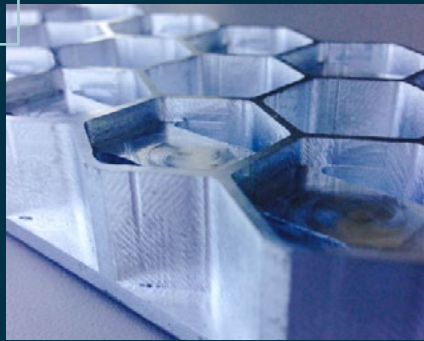
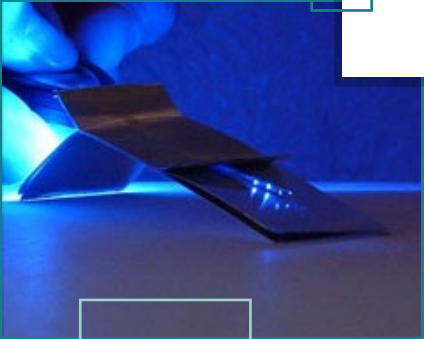


Our Technology

Ultrasonic Additive Manufacturing (UAM) is a revolutionary 3D printing technology that uses sound to merge layers of metal drawn from foil stock. The process produces true metallurgical bonds with full density and works with a variety of metals. The patented technology:

- Allows welding metals without changing their metallurgical properties
- Allows for very complex internal geometries such as heat exchangers
- Can embed electronics without damage or overheating
- Can join multiple metals and is combined into one part (Al, Cu, Bronze, etc.)



FABRISONIC LLC

1250 Arthur E Adams Drive
Columbus, Ohio 43221
www.fabrisonic.com

CONTACT

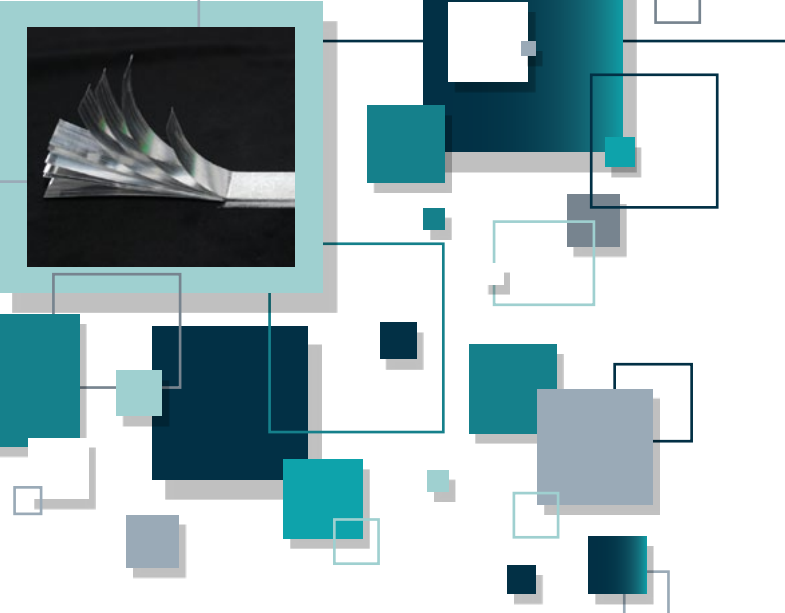
info@fabrisonic.com | 614.688.5197

FOLLOW



FABRISONIC

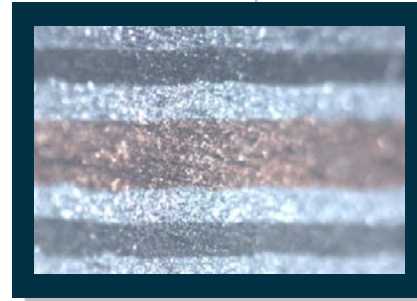
Solid-State Additive Manufacturing



Capabilities

Creation of Custom Materials+

The solid-state nature of the ultrasonic bonding process used in UAM permits joining of dissimilar metals without the formation of brittle inter-metallics as seen in fusion processes. A wide range of material combinations have been successfully bonded using ultrasonics such as: Al/Cu, Al/Fe, Al/Ti, Ta/Fe, Ag/Au and Ni/Stainless. A variety of alloys of the same can also be utilized. For example, regarding just aluminums, we have printed parts out of 1XXX, 2XXX, 3XXX, 5XXX, 6XXX, and 7XXX.



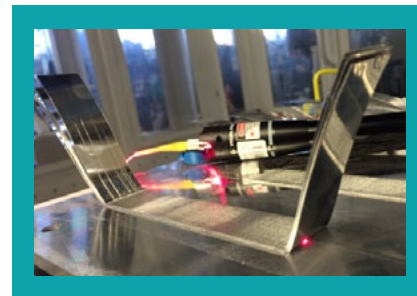
Fabrication of Complex Internal Geometry

Due to our unique machining capabilities, the welding process can be stopped at any point and three-dimensional channels can be machined. Subsequently, the additive process continues to build up metal, sealing in complex 3D flow paths. Aluminum heat exchangers have been made with burst pressures of over 6000 PSI. Helium leak rates have been proven to be better than 10^{-9} std cc/s.



Embed Sensors in Solid Material

Sensors and electrical controls are used widely in all industries. However, a common problem is degradation of exposed components over time due to corrosion, impact, and wear. Ideally, in such situations, it would be best to bury the electronics in solid metal. With Fabrisonic's low temperature welding, sensors can be embedded in solid metal parts with no damage to the sensor as shown below using fiber optics.



Fabrisonic makes your innovation possible.

Our UAM technology makes the most complex geometries possible. Micro-channels, metal matrix composites, and custom components makes your innovative ideas possible. By leveraging our technology, you can drastically reduce your time-to-delivery and manufacturing costs while improving component quality.

For details on how we can help you, contact us about a no obligation consultation by calling 614.688.5197 or email info@fabrisonic.com.

Metal Matrix Composites (MMC)

Modern day composite materials create amazing structures with their light weight and high strength. Our parts have shown the possibility of producing weldable MMC to combat corrosive and high surface-wear issues that currently plague many industries. Fabrisonic routinely prints metal matrices by embedding fibers (steel, ceramic, aramid) in solid metal as shown to the right for Al/ceramic composite there is used for selective reinforcement.



Hybrid Additive/Subtractive Machinery

With our unique hybrid additive and subtractive process, Fabrisonic can achieve tolerances within 0.0005" with a high quality CNC finish. Our largest machine has a work envelope of 6'x6'x3' as shown below with our SonicLayer 7200.



Services Offered

Design for 3D Printing

Fabrisonic's friendly engineering staff can help you look at existing product lines to find how your company could benefit from 3D metal printing. More importantly, the engineers can consult with your design staff to evaluate the new product features that SonicLayer 3D printers can enable in their personalized design.

Materials R&D

Fabrisonic frequently works with customers to 'print' new materials to meet specific engineering applications. By combining the properties of multiple materials into a single composite, new materials can be created with specific engineering properties such as coefficient of thermal expansion (CTE), modulus, yield strength, fracture toughness, conductivity, etc.

Serialized Part Production

Fabrisonic can empower production levels from tens to hundreds of parts per month. We have a collection of internal machines to help meet your custom part production needs.

Short-Run Part Production

Fabrisonic can print short-run metal parts to bridge the gap between concept and full scale production.

Custom 3D Printing Machines

Fabrisonic can work with you to develop a custom UAM machine to meet the form factor and production needs of your specific parts.