

## CASE STUDY

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# Carbide blanks: targeted polishing as preparation for trouble-free production

**Targeted polishing enables optimum chip flow when machining soft materials and thus extends the service life of the inserts by up to 100 percent. This means that production processes are significantly more efficient and the OEE of the plants is maintained at a consistently high level.**

### Good preparation is half the battle

The preparation of carbide blanks is comparable to the mise-en-place in gastronomy. Perfect setting-up work in the various sectors are essential prerequisites for a trouble-free serving process and thus increase productivity or the service personnel while at the same time reducing stress.

Good preparation is also important in the processing of blanks. Polishing of the surface with a radius of 0.2 mm has a significant effect on the trouble-free machining and insert life of cutting plates. In addition, the micro-geometry has a significant effect on the wear and tear behaviour of the cutting tools. Good preparation is always half the battle.

### Cutting edge honing as the solution

As different tests at the IFW Institute for Production technology and tool machines at Leibnitz University in Hannover have proven, utilisation of cutting edge honing in combination with the surface polish in almost all geometrically determined cutting processes can be proven to give a prolongation of tool life of up to 100 percent compared to sharp-edged and unpolished tools.

This impressive figure results from the reduction of local stresses. Particularly in the case of carbide-specific cutting edge rounding, premature edge chipping is prevented, thus enabling reliable processing. After all, these are precisely the factors that make production workflows in a tool making and production process much more efficient and economic.

### RENÉ GERBER AG Engineering

As a successful manufacturer of rounding and polishing machines with currently twenty employees in Lyss, we build brushing and polishing equipment for the automobile, coin, sapphire, tool, punching and watch industries, as well as for the medicinal and micro technology and also for gears and motors.

RENÉ GERBER AG was founded in 1955 and has since then consistently developed the processing of hard and ultra-hard materials. Today Gerber is one of the leading suppliers of edgerounding and polishing machines for carbide cutting inserts.

With service support locations and branches in 17 countries, with whom we closely cooperate, we seek to be close to our customers in order to respond to their requirements.

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### Brush polishing machine BP-Smart

Within the company, the BP-Smart does not carry the name “the Universal” in vain. The tried and tested brush polishing machine is characterised by its operational excellence when brushing sharp edges and burrs, as well as when brushing precisely-defined radii or contours on edges. In addition, the Universal also polishes the surface at the same time and reproduces experimentally determined results with constant accuracy.



### Process example

**Part designation:**

Carbide blanks

**Material:**

Tungsten carbide

**Industry:**

Tool manufacturer, serial production

**Task formulation 1:**

Polishing of the surface with a radius of 0.02

**Task formulation 2:**

Targeted edge honing

**Brush:**

Diaflex, diamond-studded

**Workpiece handling:**

Workpiece palette

**Processing time:**

12 minutes

**Customer benefit:**

- Higher process stability through automatic brush measurement
- Greater flexibility with a larger working area
- Very robust design with reinforced table



«The absolute benefit of the uniform service life is the consistently high OEE of the equipment. I get more parts out and am thus a reliable supplier for my customer.»

Marc Schori CEO, René Gerber AG