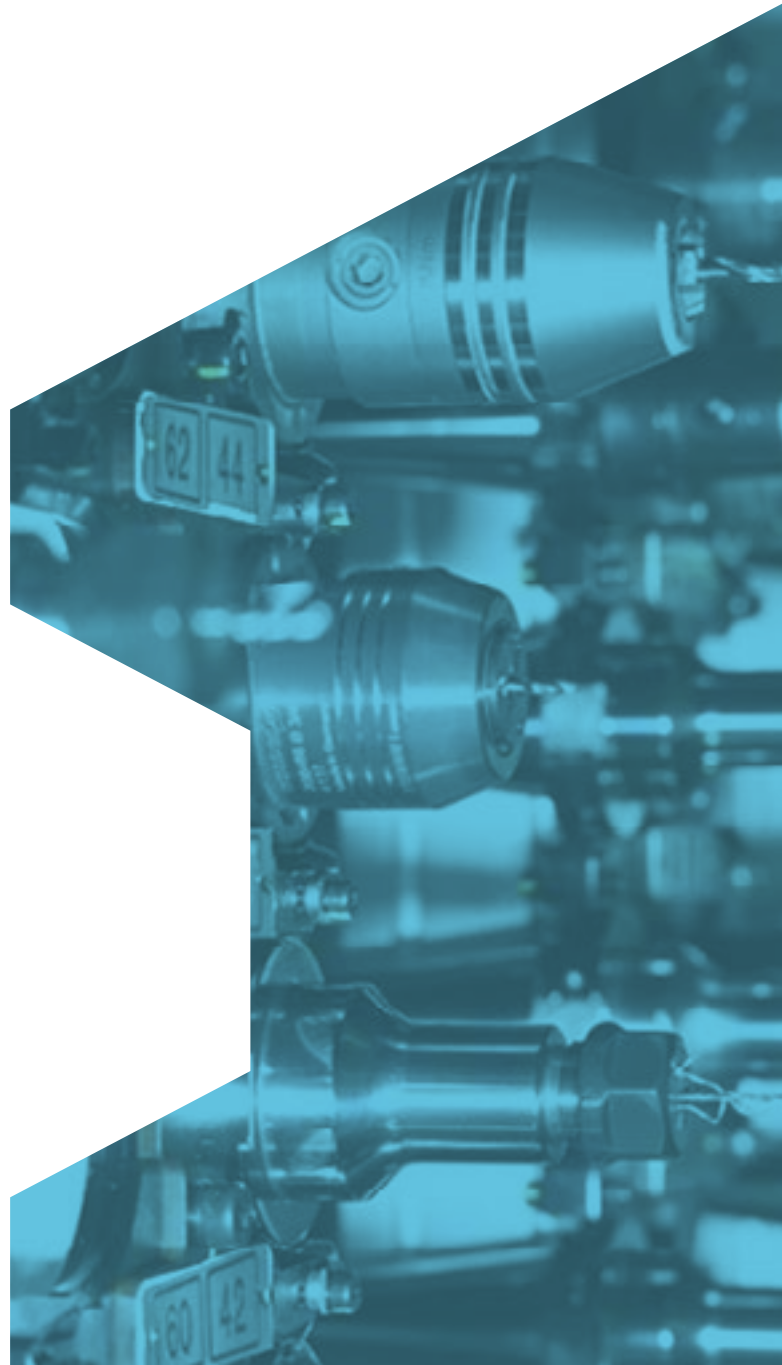




## The Modus Manual

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



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# Vision for Our Partnership With You

## Our Why:

To enhance lives by helping Partnership Accounts accelerate the process of designing and manufacturing tomorrow's innovations. One day matters.

## How we do it:

We bring together the best of human and machine intelligence in a product realization platform designed to produce superior results.

## Our Vision for Our Relationship:

For Modus, 2021 is all about infrastructure investments to help better serve your needs. We are investing in technology, equipment, people, systems, and processes that will allow us to deliver with speed and precision every time. The result is our ability to help you bring life-changing products to market sooner. We want to be a true partner and the obvious choice when you need custom components manufactured quickly with exceptional quality.

## Major Initiatives for the Next Year:

- 1. Cyber Security:** We have been investing heavily, and will continue to over the next year, building the foundation for CMMC compliance. We have currently implemented about 75% of the practices required for Level 3 compliance. Once we complete all the Level 3 practices, we plan on implementing certain practices from Levels 4 and 5 as well. We are dedicated to putting the security systems and processes in place to protect your data at the highest levels.
- 2. System and Process Upgrades:** We are implementing system upgrades and optimizing all of our manufacturing processes. We are making the switch to a complete Microsoft ecosystem in a protected environment, which will create a digital feedback loop that will allow us to leverage vast amounts of data to drive improvements, automation, and superior quality.
- 3. Vertical Integration:** Already a multi-year initiative, we are always working to deepen our level of vertical integration to bring you more concurrent manufacturing processes under a single roof. Our vision is to mitigate as much risk as possible for our customers while shortening lead times and delivering high quality products.
- 4. Strengthen Supply Chain:** We are focused on building deeper strategic relationships with our key suppliers. 2020 proved how important a strong supply chain is to our customers, and we are making investments to strengthen it even further.
- 5. Engineering and R&D Investments:** We are investing in technology across the organization. In addition, we have a growing Engineering team that is focused on process improvement, automation, and design for manufacturability. We are pushing our capabilities to new levels, which will allow us to serve you with speed and precision.

# 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 3**

## CORPORATE INFORMATION



1575 Greenville Road  
Livermore, CA 94550



2772 Loker Ave West  
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



**MAKING THE DECISION TO IMPRESS**

### 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**

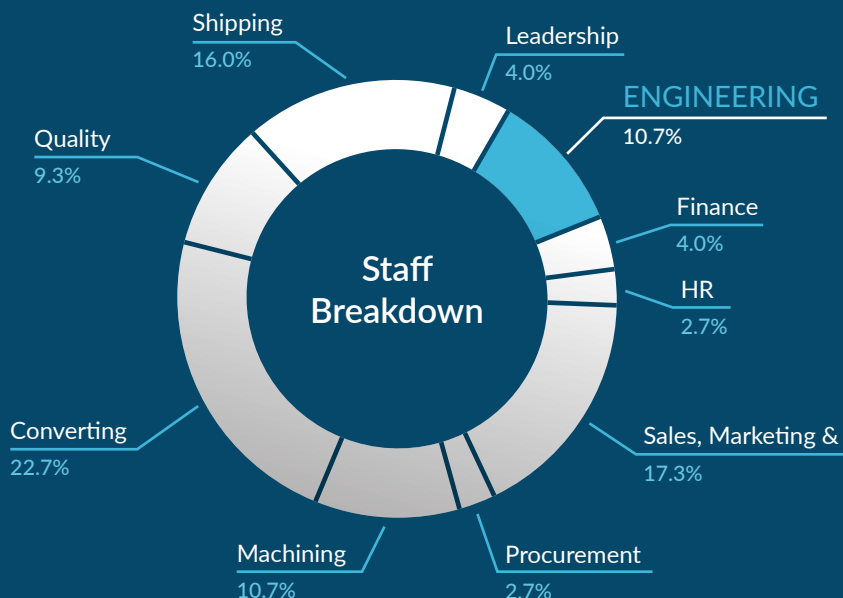
- We maintain balance and perspective in difficult situations
- We treat people with respect
- We confront reality and solve problems
- We are persistent and determined

### 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



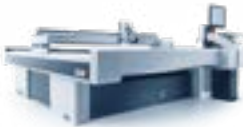
Datron Form-in-Place  
Dispensing Systems



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 3

*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 >](#)

4X

Turnkey custom RF shields in half the typical lead time.

1/4

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.

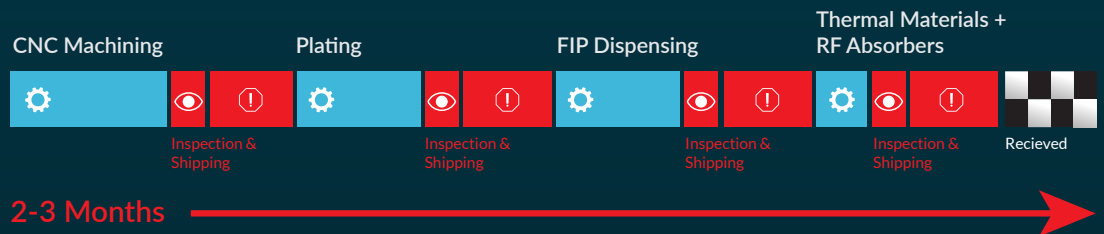
1/2

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.

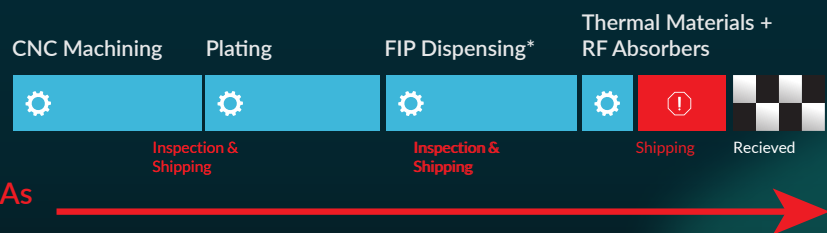


## The SIGSHIELD™ Process

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:

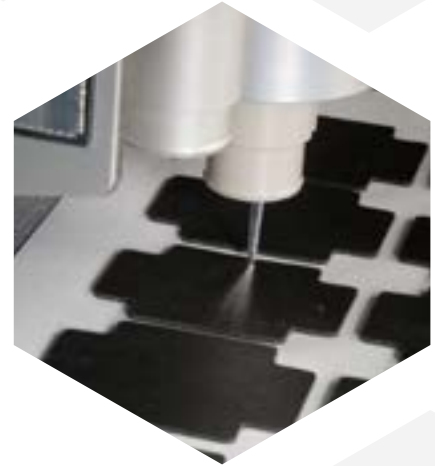
- **Hard tooling:** In order to die cut parts, you first have to build the die (usually somewhere between \$300-\$700) and then pay for production of parts.
- **Material waste:** Sometimes using other methods for manufacturing can reduce material costs in comparison to die cutting. If your design is 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.

[LEARN MORE >](#)

# 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.

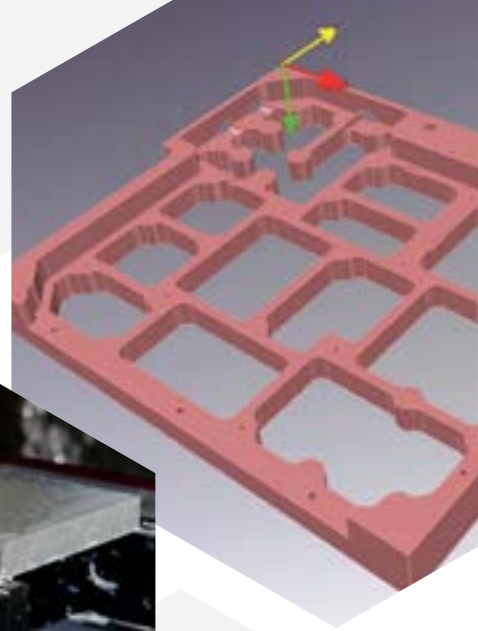
[LEARN MORE >](#)



# 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

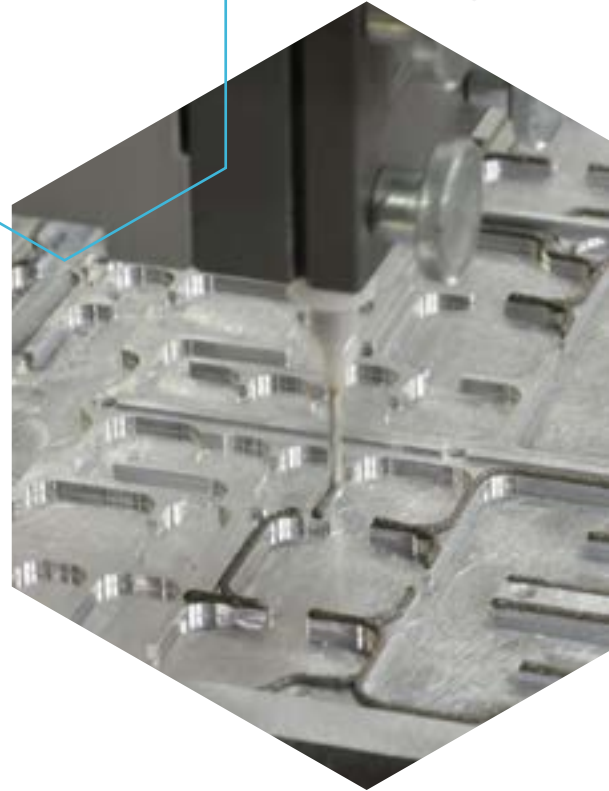
[LEARN MORE >](#)

# 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 >](#)

