Highly Evolved Cutting Tools
Mastertech Diamond Products Company in Mentor, Ohio, designs, manufactures and distributes the finest cutting tools available for the most demanding machining applications. Our specialty is diamond tooling for cutting aluminum alloys and other non-ferrous materials. Call us to see how we can lower your costs and increase your productivity.

PCD Cutting Tools
Polycrystalline diamond inserts and cutting tools are rapidly replacing carbide cutting tools in many non-ferrous machining applications. When properly applied, polycrystalline diamond cutting tools are extremely cost effective.

Benefits:
• Higher metal removal rates; faster cycle times; more parts per shift
• Reduced scrap; improved quality; tighter dimensional control; excellent surface finishes
• Optimum machine tool efficiency; increased productivity; reduced need for new equipment

PCD/CVD 3-D Laser-Etched Chip Breaker Inserts
The stringy “birds nest” that forms around tools and workpieces when chips fail to break causes shortened tool life, broken tools, poor finishes and costly machine downtime. The problem is especially troubling when turning aluminum and other non-ferrous materials.

To combat this, we now offer customized laser-etched 3D chip breaker geometries cut into our PCD and CVD-D inserts and cutting tools.

Benefits:
• Chips break easily
• Reduced machine downtime
• Tools last much longer
• Reduced scrap
• Better quality parts

Each laser-etched chip breaker is specially designed to meet the cutting requirements of the application. Inserts are available for both roughing and finishing operations in all ANSI and ISO styles including square, triangle and round, as well as in 35, 55 and 80 degree geometries. Mastertech also manufactures special drills, reamers, milling cutters and form tools with or without lasered chip breakers.

www.mastertechdiamond.com
PCBN Cutting Tools
Polycrystalline Boron Nitride tooling does a great job of cutting hardened steels >48 Rc, cast irons, powdered metals, and eliminates expensive grinding operations after heat treating.

Integrating PCBN tools into your hard turning program will enable you to hold close tolerances, produce excellent surface finishes, and will increase your productivity 200 to 300%.

Benefits:
- Faster speeds and feeds—up to 300% faster cycle times
- Reduced scrap and improved workpiece quality
- Tighter dimensional control; excellent surface finishes (8-12 RMS)
- Multiple operations in one chucking as opposed to several set-ups with grinding
- Positive environmental impact—eliminating grinding swarf. Most hard turning operations do not require coolant; chips can be recycled

Milling Cutters
Mastertech Diamond PCD Milling Cutters are the optimal method for efficient milling of aluminum, non-ferrous metals and non-metallic materials. Integrating these milling cutters into your machining methods will enable you to hold close tolerances, excellent surface finishes and increase productivity up to the limits of your machine tools.

CVD Tools
Mastertech’s CVD (Chemical Vapor Deposition) diamond tipped insert grades give you efficient production, ranging from high speed machining to heavy interrupted cutting.

Benefits:
- CVD inserts are appropriate for a wide range of applications from low to high speed and finishing to roughing
- Provide stable machining due to high toughness and resistance to fracturing
- Reduced machining time
- Good chip control with various molded-in and laser cut chip breakers
Mastertech Special Tooling
Mastertech provides custom manufactured PCD, PCBN, Rotary tools, inserts, cartridges and blue print specials made to order. We also provide relap, retip and reset service on any of our manufactured special PCD, PCBN, and Rotary tools.

Types of special tools we make:
- Inserts
- Cartridges
- Step Drills
- Reamers
- Coolant Thru Tools
- Endmills
- Roughing End Mills
- Ball End Mills
- Form Tools

Diamond Coated Inserts & Tools
When used as a coating for cutting tools, diamond provides very tough protection, unlike any other material.

Diamond coated tools are recommended for machining hard, abrasive, and difficult-to-cut non-ferrous materials such as: carbon fiber composites, fiberglass reinforced plastics, metal matrix composites, aluminum-silicon alloys, graphite, hard carbon and wood composites. Diamond coating is also recommended to extend tool life when cutting aluminum alloys dry or using minimum lubrication.

Contract Services
Because of our high volume capacity, engineering services, and specialized equipment, we can offer a variety of contract manufacturing services to cutting tool manufacturers and distributors:
- Vacuum Brazing
- Induction Brazing
- Insert Fabrication
- Insert Grinding & Honing
- K-Land Grinding
- Coating Services
- Laser Marking
- Consignment Services
- Private Label Services