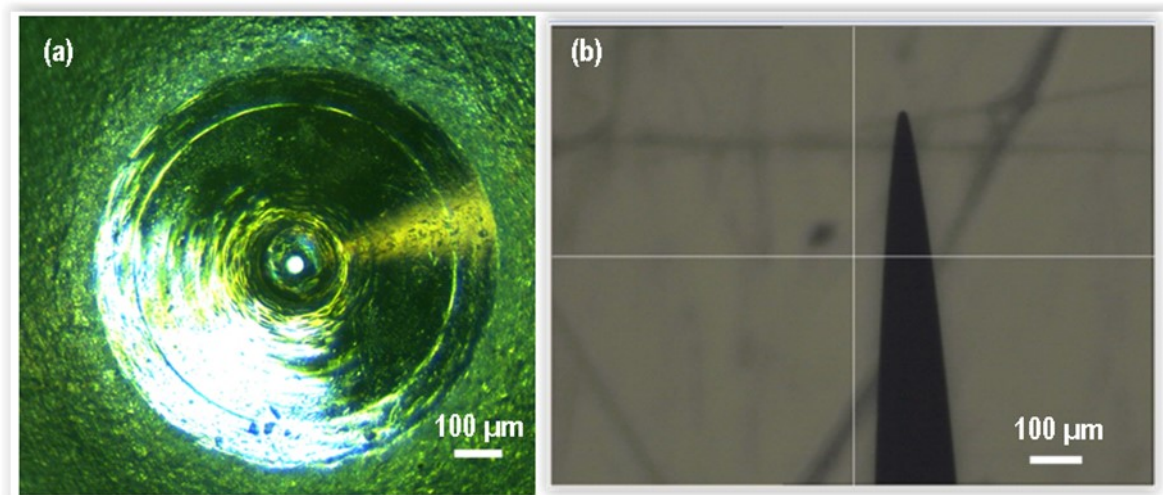


Figure 1: (a) Drilled pre-indented gasket (25 mm thick), the hole (35 mm diameter) was drilled using a conical tungsten drill. (b) Tungsten conical drill used after drilling (20 mm tip).

The new release of the controlling board provides a new parameter ("setedvol") which allows the user to set the voltage of the electric discharge whilst drilling. Thus it is possible to reduce the kerf effect observed (difference between the diameter of the hole and the diameter of the drill) when employing the Boehler mDriller EDM.

It is noticeable that using a conical tip for drilling a thin gasket has no significant tapering effect on the hole diameter (see figure 2). The diameter of the hole drilled onto a 10 mm thick gasket was measured on both sides. The size difference observed between the two sides was only 2.8 %.

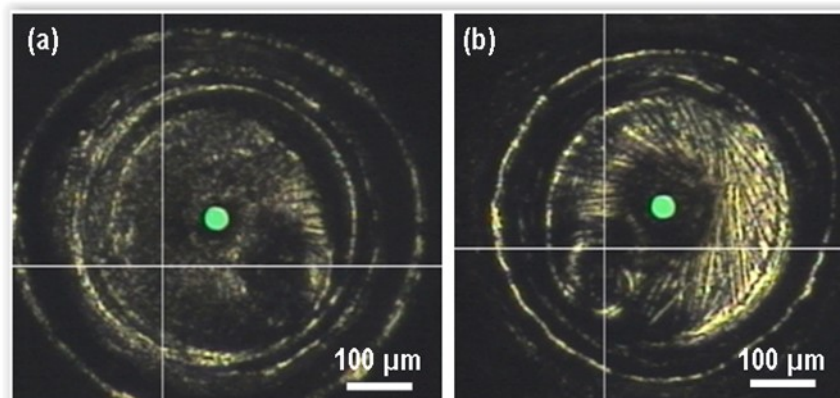


Figure 2: Drilled pre-indented gasket (10 mm thick), the hole diameter is 35 mm on the top side (a) and 34 mm on the underside (b).