

Our Service

Grinding

For tools used in grinding, adjusting and rounding off via subtractive surface removal, diamond and sapphire grit coatings are the ideal grinding materials. They are used extensively in fields including mechanical engineering, plastics processing, jewellery production, dental instruments, manicure and pedicure treatments and for the rounding off of natural fibers and synthetic bristles.

In the area of machining and cutting technology, diamond grit is also highly suited to drilling and milling tools, reamers and grinding tools.

Increasing the coefficient of friction

Our diamond coating is a simple, economical and safe solution for various components used in the transmission of force and torque. The components can either be completely or partially coated, which allows for significant space-saving design.

As an alternative, we also produce customized metalfoils which are coated on both sides, providing a significant increase in the friction value.

Friction-enhancing coatings from WILOFA DIAMANT are currently being used, for example, in the automotive industry and in the mechanical engineering industry.



We look forward to hearing from you and would be glad to assist you in any way we can.

Tailored to your needs

At WILOFA DIAMANT our highest priority is the satisfaction of our customers and this starts at the earliest stage. We will work with you and advise you during the development phase of your tools to find the most suitable surface coating. The result is the perfect, customized solution to your needs. We would also be happy to present you with an individual offer, even for small series coatings. The sizes of our batches range from 1 to 1,000,000 pcs.

Affordability

Make the most of our know-how in the area of tool coating. Used and worn out tools which have already been coated can often be re-coated with diamond grit in the electro-galvanic process. Your tools can be reused, which saves you the cost of buying blanks. Feel free to contact us regarding this economical alternative.



Innovative Gripping Technology – Reliable Hold



60 years of experience with diamond and sapphire grit coatings

Applications



Gripping

Gripping technology is essential in several industries for the secure positioning and handling of paper, foils, metal sheets and other various work pieces. We can optimize these processes by coating your tools, such as gripper jaws, gripping pliers and retaining plates.

In addition, we also offer WILOFA-coatings with diamond and sapphire coatings, which are effective in industries such as medical technology and dentistry. These markets require non-slip contact surfaces for a safe and secure grip.

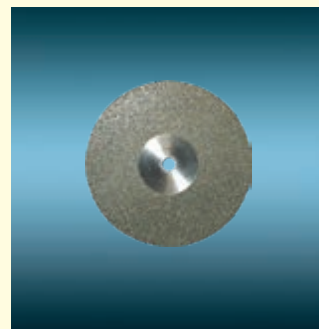
Our specialist coatings can improve the grip of products including:

- Metal body parts in mechanical engineering
- Cables
- Metal pipes and tubing (for example, brake lines during assembly)
- Paper print sheets

Transportation

During transportation, work pieces are moved on determined tracks of rollers and belts. A suitable surface coating improves contact and allows for secure fixation during the transportation process.

Diamonds, the hardest minerals of all, are not only extremely wear-resistant, but also prevent slippage by securing the transported object with their sharp edges. WILOFA DIAMANT can apply special types of grit to minimize unwanted indentations and pressure marks when necessary.



Example of a coated disc:
Coated base body of stainless steel
Diamond coating:
D54 synthetic diamond grit



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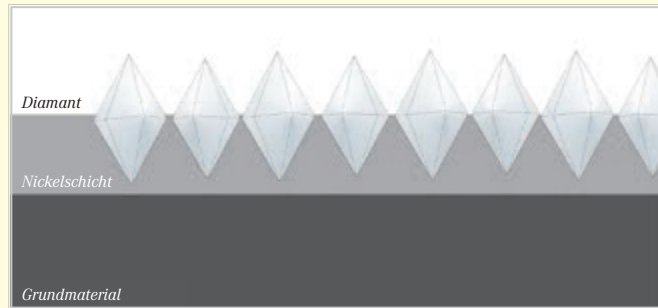
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WILOFA DIAMANT is certified according to EN ISO 9001 and EN ISO 13485.

High-quality surface coatings
Made in Germany

The Technology



The Principle of Diamond Coating



Upon application of an electro-galvanic layer, grit embedding occurs. This provides each piece of grit with the required working space.

Bonding to the base material

The base bodies utilized for galvanic diamond tools are commonly made out of the following materials: steel, aluminum, copper, brass and ABS plastic. The diamond or sapphire grit is then embedded in a nickel matrix which creates a strong bond to the base material. Surfaces which would not typically be coated can be covered by a protective coating to guarantee a precise application. The coating process is carried out at approx. 50°C so that the strength properties of the tools remain.

Materials for coating

The following materials are suitable for diamond or sapphire coating:

- carbonaceous steel
- stainless steel
- brass
- copper
- aluminum
- ABS plastic

Diamond and sapphire grit can be applied in sizes ranging from 10 μm to 1000 μm . For special, high-stressed applications, cubic diamond grit is recommended, which can extend the service life of the tools considerably.

The Products

Versatility and precision

Our wide range of products offers the right tool for every purpose and has been proven for exceptionally precise and carefully-applied coatings, for example on inner surfaces of cylinders and on edges of work pieces.



References

Here are just a few of the well-known companies in the area of mechanical engineering which trust in the quality of the products from WILOFA DIAMANT:

- SKF GmbH
- Freudenberg O-Ring GmbH & Co. KG
- Vossloh Fastening Systems GmbH