

User report

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Assuring perfect diamond tools

Neuber Industrial diamond Co., Burlington, MA, has been making quality natural and synthetic diamond tools since 1945 and PCD and CBN tools since 1965. Neuber's many years of experience in making natural diamond tools have produced the best procedures for brazing, cutting and polishing PCD and CBN.

"We are well versed in the many applications that both products are suited for. We buy PCD or other diamond inserts and round tooling and pocket the shaft and braze the inserts in place on the carbide," said Bob Young, Neuber sales manager. "We do a lot of rotating tools and also rectangular and triangular inserts."

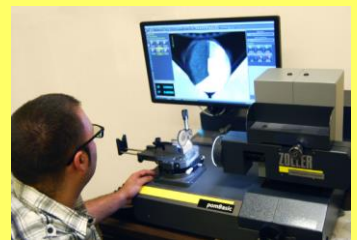
Many of Neuber's customers are aerospace companies and government contracts where the specifications are very exacting. Inspection of the tools Neuber produces is critical to insure only perfect tools are shipped and documented.

Tool geometry, and in particular, proper edge chamfers are critical to good tool life. "The most important factor in a PCD contract with one of our aerospace customers is clearance on the cutting edges of the tools and cut diameter of the tools," Bob pointed out. A typical tolerance for Neuber's tools is .00005 in.

The company had for years been using optical comparators to inspect the micro-range tool edges, but the finer tolerances and need to document the tools it produced led Neuber to look for a better way to inspect the tools.

"Optical comparators," Bob said, "unfortunately have a shadow line which is right where we need to make the measurements on the tools. It just was not acceptable. We needed something more advanced to measure in the tenths and millionths of an inch—impossible with a comparator. Our customer recommended Zoller to us, and we investigated."

A ZOLLER »pomBasic« was installed in early 2013. The ZOLLER »pomBasic« inspection machine is a compact solution for universal,



»pomBasic« in practical use at
Neuber Industrial Diamond
Company, Burlington, MA"



»pomBasic« inspection machine



PCD tools



process-oriented measurement and inspection of drills, milling cutters and countersinks in incident light. »pomBasic« is ideally suited for checking incoming material, in inspection rooms or directly on the shop-floor right next to CNC grinding machines. Uncomplicated and with automatic cutting edge detection for highest accuracy, POM provides user-driven measuring processes and inspection reports at the push of a button.

“From the main menu, you can set up the commands you want to use most frequently up front, no need to search through menus,” Paul Lanza, sales and POM operator, pointed out. “We just insert the tool, position, measure and we’re done. It is that simple - an automatic cutting edge detection for high accuracy, wizard-guided measuring processes and test logs at the push of a button,” Paul said.

At Neuber, the machine is used as a spot inspection device. “On special tools we can inspect each tool in the lot. We examine angles, radius, diameter—and can really see the finest detail on the tool and tip of our custom tools,” Paul added.

“We also use it as tool to help develop tool production programs. Previously, we would have used a comparator; but the POM is more precise, versatile and easy to use. We can also check for pits or cracks in the tool material and repair if possible, avoiding shipping inferior tools. One of the features we like most is that we can save the images and use them as a certification with our customers is to prove they are getting the tool they purchased. “

“The larger magnification area offered by the »pomBasic« is very helpful with our diamond tools,” Bob said. “Quickly and accurately inspecting tooling prevents us having any size variation in our tooling. There are size and geometry requirements for the cutting edges in our micro-tooling that would be otherwise impossible to detect and document.”

With the Zoller »pomBasic«, Neuber is looking forward to another 60 years of high quality diamond tooling.

E. ZOLLER GmbH & Co. KG

With great enthusiasm for inspection and measuring technology, E. ZOLLER GmbH & Co. KG, based in Pleidelsheim near Stuttgart, has been developing innovative solutions for increased efficiency in manufacturing processes for over 70 years. More than 30,000 presetting and measuring machines with internationally unrivalled software solutions have been installed to date worldwide. ZOLLER is increasingly moving from being a manufacturer of presetting and measuring machines to a globally operating provider of technology and system solutions. An international network of subsidiaries and agents guarantees maximum service quality through personal customer care.

About ZOLLER Inc.

In 1945, Alfred Zoller founded the company ZOLLER in Germany, which is today in its third generation. On March 1, 1997, ZOLLER Inc. was founded in Ann Arbor, Michigan. ZOLLER Inc. is providing sales and service to its customers within the U.S., Canada and Mexico for tool presetting, tool measuring and inspection machines, tool management software, heat-shrink systems and balancing machines.

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