

From Concept to Production: Fabrication Support for Engineering and Product Design Teams



GET THE DESIGN ENGINEERING SUPPORT YOU NEED TO REDUCE RISK

When you are looking for support for a new application, product development or advanced machining support it is best to rely on experts who have “been there and done that” to guide you through the process. It is important to find a production team that has investigated and solved many complex lapping, polishing and welding problems in a variety of substrates, materials and welding processes. When working with a manufacturing partner, make sure they have the experience to recognize potential design and fabrication risks that may be confronted. Most often a well qualified fabrication support partner can provide guidance about the best techniques to use to limit or reduce risk areas.

When considering laser services like cutting, etching, or welding don't just buy a part; hire a partner with the ability to provide some incremental design support to your team. You'll reduce costs, speed up production and get a better product in the end.

Four easy steps designed to reduce risk for your next project include:

Step 1: Project Analysis and Planning

Design: Will it perform its intended function reliably for the user or will it break and cause customer complaints?

Here's the big question an experienced advanced manufacturer can help you analyze: Are the materials, shape, size, weight, and other features optimized for manufacturability?

Don't wait until production is about to begin before designing for manufacturability. You'll want to engage engineering support experts at the early stages of a new project to help bring designs to production with insights about materials selection and production recommendations that are practical and economical.

A good place to start is by reviewing the manufactured part or drawings and specifications. Find a partner who might be able to help make your product more manufacturable for higher yield or for better performance in the hands of the user.



Work with an advanced manufacturing partner with the experience and expertise to provide the consulting, advice, and insight you need to improve your various material processing steps before moving to production.

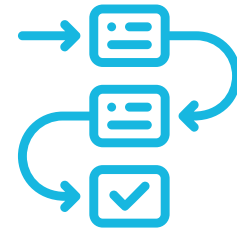
Step 2: Supply Chain Design & Integration

How much will the part cost? How long will it take to produce? Is the inventory needed available? Can the partner source the quantity you need—small or large?

Will your fabrication partner have the ability not just to source the inventory required but also predict future availability to consistently achieve on-time deliveries.

Sometimes, you can rely upon a manufacturing expert to help you save money by using less material or less expensive materials without sacrificing quality. A good partner can help you recognize the trade-offs you can or shouldn't make.

And you'll want to select a manufacturing partner that in addition to being able to handle many production tasks in-house, they have an extensive and well-tested chain of suppliers that might be needed for your product. Sometimes, it's more efficient to turn over your entire project to a manufacturer like Accumet to manage the entire process instead of dealing with multiple vendors.



Step 3: Process Development and Small Lot Testing

Can this idea be manufactured within the specification, budget and timeframe required?

Small lot prototype testing for process validation often results in tremendous risk avoidance and cost benefits before transferring the processing solution to production, in particular when customer-supplied material is provided.

Certified Manufacturing test and measurement technology and quality control processes leads to faster production, better products and material savings. Be sure to find a manufacturer that has achieved AS9100 certification.

Any expert manufacturer has the right test and measurement equipment in production to consistently adhere to the tightest tolerances and surface finish specifications for the most demanding applications.

An experienced manufacturing partner will make the process better than originally imagined in order to achieve economies that would otherwise be missed.



Step 4: Scale-up & Manufacturing

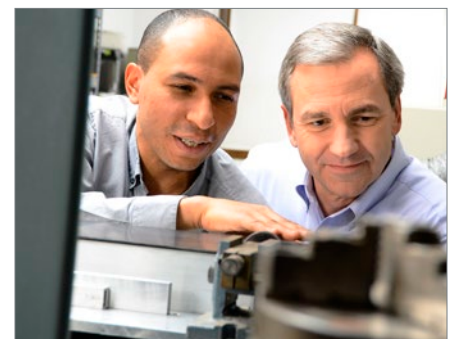
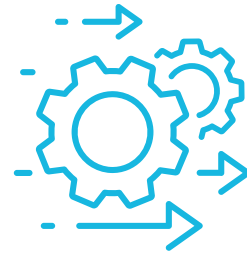
Will your product meet all your design objectives in terms of cost, production speed, reliability, and all the other criteria by which you judge value?

Develop necessary fixturing to ensure repeatable processing and tolerance adherence at large volumes.

Expertise to produce your prototype quickly, scale up production smoothly, and reliably get your products to market faster.

A great lapping, polishing, laser services and welding partner is ultimately a great R and D partner, and a great business partner too. That's because you can't be great at any part of the advanced manufacturing service process without having your eye focused on what really counts — whether the component's design will be manufactured with quality required to help ensure market success. A great manufacturing partner will not only confirm that the part can be made, but also confirm the quality, cost, quantity, and how fast. An advanced manufacturer like Accumet who focuses on quality can help make your business and product a huge success.

Contact Accumet to find out how we can support your Engineering and Product Design Teams and bring your product to market.



For more information review our design guidelines:

- [Design Guideline: Optimal Tolerances and Layouts for Laser Processing Ceramic Substrates](#)
- [Design Guideline: Tolerances for Laser Cutting & Drilling Metals](#)
- [High Precision Lapping and Polishing Design Guidelines](#)
- [Design Guidelines Laser Welding](#)