



Precision Superabrasive Finishing Tool Systems for Machining Centers

Honing • Seating • M





Meet Your Machining Objectives with Superabrasive Tooling from Engis

In today's competitive environment, manufacturers are under increasing pressure to improve part quality, reduce costs and accelerate production. Engis Corporation's new range of tooling for Machining Centers captures the power of superabrasives, the hardest substances known to man, to help you achieve those objectives. Our electroplating process firmly anchors the diamond and CBN particles to the tool while simultaneously providing for maximum particle exposure.

It has been proven time and time again that Engis electroplated tools can surpass the machining efficiency of either tungsten carbide or PCD for milling, honing or seating applications. Let Engis put the power of superabrasives to work on your application.



Our electroplated tools are designed to be used with standard tool holders and can be easily placed into existing equipment without a capital equipment outlay.

Engis tools are being used successfully in the manufacture of engine blocks, diesel injectors, pump bodies and hydraulic components.

CALL 800.99.ENGIS

Improve Geometry and Finishing in Honing Applications

Engis finishing tools have proven superior performance on hydraulic pump bodies and the finishing of spool bores. Our unique internal U-joint design gives the tool "float" which consistently maintains its centering.

Engis' unique plating capabilities and expertise in the selection of superabrasive crystals provides for longer life, better quality parts and fewer changeovers. Finishing the parts in the drilling or turning application of a Machining Center reduces the need for secondary off-line operations and associated material handling.

Our finishing tools can be used on virtually any Machining Center provided there is at least 20 micron filtration. These tools have already proven successful in many applications at major hydraulic and construction equipment manufacturers.

There are many advantages to using Engis finishing tools including:

- Better quality finishes and geometry on parts
- Trouble-free operation
- Reduced material handling
- No capital investment required

The Perfect Tooling for Seating Applications

Engis seating tools have proven performance on fuel injector nozzles and bodies. Our seating tools improve geometry and finishes over other processes and can be used for finishing applications for both gas and diesel engines.

These tools can be used in Machining Centers as well as on indexable dedicated honing/bore finishing equipment.

Advantages:

- Better roundness and geometry
- · Improved surface finishes with superior sealing capabilities
- · No capital investment required



Engis is committed to providing superior products and services.

We faithfully comply with all requirements of our ISO 9001:2008 Quality Management System Certification. Our highly trained quality staff persistently search for new ways to improve the effectiveness of our systems. Engis has developed standards and procedures with its suppliers to ensure the highest quality of raw materials are used to manufacture our products.







ElectroMill[®] Significantly Lowers Costs on Face Milling Applications

ElectroMill diamond and CBN plated wheels replace expensive, complex indexable tungsten carbide or PCD milling cutters in high-volume production finishing applications by:

- · Consistently providing accurate flatness
- Improving surface finish
- Achieving better part tolerances

With the right machine tool conditions and speed/feed parameters, throughput can be significantly increased and tool costs, tool changeover and down-time cycles dramatically reduced.

Other significant advantages include:

REJECTED COMPONENTS AND REWORKS.

CASE STUDY:

SUBSTANTIAL.

- Tool life of the ElectroMill has proven to be >50,000 pieces consistently.
- ElectroMill tools can be returned to Engis for strip and replate; reusing the original wheel body results in significant cost savings versus purchasing a new wheel.
- Tool quality, dimensional accuracy and life repeatability will be the same on a replated product as the original mill.

A MAJOR MANUFACTURER OF MARINE ENGINES FACED SERIOUS CHALLENGES WHEN MILLING BI-METAL ENGINE BLOCKS. THEY WERE UNABLE TO ACHIEVE THE DESIRED FLATNESS, PARALLELISM AND FINISH REQUIREMENTS WHICH LEAD TO AN UNACCEPTABLE LEVEL OF

The Engis Electromill system improved the process considerably, achieving a finish of 40μ Ra and flatness of 60μ ry. This resulted in better quality blocks with virtually no rejects or rework. The savings to the customer was



Engis ElectroMill can be successfully applied in marine, small engine, automotive, off-road, agricultural, aerospace, defense and other industries AND across a wide variety of components as well as ferrous, non-ferrous and exotic materials.



No other company has the in-depth expertise in diamond characterization or the engineering skills to design single-pass diamond honing tooling as Engis Corporation. We have the drive and the competitive spirit to not only meet, but exceed your expectations. Contact us today!



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