



The Modus Manual

What can Modus do for you?
Take a peek inside to find out!

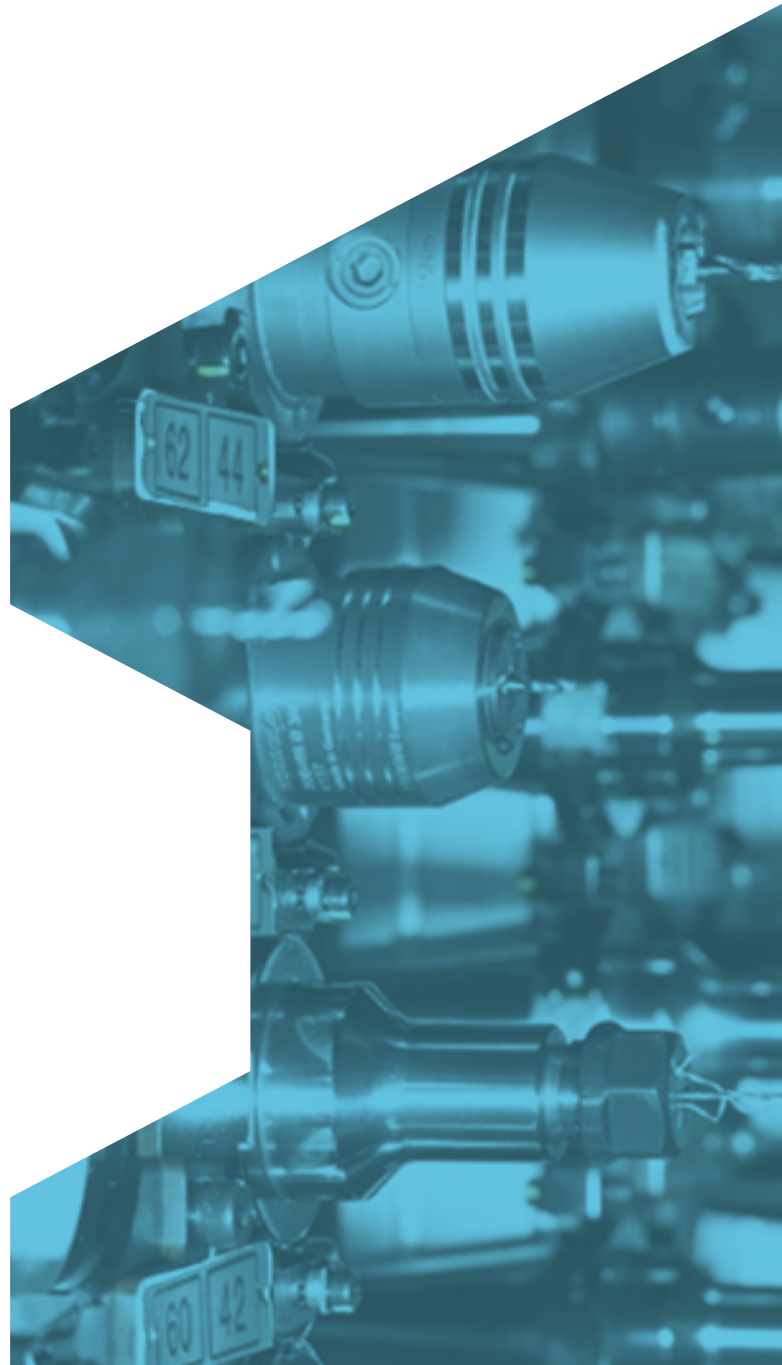


Table of Contents

- Partnership Accounts at Modus 3
- The Value Modus Provides 4
- The Technology We Use 6
- Working with Modus 7
- The Design for Manufacturability (DFM) Process 8

Manufacturing Capabilities

- *SigShield™* 9
- *Die Cutting* 10
- *CNC or Digital Cutting* 11
- *Waterjet Cutting* 12
- *CNC Machining* 13
- *Form-in-Place Dispensing* 14
- *Laminating* 15
- *Slitting* 15
- *Molding* 15

Partnership Accounts at Modus Advanced

We aren't looking for the traditional "supplier relationship." Instead we are focused on building Partnership Accounts.

What does a Partnership account look like? It looks like an extension of your organization. To accomplish this, we pride ourselves on delivering on these five core promises:

We Promise Unparalleled Customer Service

"The best part about working with Modus really comes down to how much they care. You can see it in their service level, willingness to solve problems, and responsiveness. Many suppliers are not very easy to work with, but with Modus it's a completely different experience."

- Lead Manufacturing Engineer, Medical Device Company

We Promise a True Strategic Partnership

"We have seen incredible long-term benefits from the relationship we've built with Modus. It is so much more important than having a part-by-part transactional relationship with a vendor."

- Leslie Johnson, Assistant Purchasing Manager, Flory Industries

We Promise Unprecedented Access to Our Team

"The Modus team works with us on every design to get everything right and bring up things we never would have thought about. The relationship helps take our products to new heights."

- Bruce Devine, CEO, Signal Hound

We Promise to Design Our Processes Around Your Needs

"When our project encountered technical and supply-chain challenges, Modus deftly responded with creative solutions that allowed us to produce superior performance parts for our medical device. Modus collaborated with us every step of the way, going the extra mile to ensure that every technical requirement was met."

- Principal Product Engineer, Medtronic

We Promise to Invest in Infrastructure For You

"One of the biggest reasons we keep coming back to Modus is their continuous investment in infrastructure that supports our needs. They truly act as an extension of our organization, helping us bring products to market faster."

- Lead Product Engineer, Telecommunications Company

Interested in what it looks like to become a Partnership Account with Modus?

LEARN MORE >

About Modus Advanced

BY THE NUMBERS

8,000+

Companies Served

80 Million+

Parts Delivered

WE STRIVE FOR:

99.5% Quality

99.5% On-Time Delivery

CERTIFICATIONS

- ✓ AS9100D
- ✓ ISO 9001
- ✓ ITAR
- ✓ WORKING TOWARD
CMMC Level 2



CORPORATE INFORMATION



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Livermore, CA 94550



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Carlsbad CA 92010



925-960-8700
sales@modusadvanced.com

About Modus

Our Culture

Our team is dedicated to helping our customers accelerate the process of designing and manufacturing tomorrow's innovations. We know that for you, one day matters. So we are dedicated to helping you bring life changing products to market sooner.

Our Core Values

Act with Integrity

We are trustworthy and honor our commitments

- We do the right thing
- We do what we say we're going to do
- We are authentic, honest and fair

Expand Our Potential

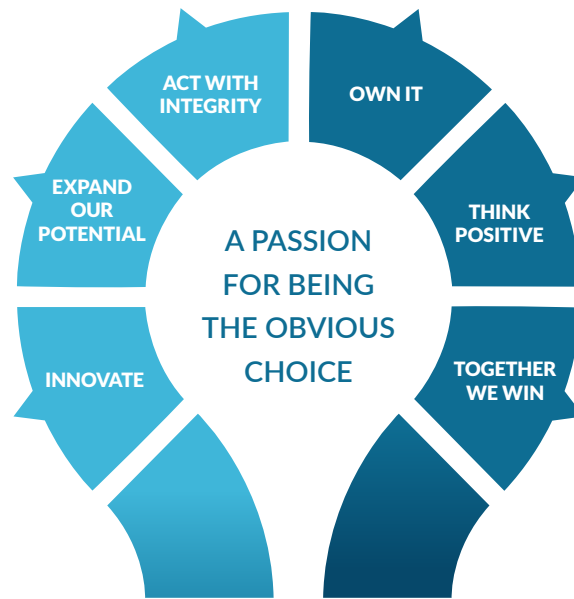
We are committed to personal and professional growth

- We are curious and ask "why"
- We accept and offer feedback
- We embrace positive change
- We teach others and continue to educate ourselves

Innovate

We challenge the status quo

- We always search for a better way
- We are not afraid to fail
- We use technology to drive cost reduction and revenue growth



Own It

We take ownership for our actions and performance

- We have a can do attitude
- We feel a sense of urgency
- We take the initiative and are responsible for our results

Think Positive

We choose a healthy lifestyle

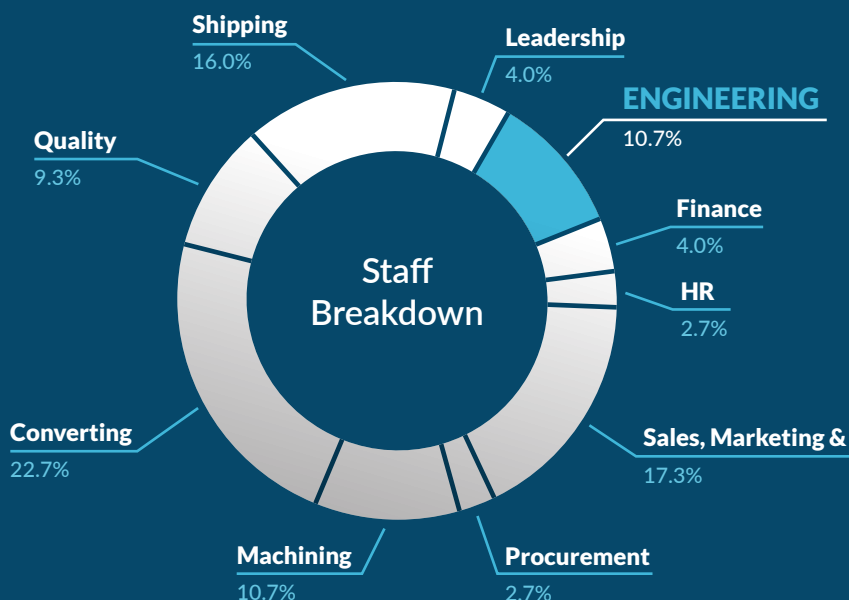
- We maintain balance and perspective in difficult situations
- We treat people with respect
- We confront reality and solve problems
- We are persistent and determined

Together We Win

Teamwork is key to our success

- We build extraordinary teams by employing amazing individuals
- We build relationships with and actively support each other
- We are inclusive and value team diversity

Our Staff



At Modus, we pride ourselves on ensuring that at least 10% of our staff are engineers so we can provide timely, accurate design feedback and support to improve the manufacturability of your parts.

In addition, we employ engineers across all departments, from sales engineers to machining engineers, to ensure you have the expertise you need to ensure your designs are manufacturable.

Staying Ahead of the Technology Curve

STATE OF THE ART MANUFACTURING TECHNOLOGY



**Okuma VMC CNC
Machines**



**Okuma HMC CNC
Machines**



**Okuma 5 Axis CNC
Machines**



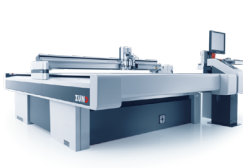
**Datron Form-in-Place
Dispensing Systems**



**UR Industrial
Robot**



**TTARP
Laminator**



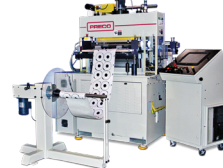
**Zund G3
Digital Cutter**



**Mach 500
Flow Waterjet**



**Hudson Die
Presses**



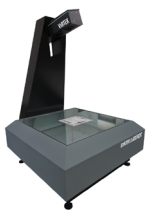
**Preco Die
Presses**



**Atom Digital
Cutter**

Quality Measurement Technology

At Modus, quality is paramount, so we invest heavily in the best technology to measure and ensure quality:



Virtek Laser QC



**Micro Vu Vision
System**



Keyence CMM



**Keyence
Profilometer**



Zeiss CMM

Staying Ahead of the Curve

We are also passionate about staying on top of the latest advances in technology that help us deliver parts faster and with higher quality.

■ CNC and manufacturing
automation technology

■ Computer aided
manufacturing tools

■ Model based definitions
technology

Working with Modus



STEP 1
Quote & DFM

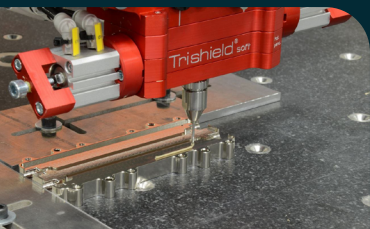
STEP 3
First Article

STEP 5
Final QC

STEP 2
Pre-Production Planning (PPP)

STEP 4
Production

STEP 6
Packaging & Shipping



The Design for Manufacturability (DFM) Process

Step 1: Send Us Your Requirements

The very first step in any DFM process is to gather all necessary information from you that is pertinent to the order. This includes:

- The design
- Material selection
- Requirements for turnaround times
- Volume of parts needed (both in Prototype and Production situations)

Step 2: What Does the Part Look Like?

Part A: Can the Part be Made?

Our engineers will review the design and provide any feedback to you that would make your design unnecessarily challenging to manufacture.

Part B: How Complex is the Part to Make?

In this phase, we look for opportunities to make your part more efficient to produce, and work directly with the engineers who designed it to understand what design factors have some wiggle room. This back and forth between our engineering team and yours will result in a part that is produced using the most efficient methods, can provide you the best lead times, and still meet your quality requirements.

Step 3: How Will the Part be Manufactured?

This step is all about balancing:

- Volume of parts to be made
- Support for prototype and production volumes
- Materials required
- Tolerances and design requirements
- Cost to produce
- Lead times

Step 4: It's Time to Break Down the Details

All of these steps ultimately lead to what you've been waiting for, the final quote for your project! Now that we've broken down the "how," we can give you all the details about how long it will take and how much it will cost to complete.

SIGSHIELD™

A turnkey custom RF shield delivered in half the typical lead time.

- ✓ AS9100D
- ✓ ITAR
- ✓ ISO 9001
- ✓ CMMC Level 2

We strive to get every quote turned around in 24 hours or less. Send us your design or project to get an estimate.

[LEARN MORE >](#)

Turnkey custom RF shields in half the typical lead time.

Fewer vendors means less administration, communication, and risk for errors.

KEY BENEFITS

Includes manufacturing of metal housing, form-in-place gasket dispensing, plating, as well as addition of thermal materials, and RF absorbers.

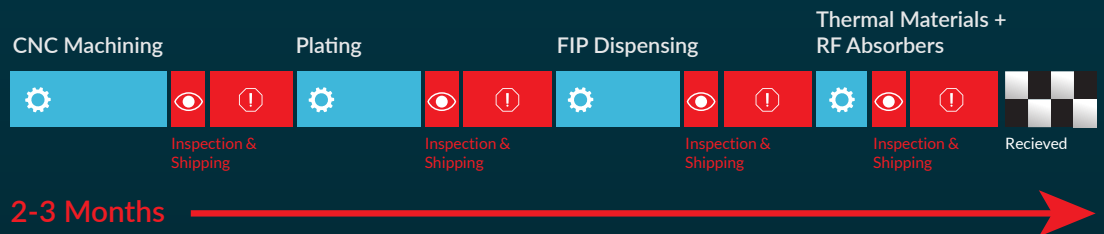
1/2

Your part ships to you once, at the end of the process, rather than four separate times between multiple vendors.

100%

Traditional Process

The traditional process for producing RF shields can take up to 2-3 months.

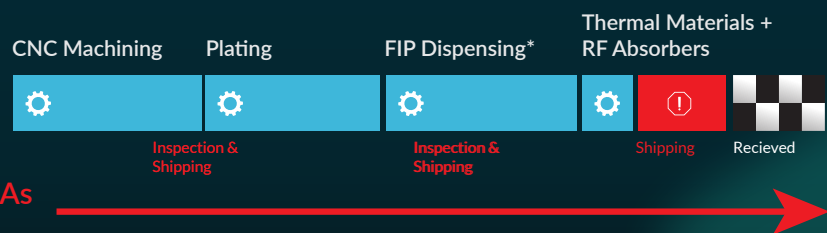


The SIGSHIELD™ Process

At MODUS, we've been able to deliver a complete product in as little as 2 weeks.



MODUS®

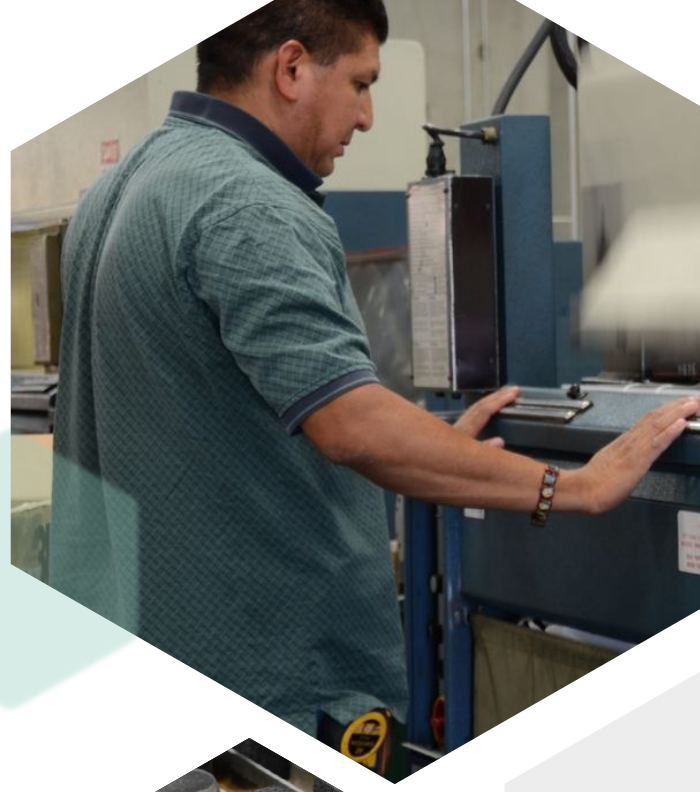


**Because we prepare the dispense path while CNC machining is underway, we can usually dispense FIP gaskets in half the typical time.*

Die Cutting

In general die cutting is a good choice if all of the following are true:

- You are producing a high volume of parts
- The part isn't too large
- The part isn't too small
- The part doesn't have very narrow walls
- The material you are cutting isn't too thick
- You have a lead time of over a week



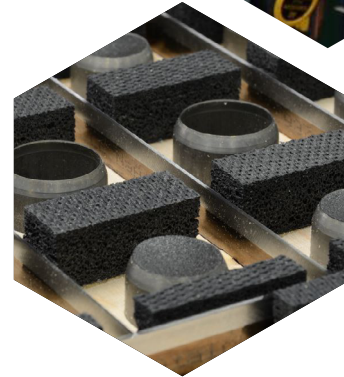
The Tech:



Hudson Die Presses



Preco Die Presses



Considerations:

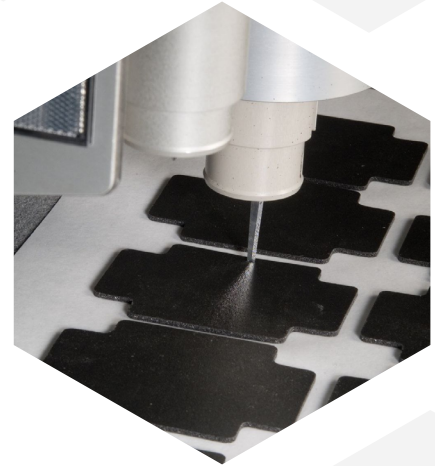
- **Hard tooling:** In order to die cut parts, you first have to build the die (usually somewhere between \$300-\$700) and then pay for production of parts.
- **Material waste:** Sometimes using other methods for manufacturing can reduce material costs in comparison to die cutting. If your design is just a small square for instance, it might make more sense to use a CNC knife and cut a bunch of them out side-by-side and reduce the amount of material wasted (reducing your material costs).
- **Stacking or layering:** Sometimes when using waterjet cutting instead of die cutting, we can get creative with how many parts we cut at once. Depending on the thickness of your material and your design, we can potentially stack multiple layers of material and cut out multiple parts at time with a waterjet machine.

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CNC Cutting

In general CNC cutting may be a good choice for the following situations:

- **Rapid prototyping:** No hard tooling means small volumes can be produced quickly and less expensively than methods that require hard tooling.
- **Material waste:** Designs that nest well can provide less material waste than die cutting and may help reduce your material cost.
- **Handles small or large parts well:** Great for parts that aren't a fit for die cutting because they are too small or narrow, or are too large for the die press.
- **Short lead times:** If you need your parts faster than hard tooling solutions can turn them around, CNC cutting may be the right fit.
- **Kiss cut to liner:** CNC cutting allows for cutting material but leaving a liner intact for easy assembly of adhesive materials.



The Tech:



Zund CNC Digital Cutting Systems



Atom Digital Cutter

Considerations:

- **Tolerances:** CNC cutting is able to maintain tighter tolerances than die cutting in certain situations, however one consideration to keep in mind is what is referred to as “overcut.” When the oscillating knife is raised and lowered into the material, there will be small overcuts (particularly around corners) that are the width of the knife, which become more noticeable with thicker materials.
- **Part nesting:** One such instance where CNC cutting can reduce costs is through part nesting. If your part design can be nested in such a way that CNC cutting allows us to produce more parts from the same size sheet of material, then it can reduce material costs significantly.
- **Small volumes:** Because there are no hard tooling costs with CNC cutting, if volumes are low enough, it can be cheaper to produce your parts with digital cutting than die cutting (where there is the additional hard tooling cost to build the die).
- **Changing designs:** During rapid prototyping, design changes are happening frequently. CNC cutting allows a lot of flexibility to update and adjust the part design to be able to quickly test variations in the design. You also won't have to pay hard tooling each time there is a change to the design.

[LEARN MORE >](#)

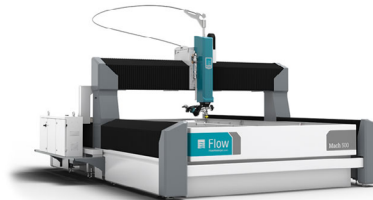
Waterjet Cutting

In general waterjet cutting may be a good choice for the following situations:

- Thick and/or hard materials: Waterjet is the manufacturing method of choice for thick materials or very hard or high durometer materials as it can handle them better than other methods.
- Precise or smooth corners: Waterjet can provide the smoothest corners or edges of any manufacturing process.
- Large parts: Waterjet is a great fit for cutting very large format parts with high precision.
- Short lead times: If you need your parts faster than hard tooling solutions can turn them around, waterjet cutting may be the right fit.
- Material waste: Designs that nest well can provide less material waste than die cutting and may help reduce your material cost.



The Tech: 94 KSI Flow Waterjet



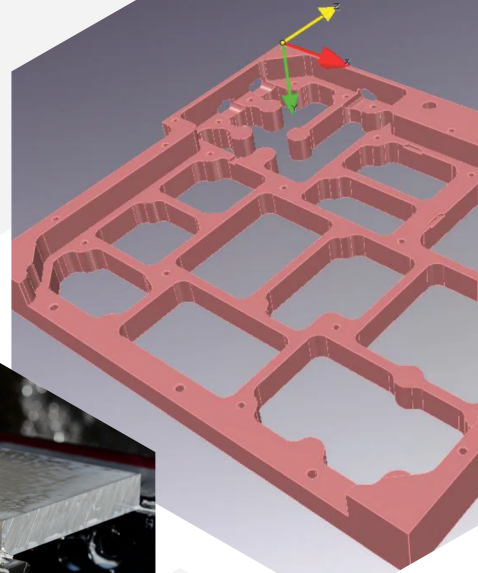
Considerations:

- Quality: From a quality perspective, waterjet cutting can help maintain straighter walls for thicker materials than other manufacturing methods, but keep in mind that even with a waterjet, you cannot have a perfectly straight wall because the water stream disperses and gets wider near the bottom.
- Part nesting: One instance where waterjet cutting can reduce costs is through part nesting. If your part design can be nested in such a way that waterjet cutting allows us to produce more parts from the same size sheet of material, then it can reduce material costs significantly.
- Layering: Waterjet cutting can provide the most layering benefits of any process. It is possible to layer multiple sheets of material on top of each other and cut multiple parts out at a time. Because a waterjet can handle a greater level of thickness overall, it can typically cut through more layers than a steel rule die.

CNC Machining

Capabilities:

- Here to Meet Your Needs: We work to help our customers bring their products to life. We most commonly work with aluminum but can machine a variety of metals and plastics as needed.
- Vertical Integration: We commonly combine CNC machining work with other concurrent manufacturing processes like plating, dispensing of form-in-place gaskets, and addition of thermal materials or RF absorbers.



The Tech:

Okuma HMCs, VMCs, and 5-Axis Machines
Automatic tool breakage detection



Considerations:

There are a couple of key design considerations to keep in mind to reduce lead times and costs in manufacturing:

- Keep corner radii as small as possible
- Avoid deep pockets
- Avoid side-work when possible
- Avoid deep grooves when possible
- If applying form-in-place gaskets to housing, create compression stops rather than creating grooves

[LEARN MORE >](#)

Form-in-Place Dispensing

Some of the most important benefits of FIP gaskets include:

- Superior sealing over other methods as the gasket is dispensed directly on the housing
- Weather, Ozone, UV and chemical resistance
- Quick automatic application reduces the effort and labor required in assembly
- Flexible over a wide temperature range
- Reduced waste

The Tech: **Datron Form-in-Place Dispensing Systems**



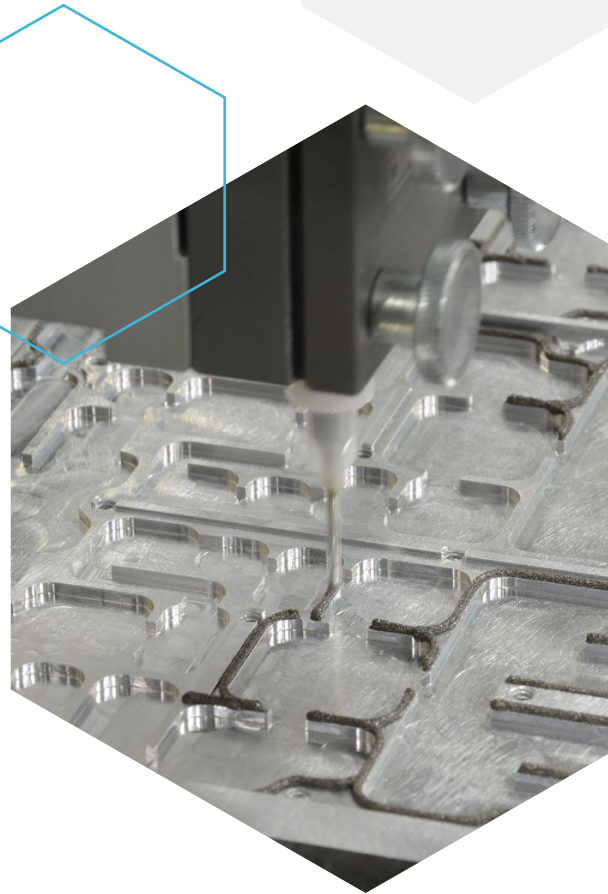
FIP is most commonly selected for applications like:

- EMI shielding for electronics
- Environmental sealing for dust or water protection
- FIP gaskets adhere to the surface of your housing simplifying assembly processes

Some examples of specific industries and the FIP gasket applications they might require include:

- Electronics: electronic enclosures, GPS systems, satellite communication, semiconductors
- Medical devices: ventilators, oxygenators, heart pumps, dialysis machines
- Defense and military: radar, missile guidance, GPS systems
- Communications: WiFi routers, cellular devices, cellphone stations
- Aerospace: drones, airport ground equipment, flight instrumentation
- Mass transportation: mechanical equipment, accessory components

FIP gasketing provides a highly reliable seal that will stay resistant to freezing, heat, UV, corrosion, and more. Not only is the gasket durable, but it is flexible and can be used on even the most complex of parts.



[LEARN MORE >](#)

Laminating

Laminating is a fit when you:

- Need to apply no-bubble PSA
- Bond multiple materials together

Slitting

Modus can help fulfill requests for:

- Custom-cut widths
- High volume rolls of materials

Molding

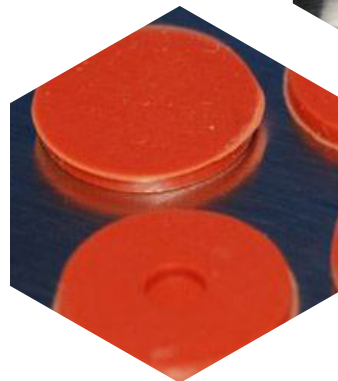
Rubber molding is the go-to method for producing three dimensional gaskets. Custom molded rubber gaskets can be made across a variety of sizes and you'll want to find a partner that can produce them at both prototype and production volumes.

Capabilities:

- Compression molding
- ITAR molding in Livermore, CA
- Overseas molding capabilities

Modus can help fulfill requests for:

- Small or large parts
- Prototype and production volumes



[LEARN MORE >](#)

