

Excellent Medical Devices Begin With Precision Components

Lunch & Learn explainer session.

Specialized manufacturing of High-Precision Tubes, Radiopaque Marker Bands, Bands, and Electrodes.

Zmenil bych jeste titulek z : excellent medical devices.....

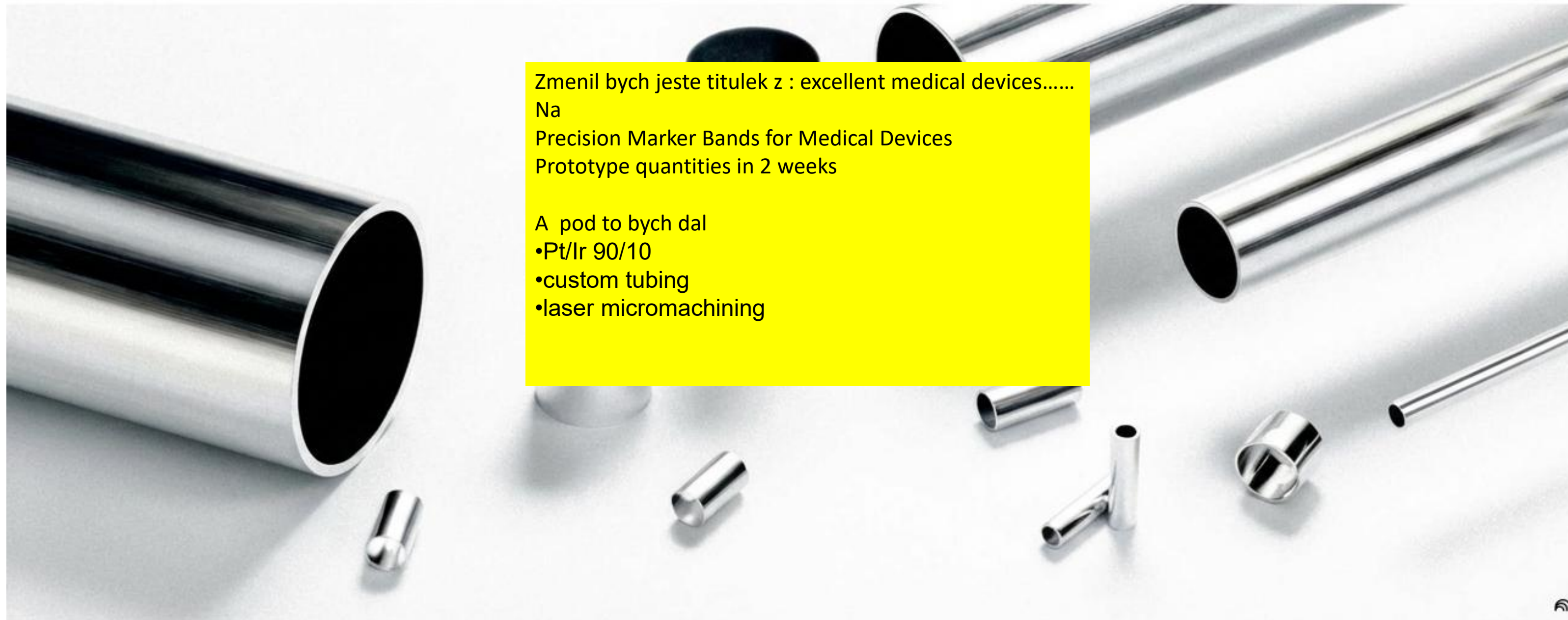
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Precision Marker Bands for Medical Devices

Prototype quantities in 2 weeks

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- Pt/Ir 90/10
- custom tubing
- laser micromachining



A Lean Medical Manufacturing Team Based in Central Europe



Direct Offices: Brno & Chomutov, Czech Republic.

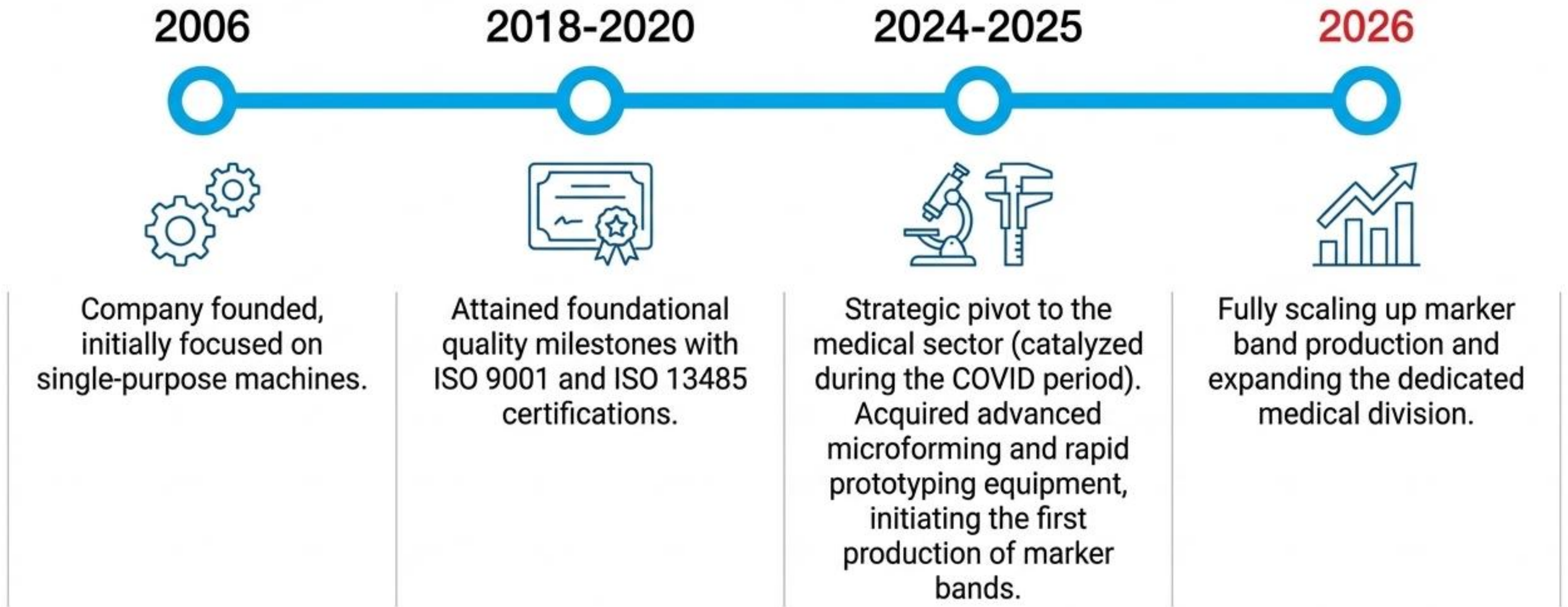


Team: 20+ Employees dedicated to a lean medical manufacturing division.



Strategic positioning allows for robust European supply chain integration and rapid continent-wide shipping.

Two Decades of Strategic Engineering and Growth



Why Customers Choose Jimalu Medical



Speed to Market

- 2-week validation series (<1000 parts).
- 24–48h quotes.



Precision Without Compromise

- Tight tolerances.
- Stable, repeatable batches.



Full Process Control

- In-house dies.
- Strictly controlled end-to-end processes.



Scalable Production

- Prototype (100 parts) → Volume (100,000 parts).
- Absolute consistency at any scale.

Strictly ISO 13485 complianes with FDA regulation



1. ISO 13485 Foundation:

Manufacturing processes explicitly engineered to meet and exceed FDA expectations.



2. Absolute Traceability:

Uncompromising tracking of everything —raw material origin, batch data, specific operators, and individual measurement logs.

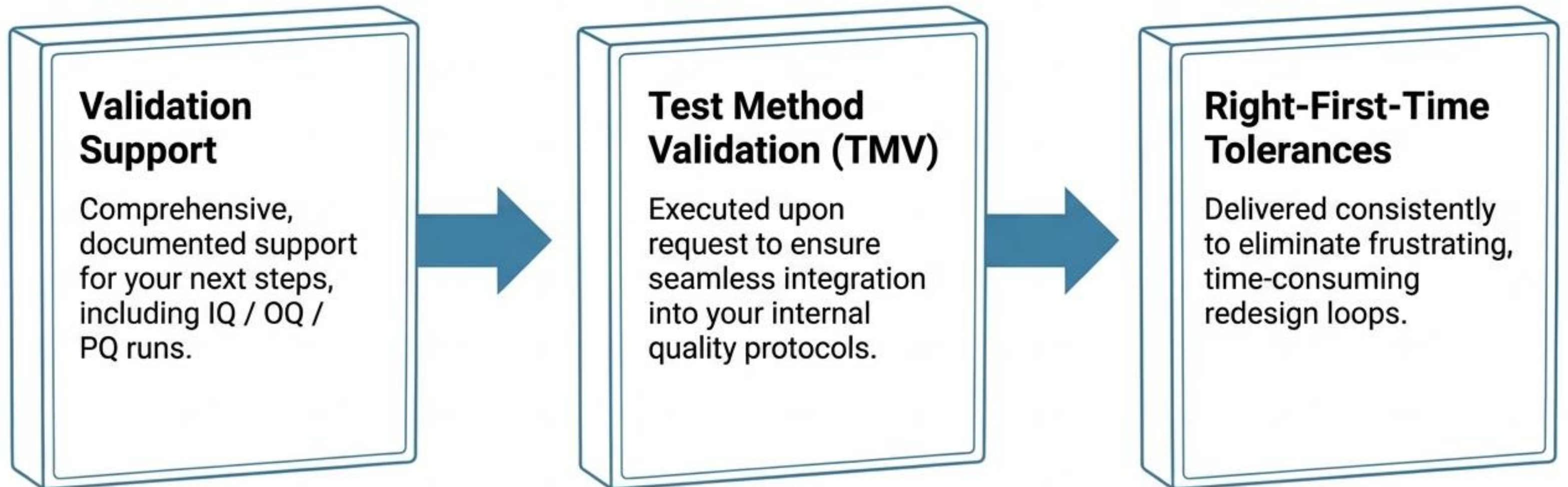


3. Process Repeatability & Stability:

Consistent results across batches and over time — enabling reliable performance from prototype to production.

Engineering Support Beyond the Component

We don't just supply parts; we provide the data you need to validate faster.



Premium Alloys Calibrated for Clinical Needs



Platinum/Iridium (Pt/Ir 90/10)



The industry standard.
Balances extreme radiopacity with
superior mechanical strength.
ASTM B684/B684M-22



Pure Platinum (Pt 99.95%)



Maximum visibility.
Highly radiocontrast with
exceptional biocompatibility.
ASTM B561-23



Gold (Au 18/24k)



Premium imaging.
Offers absolute corrosion
resistance and clear imaging.

100% seamless tubes only. Sourced exclusively from 2 highly vetted raw material suppliers to guarantee zero batch-to-batch variation.

Specialized Production of Marker Bands and Precision Tubes



Radiopaque Marker Bands

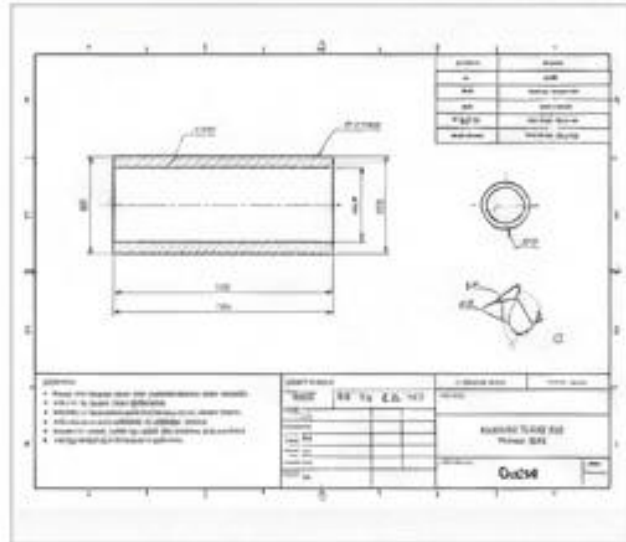


High-Precision Tubes

The Manufacturing Journey: From Initial Quote to Final Release

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Fully Integrated Manufacturing



Rapid 24-48 hour turnaround; PO confirmation within 24 hours.

Mandrel and Sinking operations.

High-precision automated slicing.

Ultrasonic cleaning decontamination.

Rigorous visual and dimensional inspection.

Final release and secure shipping.

Agility at the Source: Rapid Engineering Response



24-48 HOURS

Quotes and initial feasibility assessments delivered.

24 HOURS

Purchase Order (PO) confirmations processed.



AGILE PROTOTYPING

Credit card payments accepted to bypass procurement bottlenecks and immediately launch rapid prototyping cycles.

The Foundation of Tolerances: In-House Die Mastery

Extensive Inventory



Immediate access to a vast, highly organized range of drawing dies.

100% Post-Use Control



Every single die undergoes exhaustive visual and dimensional metrology after every single use to detect microscopic wear.

In-House Edge Profiling



Dies are precisely adjusted and re-profiled on-site using diamond wire and ultrasonic tools to guarantee perfect edge geometry for the next draw.

Mandrel Excellence: From Inventory to Precision Metrology

Extensive Inventory



Immediate availability of a comprehensive, highly organized range of mandrels to ensure continuous, uninterrupted production cycles.

Microscopic Inspection



Rigorous surface analysis under high magnification to verify absolute structural integrity and guarantee a defect-free finish.

High-Precision Metrology



Advanced laser measurement technology guarantees exact dimensional accuracy down to the ten-thousandth of a millimeter.

Physics behind the cold work deformation

If requested by the customer, we can perform annealing to remove any residual stress. In most cases, this is not necessary.

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Why it matters

increases strength
enables thin walls

A dat pod obrazky

This is why platinum alloys behave very differently than stainless steel. → very few disl

Initial State



The baseline equiaxed grain structure of the material prior to any manufacturing or mechanical stress.

After Def



Mechanical stress forces the grain structure to flatten and elongate, increasing material hardness but significantly reducing ductility and creates dislocations within the grains.



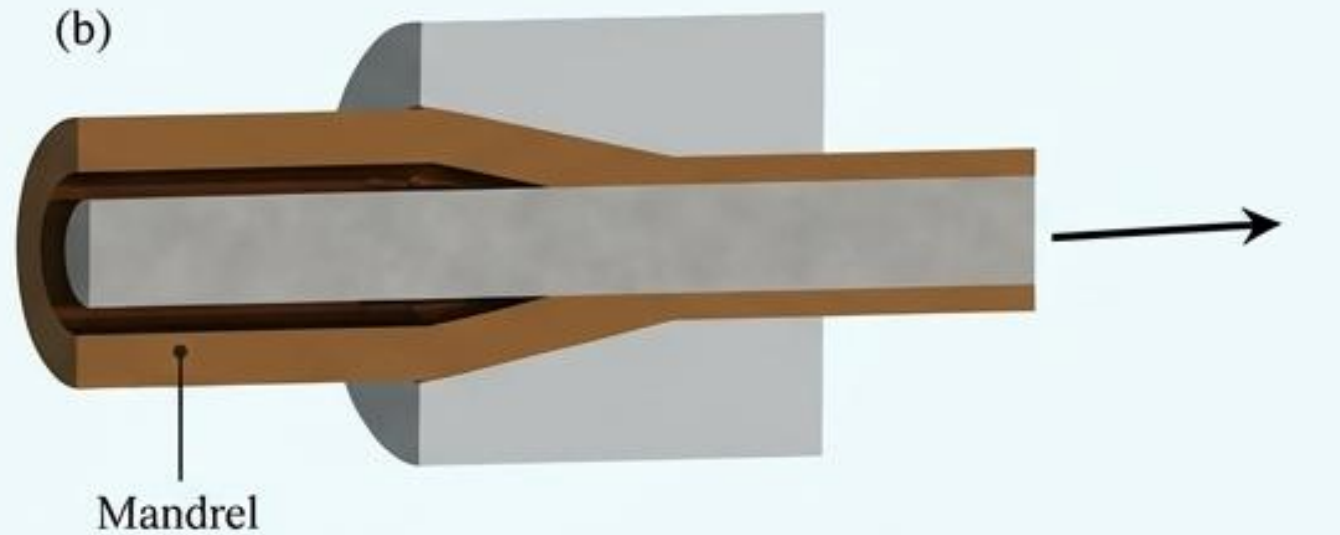
Targeted heat treatment generates new, stress-free grains—fully restoring the original material structure and mechanical properties.

Lean, Scalable, and Automated Drawing Lines

Our production floor is engineered for both rapid prototyping and high-volume consistency. Automated tube drawing equipment ensures that the mechanical specifications achieved during an initial prototype run are exactly replicated at scale, yielding identical results from unit 1 to unit 10,000.

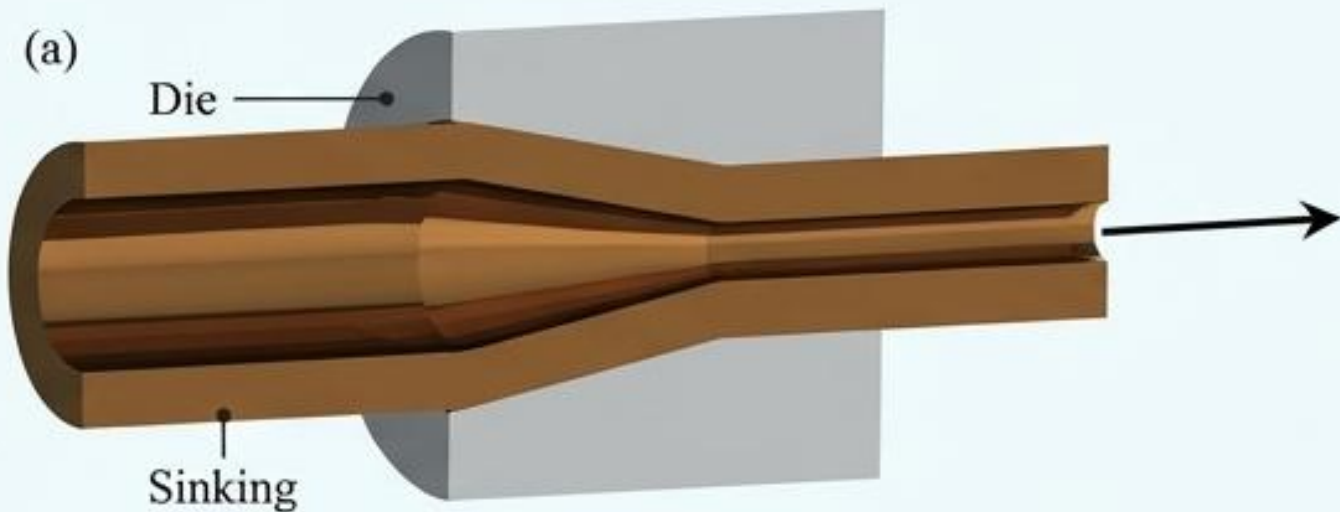


Precision Tube Drawing: Mastering Wall and Dimensional Modifications



Mandrel Drawing:

Allows for exact modification of both the Wall thickness and the Inner/Outer Diameter (ID/OD). Typically executed between 5-6 times for optimal calibration.



Sinking:

Engineered exclusively for ID/OD modification without altering wall thickness. Minimized to 1-4 sinking steps to preserve structural integrity.

Die Preparation: Wide range of dies available. All dies are controlled visually and dimensionally after use, and adjusted via diamond wire and ultrasonic tools to achieve the required edges.

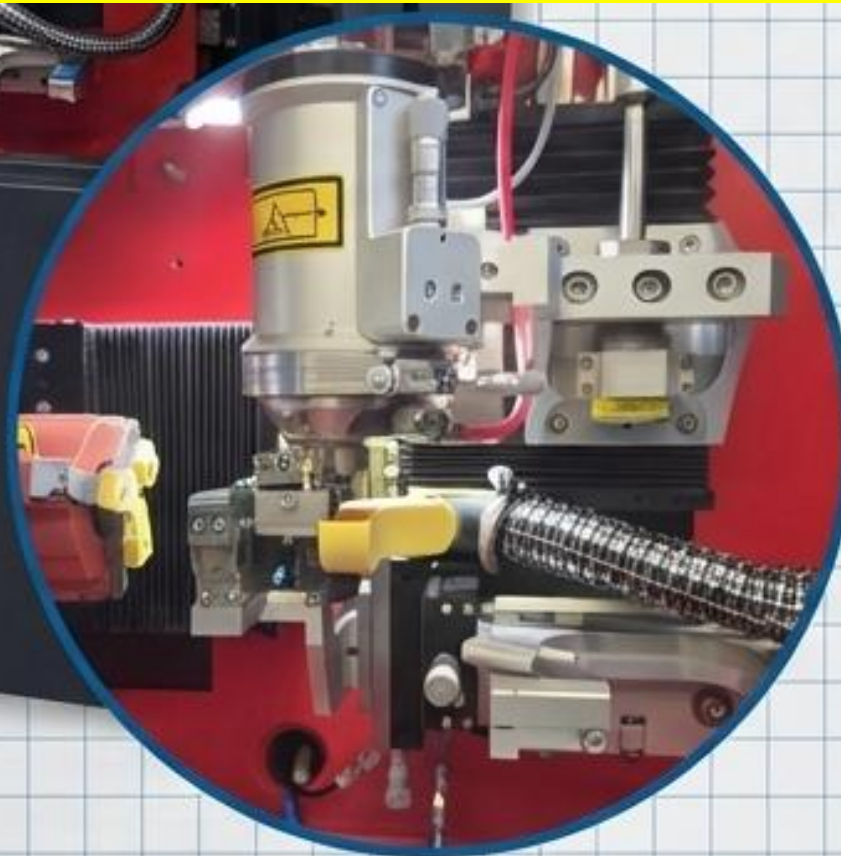
Sub-Millimeter Accuracy: Fiber Laser Processing



Tady bych jeste pridal :

- kerf ~25 μm
- thin wall capability
- high edge quality
- minimal burr formation

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Core Technology

Utilizing industry-leading **Coherent StarCut Tube** fiber lasers.

Active Monitoring

100% visual in-process inspection during the cutting phase to instantly detect anomalies.

Statistical Control

Sample-based in-process dimensional control actively maintains target **CPK** (Process Capability Index) throughout the production run.

Achieving Medical-Grade Purity: Post-Processing



The Purity Protocol

1

Mechanical De-burring

Complete removal of all micro-burrs and edge inconsistencies following the laser cut.

2

Ultrasonic Cavitation

A dedicated 30-minute intensive bath in digital ultrasonic cleaners to dislodge microscopic particulate matter.

3

Chemical Finalization

100% IPA (Isopropyl Alcohol) final wash, immediately followed by a controlled hot air drying process to prevent water spots or oxidation.

Zero Defect Quality Control Under the Microscope



Uncompromising Visual Standard

100% visual inspection guaranteeing zero cracks, zero pits, zero foreign material, and zero deep scratches.



High-End Dimensional Control

Samples verified in-process using Best fit pin gauges (0.005mm steps), Laser micrometers, and standard micrometers.



Optical Measurement

OGP SmartScope technology available for complex optical verifications.



Our Guarantee

Operating under a strict AQL Standard: Norm C=0; AQL 1.



Verifying Micro-Tolerances: Metrology Arsenal

The AQL Standard:
Rigorous adherence to Norm C=0;
AQL 1" in Inter and Roboto Mono

Diagnostic Metrology

Standard Tooling



Best fit pin gauges scaling in micro-steps of 0.005mm (0.00019").

Continuous OD Verification



High-speed Laser Micrometers and standard analog micrometers.

Optical Upgrades



Advanced optical measurement available via the automated OGP SmartScope system for complex geometric validation.

Absolute Traceability: The Standard Delivery Package

Physical Delivery Protocol

Physical Delivery Protocol:

- Flawless unitary counting via laser beam technology.
- Customizable batching (typically 500-1000 parts per sealed vial).
- Individual, highly specific labeling for total batch separation.

The Compliance Bundle

Every shipment inherently includes:

- ✓ **CoC:** Certificate of Conformity.
- ✓ **CoA:** Certificate of Analysis (including raw testing data).
- ✓ **Material Certs:** Complete raw material traceability.
- ✓ **Regulatory:** Official compliance letters for RoHS, REACH, and Animal-origin free status.

Technical Specifications & Micro-Tolerances

Outer Diameter (OD)	Range: 0.3 – 5 mm (0.0118 – 0.20 inches)	Tolerance: +/- 0.01 mm
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Wall Thickness	Range: 0.025 – 0.4 mm (0.001 – 0.016 inches)	Tolerance: +/- 0.005 mm
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Materials / Design	Gold (Au - 18/24k), Platinum (Pt - 99.95%), Platinum/Iridium Alloy (Pt/Ir - 90/10)
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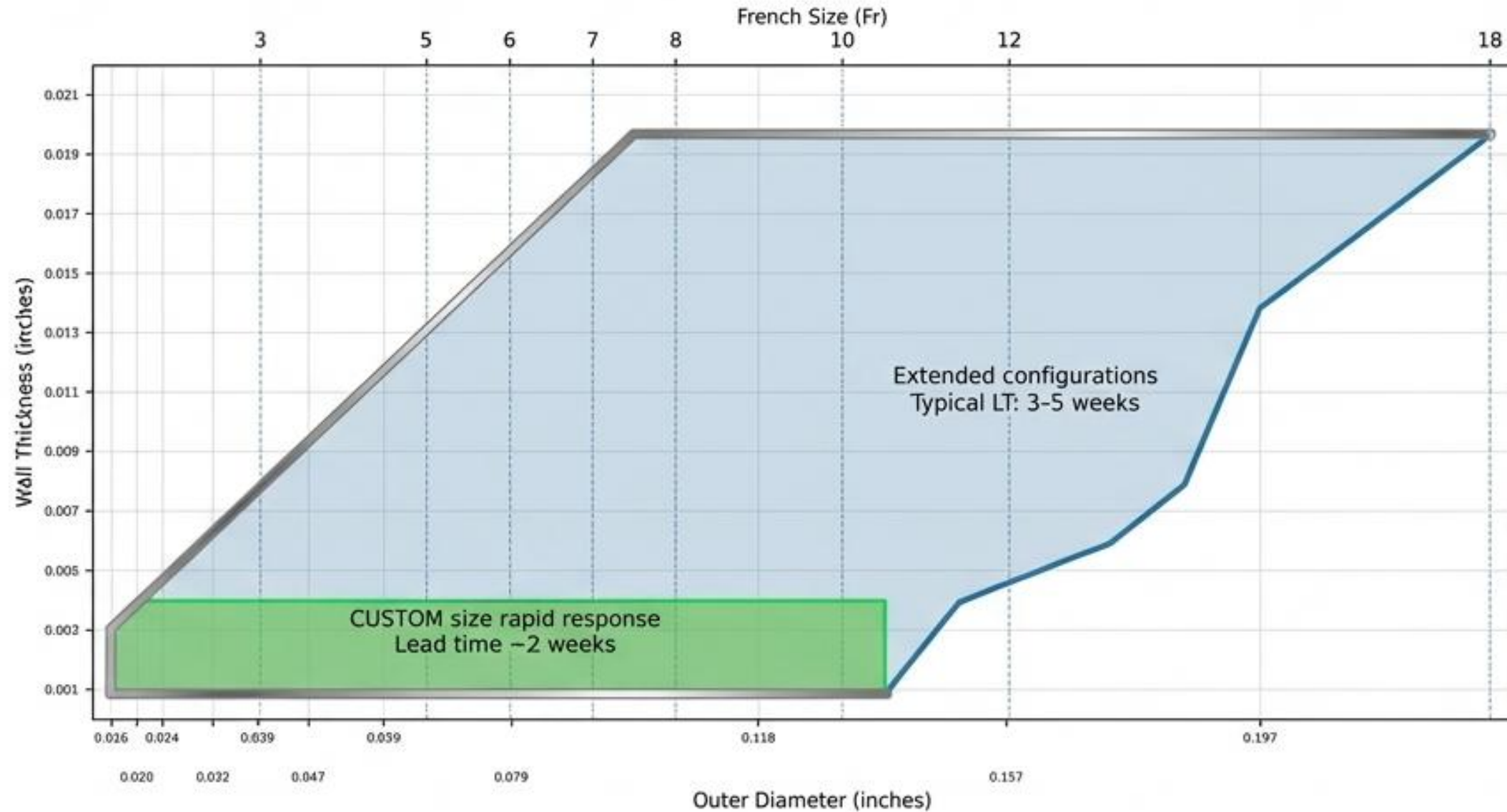
All specifications adapt to specific customer requirements.

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Rapid Response Manufacturing for Custom Marker Bands

Custom Pt/Ir Marker Band Sizes Delivered in as Little as 2 Weeks

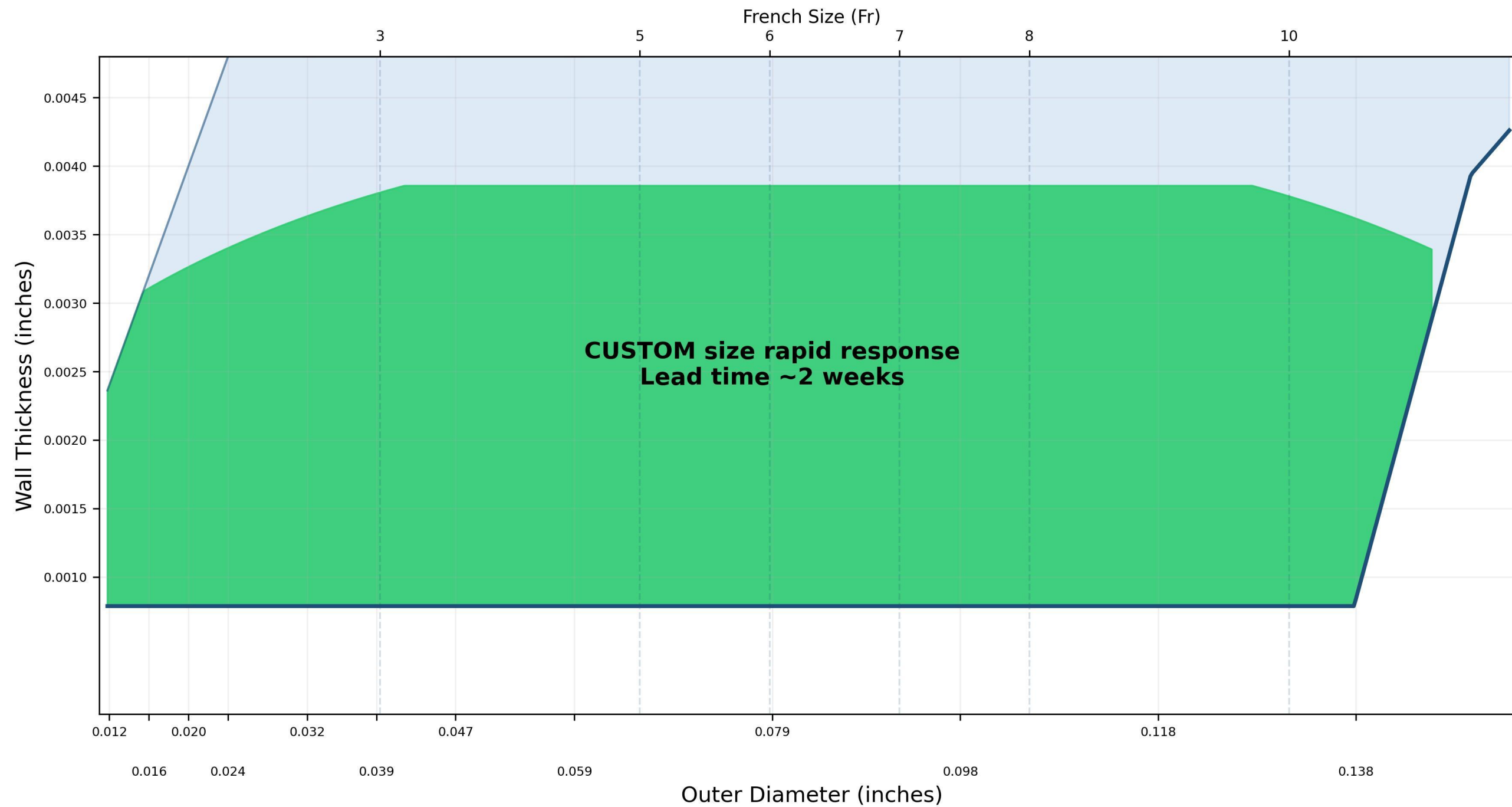


Feasibility & Quoting:
Delivered within 24-48 hours.

The Green Zone (Rapid Prototyping):
Custom size rapid response delivered in approximately 2 weeks.

The Blue Zone (Extended Configurations & Scaling):
Typical lead times of 3-5 weeks for extended sizes **or volume scale-up** (capable of handling up to 10,000-20,000 parts in 4 weeks).

Pt/Ir Marker Band Sweet Spot



Vital Components for Life-Saving Catheter Technologies



Typical Integrations:



Neurovascular catheters



Balloon catheters



Electrophysiology (EP) devices



Structural heart delivery systems

Primary Clinical Purpose:



Ensuring absolute X-ray visibility and pinpoint positioning accuracy during critical procedures.

From Prototype to Scaled Production

We don't just supply components—we co-engineer solutions.



The Jimalu Advantage: Speed, Scalability, Precision, and Trust



Speed

Agile 24-hour quoting, paired with an industry-leading 2-week rapid prototyping response for custom marker band designs.

Scalability



A flexible manufacturing partner capable of supporting development runs, medium volumes, and scaling up to 20,000+ parts.



Precision

High-fidelity radiopaque bands (Pt/Ir, Pt, Au) manufactured to exceptionally tight, consistent tolerances.

Trust



An ISO 13485 certified, European-based facility providing full material traceability and uncompromising AQL C=0 quality control.



Trusted by Industry Leaders



“Our Pt/Ir marker bands are trusted in neurovascular catheters across the US—let’s discuss how we can support your next innovation.”

Let's Accelerate Your Production

**Ready to accelerate
your medical device
production? Let's
talk in 24 hours!**



[Scan to connect directly]

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