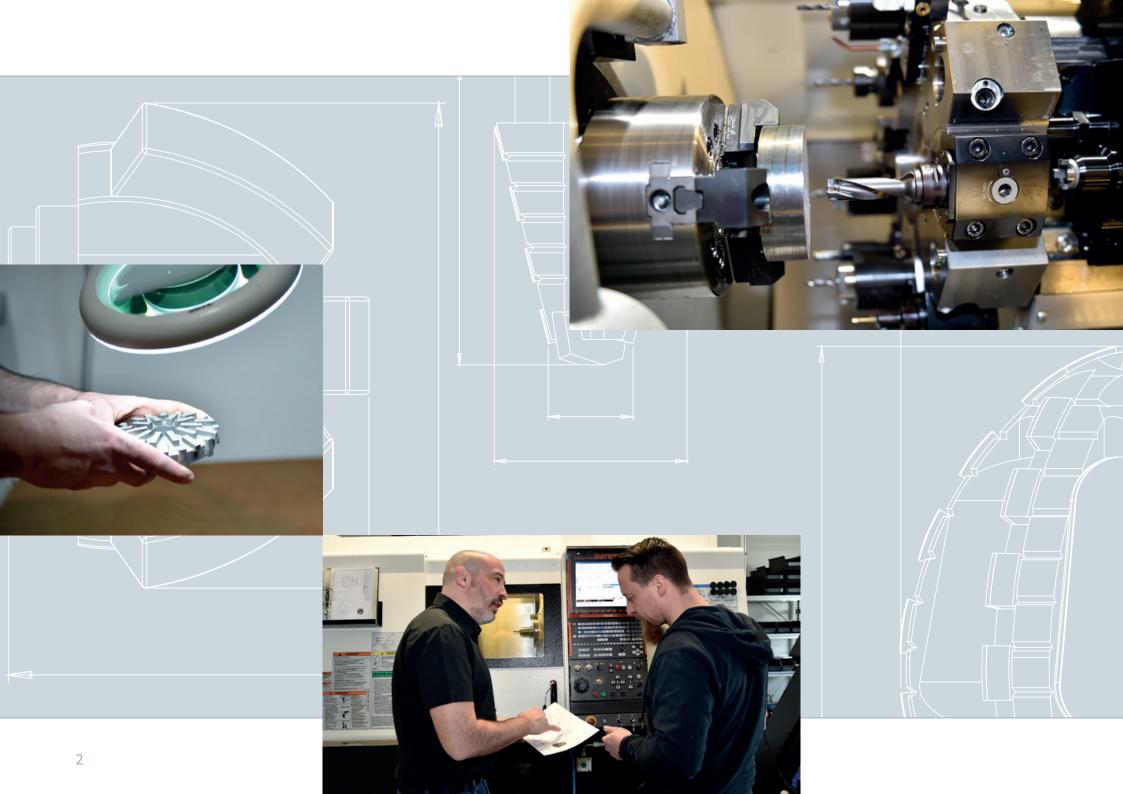
INNOVATIVE DIAMOND TOOLS FOR SEWER REHAB ROBOTS





ABOUT US

A LOOK BEHIND THE SCENES

Our company was founded in 1994 in Kraichtal, in Germany's Karlsruhe technology belt. Starting from modest beginnings with only a few employees, we are today the leading full-service provider of diamond tooling for sewer rehabilitation.

For more than 20 years, enthusiasm and pride in what we do have powered our in-house development of innovative diamond tooling fulfilling highest quality standards.

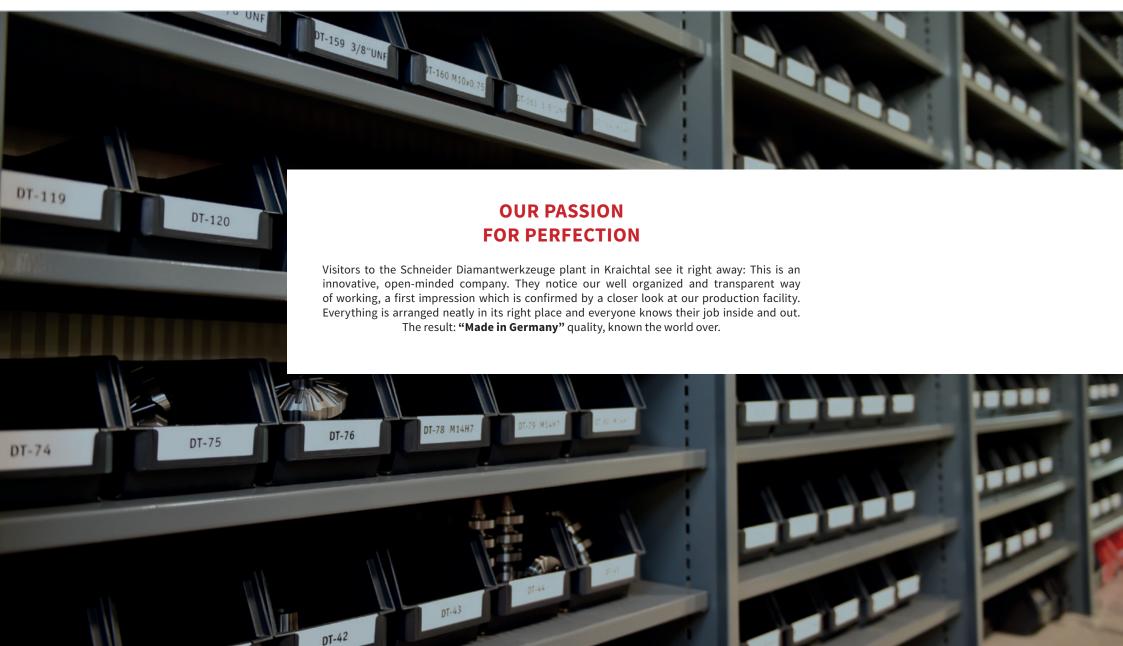
Driven by a commitment to excellence, we optimize our products and fabrication processes to meet and exceed customers' expectations and requirements.

Customer satisfaction in markets worldwide is our highest priority and the key to our success.

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Steffen Schneider / CEO

MADE IN GERMANY













MANY YEARS' EXPERIENCE

Our decades of experience in the diamond tooling business are your assurance of tooling with highest performance and quality.

WIDE-RANGING EXPERTISE

Customers benefit from our in-depth expertise and ongoing education to keep pace with state-of-the-art technologies.

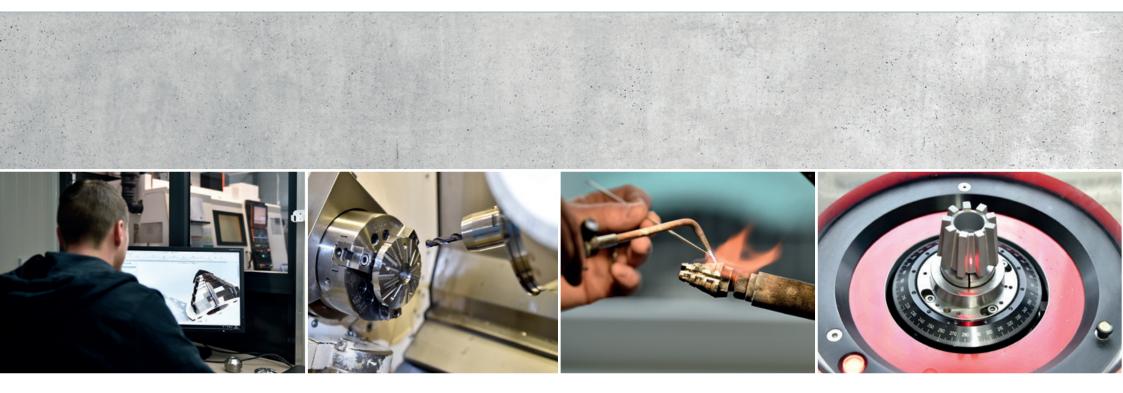
INDUSTRY KNOWLEDGE

Working closely with leading sewer rehab robot manufacturers and with users at jobsites, we have the handson knowledge required to create optimum tooling for any application.

SKILLED CRAFTSMANSHIP

Quality knows no compromises. Our tooling is fabricated by highly qualified and experienced staff with utmost skill and uncompromising attention to detail.

PRODUCTION



CAD + CAM

The first step in design of our tooling products is visualization using stateof-the-art 3D software. The resulting virtual 3D models serve as the starting point in programming for CNC fabrication. Programming is optimized and accelerated by use of powerful CAM software.

CNC

Using advanced CNC fabrication equipment, we transform our R+D group's ideas into reality. Our 5-axis CNC machining center, a key element in fabrication, ensures highest precision with maximum flexibility.

BRAZING

Brazing is an important step in our production processes. Wide-ranging expertise, high skill and utmost care in the brazing process are required to securely join the cutting materials to the metal base below. Highly trained, our staff has the know-how required to do the job right.

BALANCING

Precision-balanced tooling provides users numerous advantages. These include prolonged tooling service life and, even more importantly, minimization of stress and wear in the drive motor shaft and bearings. Tooling must work with minimum run-out to permit efficient operation and ensure high cutting performance.

CUTTING MATERIALS



DIAMOND SEGMENTS

Diamond segments are compounded by blending metal powders and synthetic diamonds. The segments are sintered to the desired shape and dimensions by compression molding at high temperature and pressure. The result is a metallic matrix with embedded diamond grit. The amounts and types of metal and diamond components used are formulated specifically for the intended application, i.e. the materials to be processed. The formulation is a key factor for the tooling's cutting performance and wear behavior.

PCD

PCD segments are made from a tungsten carbide base material with diamond micro-powder on its surface. A special sinter process with high pressure and temperature is used to transform the loose micro-powder into a homogeneous diamond layer. The PCD blanks made in this manner are then cut into individual PCD segments and configured with cutting geometry as required for the intended application.

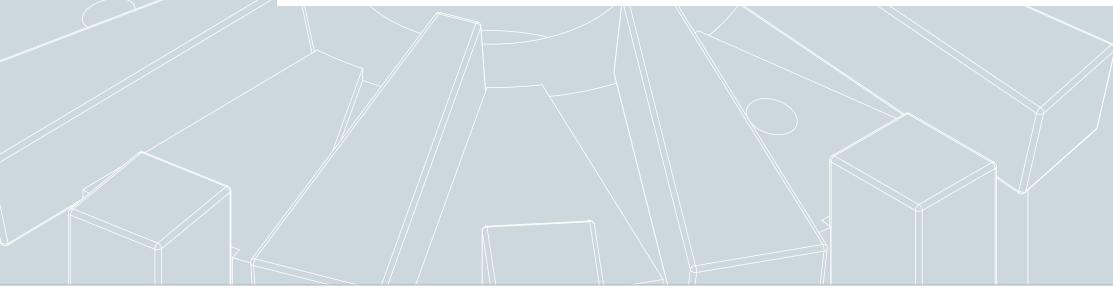
CARBIDE GRANULES

Tungsten carbide granules are recycled material recovered from turning or cutting inserts used in the metalworking industry. The inserts are transformed to granular material by a crushing process providing the required grain size distribution. Tungsten carbide granulates are available in a broad spectrum of grain sizes ranging from very fine (0.3 – 0.5 mm) to coarse (3.0 – 4.0mm). This provides high flexibility for design of tailor-made tooling for specific applications.

PRODUCT OVERVIEW

INNOVATIVE DIAMOND TOOLING FOR SEWER REHABILITATION

Today's state-of-the-art robot technologies have made sewer rehabilitation fast and cost-effective. The tooling used plays a crucial role in the rehab process: The best robot is only as good as the tooling it is used with. We offer a variety of product lines with a wide range of high-quality premium and standard tooling. Users can select the best tooling for the job at hand in accordance with the robots used and the materials to be processed.







PREMIUM DIAMOND TOOLING FOR HIGH-PERFORMANCE MATERIAL REMOVAL AND LONG SERVICE LIFE APPLICATION AREAS: Milling and grinding of concrete, reinforced concrete, vitrified clay, deposits / fouling and cast iron.

CUTTING ACTION: The cutting effect of N•TEC II[®] tooling is provided by diamond grains which protrude out of the metal matrix. This tooling is specially engineered to provide smooth operation and highly effective cutting performance.



linerCUT Pro[®]

INNOVATIVE PCD CUTTING TOOLING FOR FAST AND PRECISE OPENING OF CIPP LINERS **APPLICATION AREAS:** Milling of CIPP liners and PVC.

CUTTING ACTION: The cutting action of linerCUT Pro tooling is provided by a PCD cutting edge which is tailor-designed for use on CIPP liners. This tooling is engineered to provide highly effective and virtually vibration-free cutting performance.



BLACK•LINE

HIGH-TECH PCD TOOLING WITH UNBEATABLE CUTTING PERFORMANCE AND MATERIAL REMOVAL RATE **APPLICATION AREAS :** Milling of concrete (not suited for steel-reinforced concrete), vitrified clay, deposits / fouling, CIPP liners, PVC and roots.

CUTTING ACTION: The cutting effect of BLACK•LINE tooling is provided by a PCD cutting edge which is tailor-designed for the application field at hand. This tooling is engineered to provide aggressive cutting behavior with rapid volume removal.

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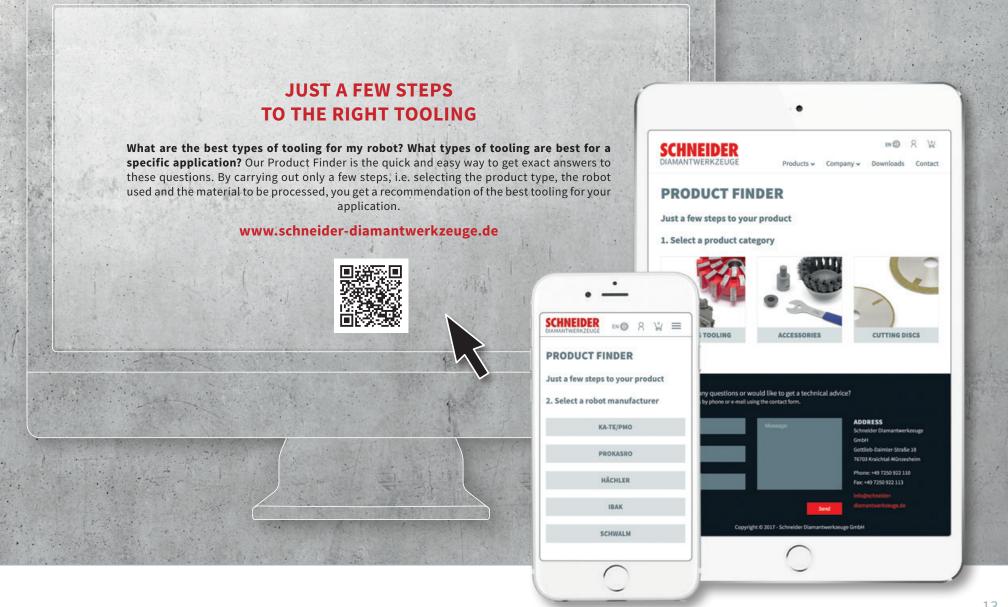
HM•LINE

CARBIDE-GRANULATE FACED TOOLING FOR EYE-PLEASING FINISHES

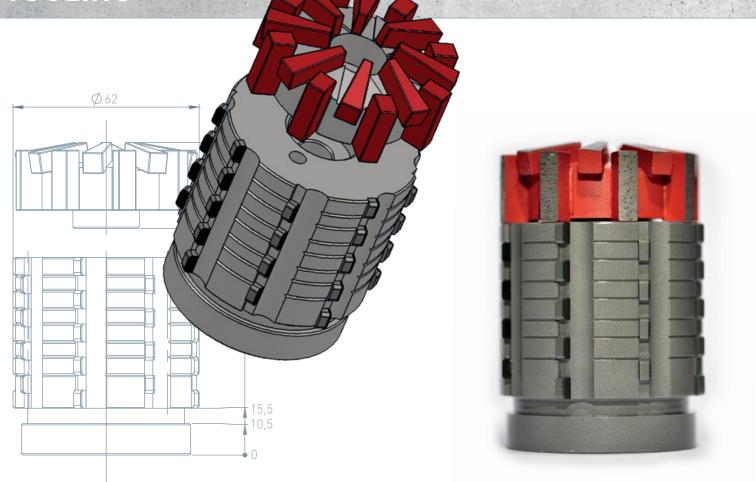
APPLICATION AREAS: Milling and grinding of CIPP liners, PVC and roots.

CUTTING ACTION: The cutting effect of HM•LINE tooling is provided by tungsten carbide granules which protrude out of its surface. This tooling is engineered to provide gentle (non-aggressive) cutting action, making it ideally suited for cosmetic trimming and finishing of CIPP liners.

PRODUCT FINDER

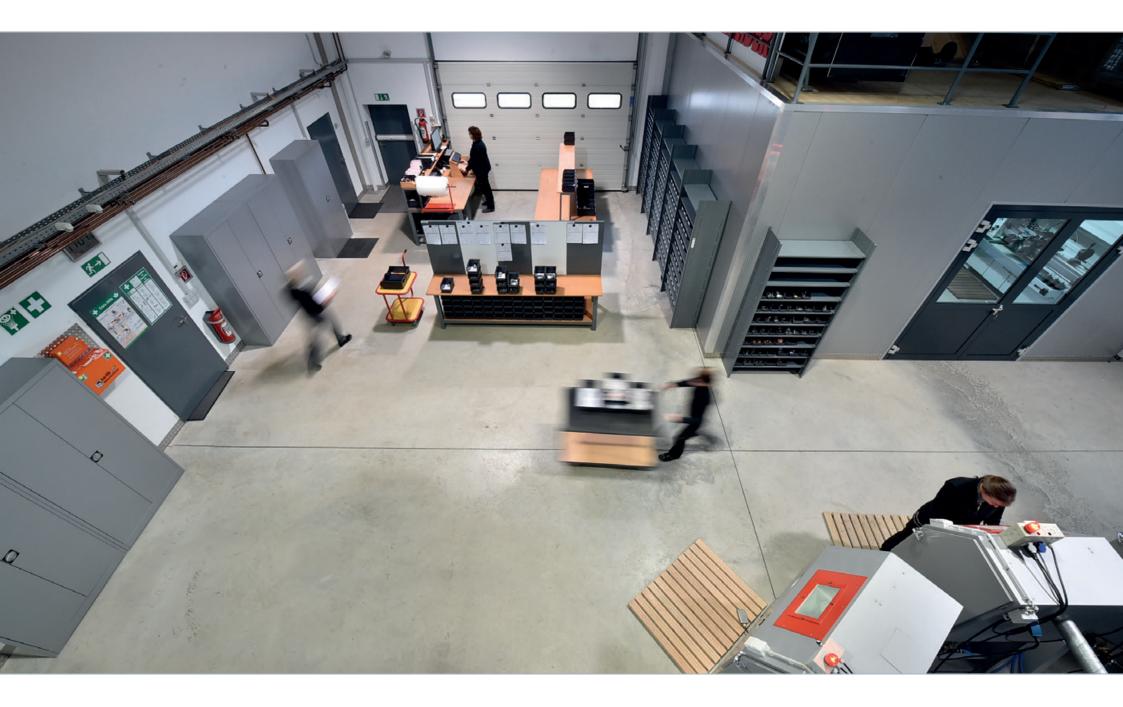


CUSTOM TOOLING



FOR SPECIAL REQUIREMENTS NOT COVERED BY OUR STANDARD PRODUCT RANGE

We can develop custom-designed tooling solutions for your specific sewer rehab needs. Using state-of-the-art design software and advanced fabrication technologies, we produce your tooling cost-efficiently and with minimum lead time. As we see it, the key to helping you is to meet with you and fully understand your requirements. Only then can we provide expert applications engineering to realize the optimum solution of the problem at hand. Contact us – we'll show you the way!







SCHNEIDER DIAMANTWERKZEUGE GmbH • Gottlieb-Daimler-Straße 18 · 76703 Kraichtal / Münzesheim – Germany Phone: +49 7250-922 110 · Fax: +49 7250-922 113 · info@schneider-diamantwerkzeuge.de · **www.schneider-diamantwerkzeuge.de**