

# Monocrystalline diamond in perfection

In modern production technology diamond tools with a sharp cut are used and achieve top performance. In order to work with this process at the highest level of perfection, René Gerber AG's machine range includes the polishing. Long-term know-how in fine machining is particularly evident in the processing of hard and superhard materials such as sapphire, ruby, carbide, MKD / PKD and diamond. The new process with very fine diamond brushes, in combination with Gerber machine-systems engineering, brings the perfect edge preparation to the diamond cutting.

Diamond tools as a new kind of tools in the field of fine machining establish themselves on the market. Diamond is the hardest mineral and can even be used for machining carbides. Diamond tools are used especially where high surface quality is required. For example sharpness, hardness and cutting edge are the decisive factors for users of diamond tools.

Diamond tools achieve very long lifetime. Monocrystalline and polycrystalline diamond has a higher toughness and a very high wear resistance, but is in relation to the absence of break-out of the cutting edge.

Because MKD / PKD equipped tools are 10-20 times better in normal finish about durability than hard metals, René Gerber AG has been experience with this process in the machining of drills and cutters.

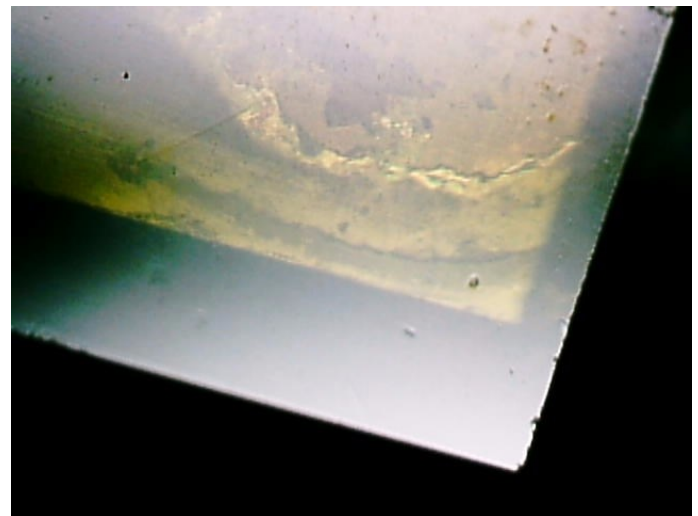


Illustration 1: Blank cutter (400 times enlarged)  
(400 Mal vergrößert)



Illustration 3: Monocrystalline diamond cutter

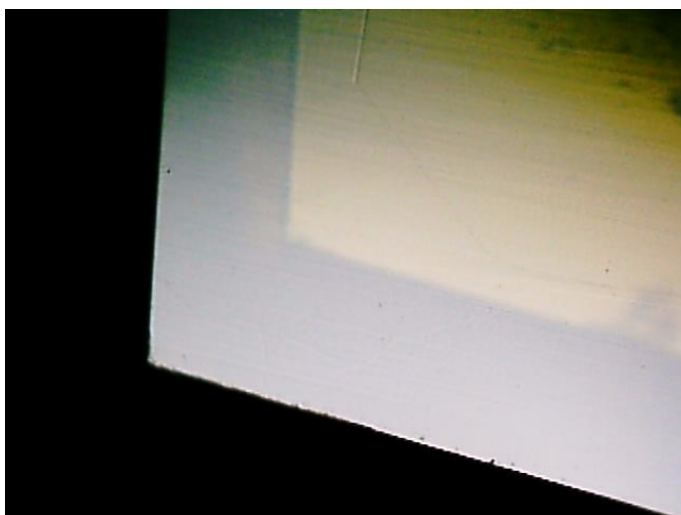


Illustration 2: brushed cutting edge by René Gerber AG  
(400 time enlarged)

**Absolutely sensational is the result:  
the edge machined by brushing  
Cutter is clean and designed for longevity.**

As a long-standing specialist in the fields of precise deburring, edge honing and polishing, we can say that the new high-innovative and precise handling of diamond tools only comes into play when the cutting edge is treated with the polishing process of René Gerber AG.

In the industry for the fine machining of small metal parts, especially in the watch and mobile phone industry the requirements for the surfaces are very high. That is the reason why the diamond cutters prepared with the Gerber brushing method are used to achieve the highest surface finishes.



Illustration 4:  
Brushing and Polishing Machine  
«BP-MX»



Illustration 5:  
Brushing and Polishing Machine  
«BP-Smart»

**René Gerber AG's equipment technology, which is used for these demands, is the «BP-MX» and «BP-Smart». Two proven products, now equipped with the new diamond brushing process.**

The Gerber brushing process:

- High accuracy in cutting edge preparation
- Absolutely reproducible
- High tool life
- Highest surface quality on the parts

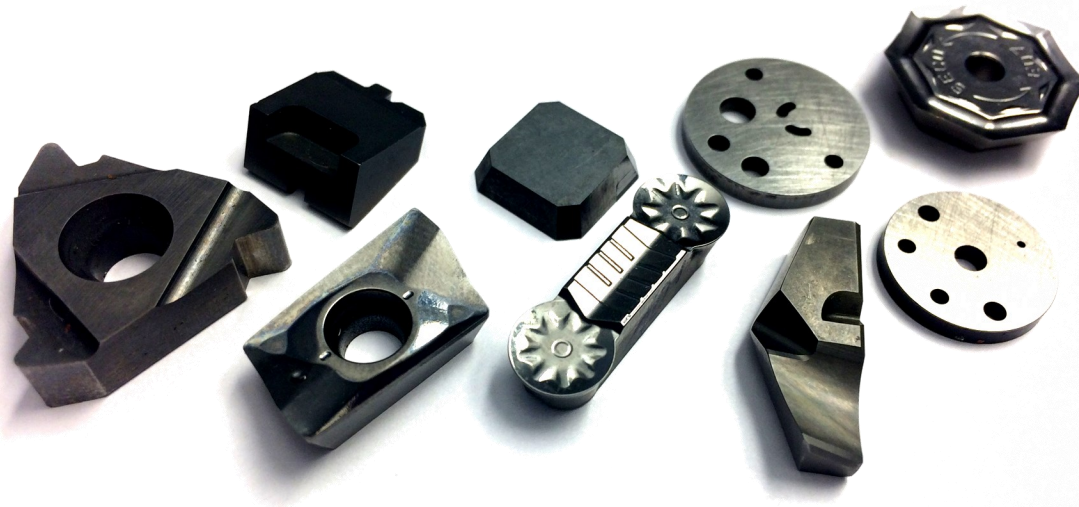


Illustration 6:  
Machined parts portfolio of the René Gerber AG

**René Gerber AG**  
Werkstrasse 35  
CH-3250 Lyss / Switzerland  
Phone +41(0)32 384 14 87  
[www.gerber-maschinen.ch](http://www.gerber-maschinen.ch)  
[info@gerber-maschinen.ch](mailto:info@gerber-maschinen.ch)