

The finest grains, big impact

By 2 step Fine-lapp-blasting to technically improved surfaces

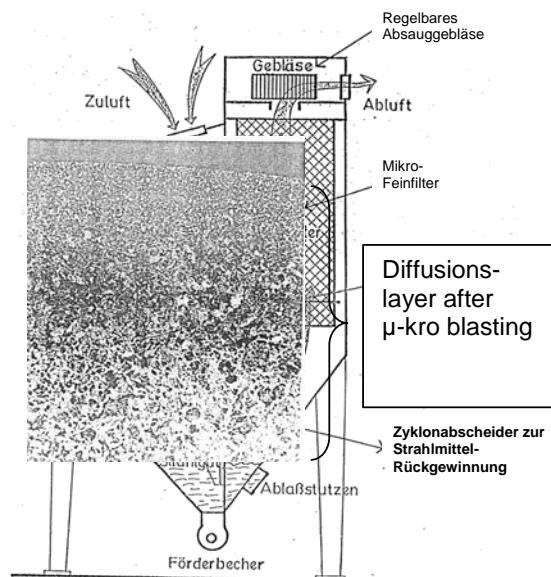
Commonly the blasting process as sand-blasting or glass bead blasting is known. Here is hailed as a rougher surface finish, which certainly in some areas has its privileges. These beam method, but will usually score no μ -scopic and technical improvement of the surface. Often these processing aimed purely on aesthetic improvements to the workpiece surface.

Rather, when one speaks of a repeatedly reproducible Fine-lapp-blasting method, which affects the surfaces of various work pieces positively with different materials. For this purpose were special and blasting media with a high degree of technical expertise are always evolving. In addition, the associated Fine-lapp-blasting unit must be technically designed so that they not only today but also in the future can reproduce the results again and again.

Many low costly machines that exist on the market do not have a so-called blasting media recycling system. It is often only one standing behind the machine blasting material extraction means in these machines. The heart will always produce reproducible results for a blast cabinet is a so called cyclone separator. This separates the good from the spent and broken abrasive. This ensures the tool and die makers that only intact and clean blasting agents in the treatment process is available. The difference of these two exhaust systems are also reflected in the consumption and the cost of the shot again. Assuming that you need for a conventional beam facility in approximately 200kg of an abrasive, one could reduce the cyclone system the abrasive consumption at 25-50kg depending on the processing frequency

How does this cyclone?

In this cyclone, it is so that, starting from the beam center run-collecting container held a swirl of the blasting agent in the cyclone. The swirl is dependent on the size and thus severity of the blasting material and can be infinitely adjusted to the Lapp blasting unit. This is then separated from the good battered blasting material in this wear-free cyclone separator. The ablated particles are separated here also. The intact beam center falls back into the reservoir for editing and no more, for a reproducible surface to use beam means the Lapp blasting unit is discharged into the rear area. In the rear area again the heavy blasting agent falls down into a collection hopper and the air is released through a fine filter by last dust particles. Thus, only absolutely pure air enters back into the environment.



Do you need a heater for drying the blasting agent?

Partially exists the opinion that a blasting agent heating of distress would be on the market. This can devalue solely as a selling point. Frequently, this heater is mounted outside of blasting agent and Clippings inadequately secured. If ever a blasting agent drying is to be used, should they are in the form of a torpedo heater directly in the blasting agent container.

Thus, the blast cabinet housing does not heat up. A heating therefore makes no sense, since the beam method is a dry blasting method. If the abrasive get wet again expect, by whatever reason, a heater can this though as it were dry but clumped this logically. It is comparable with the sand on the beach. The sand is wet and then dried again in the sun, the sand grains remain stuck together.

Thus, the blasting media is "caked" and a subsequent blasting process is no longer possible.

What can you edit with the Lapp blasting method?

The main field of application for the micro-blasting in the range of dies and molds.

Can edit almost all the materials that are used in this area. For example, tool steels (cured or uncured), stainless steel, electrolytic copper, hard metals, graphite, plastics, glass and more.

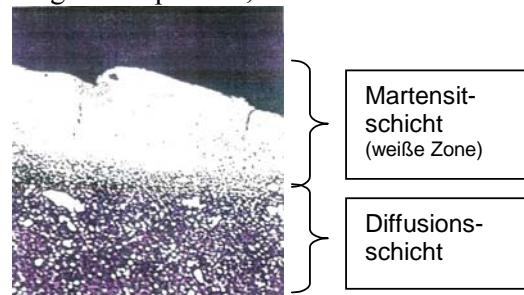
For what reason should the 2 steps lapp blasting method be used?

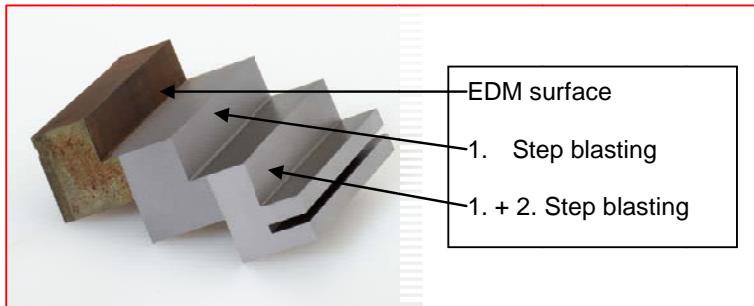
If you look at the field of electrical discharge machining of tool steels, you always meet on the following fact:

In the electrical discharge machining passes through the thermal process, which is present here, always a so-called white zone (martensite / cementite) on. Various metallurgical studies have shown that these white zone influenced and depending on the process, material and generator setting can vary in thickness.

The structure described is a very brittle layer, which quickly breaks out in a machining process such as stamping and tool causes increased wear and consequently increased repair costs.

In the field of plastic processing this layer would break also after a few molding cycles and cause ejection problems. In this case, after the opening of the mold the article in the nests would adhere.





By that used in the first stage of the μ -kro-blasting method abrasive blasting agents this martensite is removed to 100%. This works in seconds and most importantly without violating the edges. With the 2nd stage of the μ -kro-blasting method, the surface portion is compressed after the 1st stage. This compaction reduces the friction wear and optimizes the pairing properties of different materials.

In addition to the metallurgical improvement of the surface in this 2 steps μ -kro-blasting method, the surface roughness halved!

An example of measurement should be listed as examples for the 2 stages μ -kro-blasting method here:

Eroded surface with a Full-section:

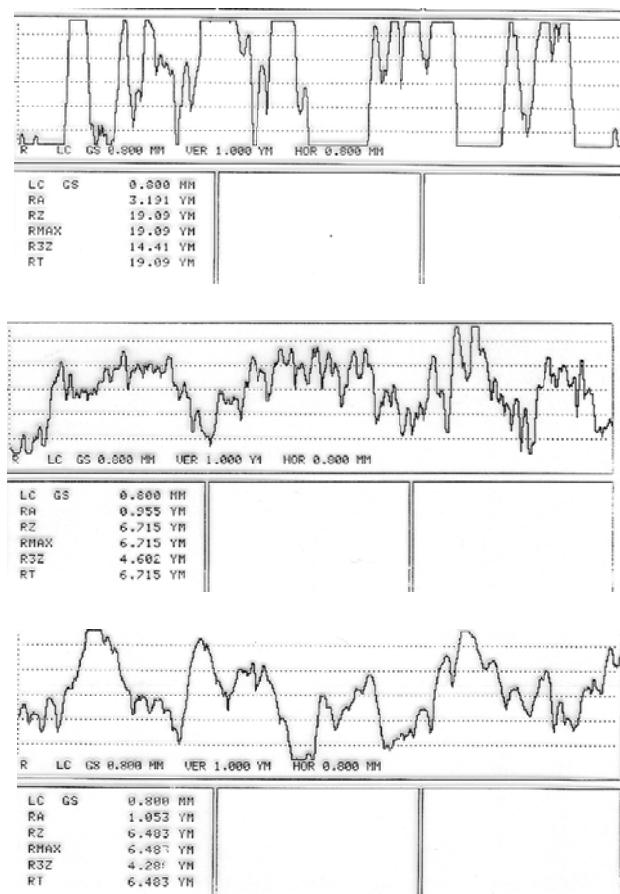
Ra => 3.19 microns
RMAX => 19.9 microns

1st stage blasted:

Ra => 0.95 microns
RMAX => 6.71 microns

Dimensional change: LD => 1,6 μ m

1st and 2nd stage blasted:



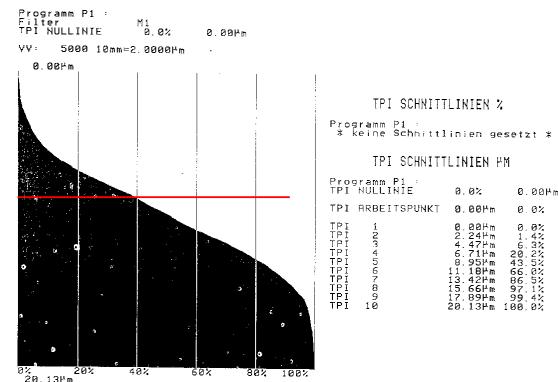
Ra => 1.05 microns
RMAX => 6,48µm

Dimensional change: not measurable

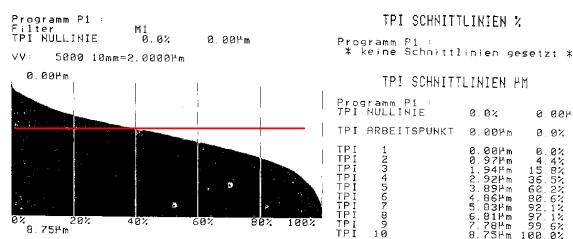
In addition, the percentage of the contactsurface is greatly improved.

TPI Abbotsche curves and bearing capacity-curve.

A 40% strength viable surface is according to a penetration depth of 8 .µu.m available



After the µ-kro-blasting treatment, the surface is at 40% viable after 3 microns for disposal

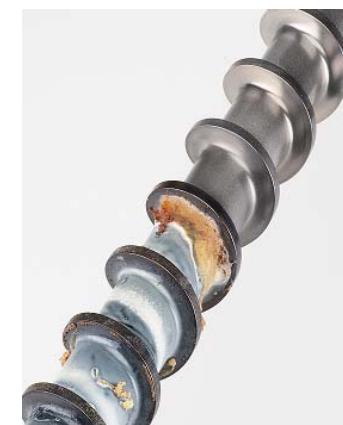


This improvement in the surface increases the long term life of tools!

Also EDM machined parts that were made with several remakes can be improved by the µ-kro-blasting method and the newly developed specially HGH abrasive.

Another area for blasting process is the mold. Frequently on plastic products can be seen EDM structure. This EDM structure created

very time-consuming due to the die-sinking EDM. For this purpose only must electrodes are produced, which are then inserted through



the time-consuming Die sinking.

Today's HSC technology makes it possible to create already finished 3-D contours by milling in many areas. Following this rapid processing can now be made with certain blasting media EDM structure. Here, the special abrasive is blasted with a certain pressure onto the mold surface depending on the desired VDI class.

This type of structuring has in recent years, especially for larger form manufacturers for example, Vacuum cleaner or telephone housings proven. This reproducible patterning means a huge time and cost savings potential.

Also, an application example from the area of injection molding is the purification of polluted snails. Often tried with fire, or pure ultrasonic cleaning to remove strong dirt. This works only partially or kind-of any negative edges.

Also, this problem of "easy cleaning" can be met with a beam method and the associated special blasting media. **This cleaning the worm is executed within a few minutes. And all without chemicals or tedious manual labor!**

Conclusion:

The examples could be continued at will. But on the basis of the three possibilities described can already see the potential of radiance.

Important as already indicated a perfect machine technology in conjunction with a specially for its application, developed blasting media.

To achieve a defined surface geometry sets the μ -micro blasting of HGH for over 10 years standards! And all the machines with the quality seal "Made in Germany".

HGH continues steadily, you can also benefit from this development work and join in HGH's screening room in Lüdenscheid or on the EuroMold in Frankfurt.

HGH is a synonym for quality, expertise and vision.

Consequently, the formation of our slogans was: Success needs strong partners only logical.