

Precision Processing of Advanced Materials





LASER PROCESSING

After a merger with our sister company, Laser Services, Inc., Accumet's full-service materials processing solutions includes planar [laser cutting](#), [rotary laser cutting](#), [laser drilling](#), [laser welding](#), laser hermetic sealing, [laser ablation](#), and [laser marking/etching/engraving](#). Accumet's highly skilled, experienced, and knowledgeable laser machining staff are able to operate modern laser machining equipment and help customers who are new to laser machining, transitioning from traditional mechanical methods, or who are leveraging laser machining to provide cutting-edge products and services to their customers.

Laser Cutting

Our various [laser cutting](#) machines are able to rapidly and accurately cut a wide range of materials with incredible accuracy and with minimal fixturing and retooling.



We offer many of the same services as traditional CNC milling, water-jet cutting, plasma cutting, or electron beam cutting shops, but with much greater precision, speed, and flexibility. Laser cutting can be performed on a wide range of sheet and material thicknesses, and the extremely small kerf width of the laser enables the tightest tolerances.

Laser Welding & Hermetic Sealing

Laser energy can be used to create extremely precise and consistent welding seams for a variety of weld types, including butt, lap, and fillet joints using conduction welding, laser spot welding, and deep penetration welding. [Laser welding](#) typically doesn't require additional material or flux, and can be used to create hermetic seals with appropriate materials.



Rotary Laser Cutting and Marking

Accumet is tooled up and ready to conduct [laser rotary cutting](#) and marking/etching of tubes of all sizes and material types. Our process is ultra-clean and delivers debris-free results.



Count on us for precision lasered:

- Hybrid electronic package parts
- Lead frames
- Base plates
- Die pedestals and tabs
- Production jigs and fixtures
- Mechanical masks and templates
- Retainers
- Medical implants
- Helicopter armor, jet engine and aerospace components
- Stainless steel encoder disks
- Gold wire cutting
- Promotional products
- Printed Circuit Boards (PCBs)
- Thin-film, thick-film, and flexible circuit substrates
- Fine metal screens and filters
- Ceramic packages
- Electronic enclosures
- Foils
- Adhesive Preforms



LAPPING, POLISHING & MACHINING

Accumet has been providing [lapping](#) and [polishing](#) services for the most demanding applications for nearly half a century. Accumet expert technicians are able to offer an array of grinding, lapping, polishing, and machining services for pre-processing and post processing of most types of materials.

Lapping

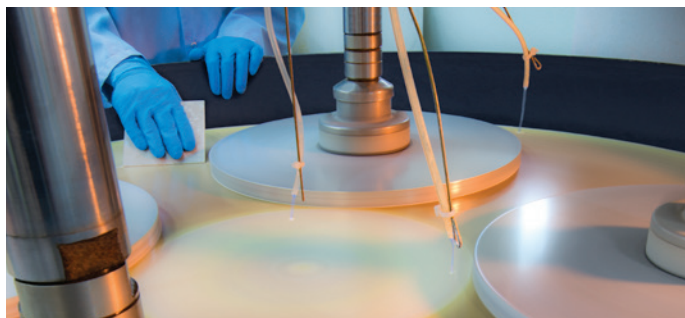
[Lapping](#) employs abrasive materials and precision mechanical motion to work base engineering materials and control material surface, thickness, flatness (camber), and parallelism. This is especially important for microelectronic, aerospace, medical, and industrial applications that require large batches of near identical substrates and parts. The lapping process can be controlled to within micron-level tolerances to precise customer requirements.

Lapping Experience:

- Microelectronic ceramic substrates
- Thin-film and thick-film substrates
- Metal parts with flat surfaces
- Medical Components

Polishing

[Polishing](#) is a step beyond lapping that helps to refine the surface finish of a material. As some applications are limited by



the surface condition of engineering materials (i.e. microelectronics), polishing can be used to precisely control finish and thickness for applications from ceramic substrates to optical glass and metals.

Polishing Experience:

- Low to high power RF/Microwave devices
- High-power DC devices
- Low-loss DC/RF/Microwave devices
- Optics

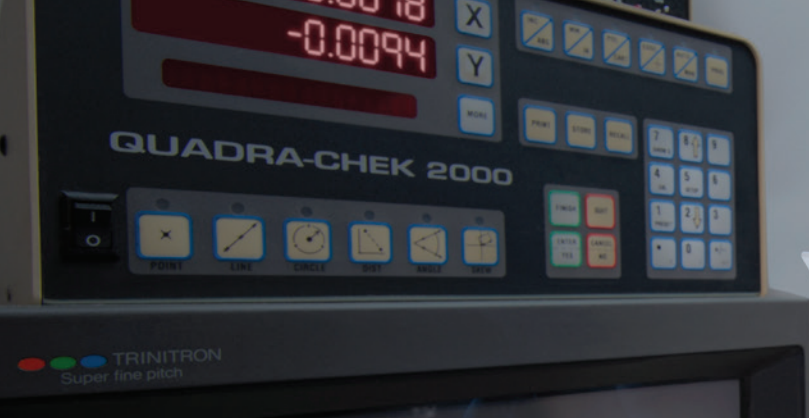
Diamond Cutting and Scribing

Accumet is able to offer high precision [diamond cutting](#), [scribing](#), dicing, and diamond-machined edge/bevels and chamfers for virtually all ceramic materials and a variety of exotic engineering materials.



Cutting and Scribing Experience:

- Plated electronics substrate dicing
- Wafer dicing
- Ceramic beveling



MATERIAL SUPPLY & SERVICES

We source, stock, process, and validate the most advanced medical device and microelectronics materials.

Metal & Metal Alloys

Kovar®
Mild Steel
Molybdenum
Nitinol
Stainless Steel
Steel
Superalloys
Tantalum Zircaloy
Aluminum
Bronze
Cobalt
Cold Rolled Steel
Germanium
Hardened Steel
Hot Rolled Steel
Mild Steel
Molybdenum
Silver
Stainless Steel
Steel
Tantalum
Tungsten

Thin Metals & Foils

Aluminum Foil
Brass Foil
Copper Foil
Gold Foil
Nickel Foil
Titanium Foil
Hastelloy Foil
Invar Foil
Inconel Foil
Nitinol Foil
Stainless Steel Foil
Silver

Ceramics & Minerals

Alumina (90% - 99.9%)
Aluminum Nitride (AlN)
BeO
Black Ceramic
Ceramics
Ferrite
Green Ceramic
LTCC / HTCC
Piezo Ceramic
Yttria Stabilized Zirconia

Epoxy, Adhesive, & Solder Preforms

Conductive Epoxy
Epoxy Preforms
Frozen Epoxy
Solder Preforms

Adhesives
Adhesive Preforms
Adhesive Tape

Laminates, Fabrics, & Composites

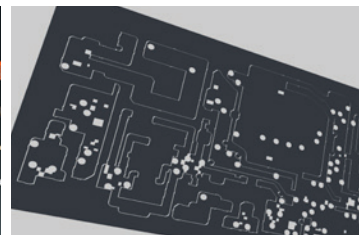
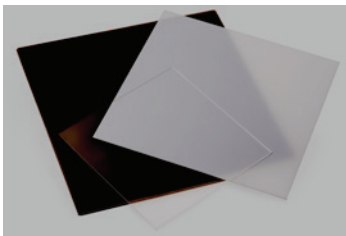
Duroid®
Flex Circuits
FR4
G10, G11
Garolite
Kevlar®
Felt
Teflon®
Fiberglass
Polyester
Rigid Foam and Foam Core
Ripstop Nylon
Carbon Fiber
Microwave Absorber Materials
ECCOSORB®

Natural Materials & Glasses

Mica
Paper/Cardboard
Quartz
Sapphire
Silica
Silicon
Wood
Aerogel
Fused Silica
Glass

Plastics, Polymers, & Rubber

Acrylic
Lexan
Lucite
Mylar®
Polycarbonate
Styrene
Ethylene
Delrin
Durometer Silicone Rubber
Adhesive Backed Silicone
Reinforced Silicone Rubber
Fiber Reinforced Rubber
Polymers
Flex Circuits
Hydrogel
Kapton®



Visit our website to download design guidelines and technical briefs, and to request application support and pricing.

WWW.ACCUMET.COM

ACCUMET

