

## ElectroMill® Diamond Milling Tool

### ONE TOOL - ENDLESS POSSIBILITIES

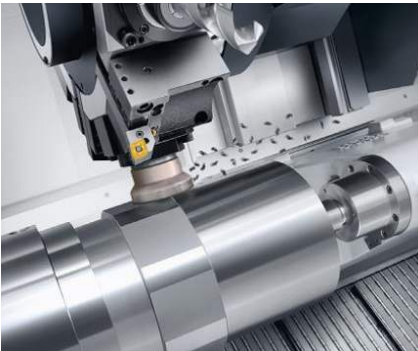
Replace wearable, indexable tungsten carbide or PCD milling cutters in high volume production finishing applications.

- High strength alloys
- Stainless steel
- Ceramics
- Cast Iron
- Fiberglass
- Composite Materials
- Aluminum Composites
- Powdered Metals



The flat machining of bi-metal surfaces or milling applications involving an interrupted cut can present daunting challenges to PCD or carbide milling cutters. The inserts may chip during the milling process, resulting in high machining costs and elevated levels of sub-standard or rejected parts.

The Engis ElectroMill is designed to produce high quality, flat milled surfaces, even if an interrupted cut is present or multiple materials need to be machined simultaneously.



Use on any system with high pressure coolant and 10,000+ RPM

The ElectroMill, combined with high pressure coolant, can machine these materials to an extremely accurate value of flatness with very low tooling costs. In some cases, customers have been able to reduce scrap and reworks significantly; this contributes to increased productivity and an improved bottom line.

Significant advances in part quality, as well as cost savings, have been realized with the use of the ElectroMill in the final machining of cast iron hydraulic valve bodies and aluminum engine blocks fitted with cast iron cylinder inserts.

### ElectroMill Features & Benefits:

- Achieves high surface finishes and flatness in one step without grinding
- High stock removal rates
- Low heat buildup
- Exceptional tool life at a lower cost
- Reduce manufacturing time and cost thru fewer operations, setups, inspections and outplant operations.
- Adaptable to all tool holders
- Coolant flow rate optimized for system pump capacity

THIS HYBRID TOOL CAN ACHIEVE FLATNESS UP TO 20UM AND SURFACE FINISHES AS SMOOTH AS 8 RA OVER A SINGLE, CONTINUOUS LENGTH OF 25 INCHES ON CAST IRON.

### CASE STUDY #1

PART:	Engine Block
MATERIAL:	Aluminum Block, Cast Iron Cylinder Liner
WHEEL:	10" Diameter, HSK Tool Holder/Finishing Mill
GRIT:	40/50 Diamond
RPM / SFPM	6,000 / 15,708
FEED RATE:	74 IPM
COOLANT:	Water Soluble 350 PSI
DEPTH OF CUT:	.010 Per Pass
FINISH:	40 Ra, Flatness .0002



### CASE STUDY #2

PART:	Hydraulic Valve Body
MATERIAL:	Ductile Iron (65-45-12)
WHEEL:	4" Diameter, Cat 40 Holder
GRIT:	20/30 Diamond
RPM	5,000
FEED RATE:	225 IPM
COOLANT:	Water Soluble 1000 PSI
DEPTH OF CUT:	.0095" Per Pass
FINISH:	30 Ra, Flatness .0005



### CASE STUDY #3

PART:	Transmission Covers, Clutch Covers
MATERIAL:	Grey Iron
WHEEL:	3" Diameter, Cat 40 Holder
GRIT:	50/60 Diamond
RPM / SFPM	10,000 / 6,500
FEED RATE:	50 IPM
COOLANT:	Water Soluble 100 PSI
DEPTH OF CUT:	.003 Per Pass
FINISH:	32 Ra, Flatness .0005

