TECHNICAL TOOLING
MOLD | FIXTURE | MATERIAL

Capability Statement

Duns: 117058998

CAGE: 965F8

AS9100 D Compliant (Cert expected Q2 '22)

NAICS Codes:

- **333511- Industrial Mold Mfg.**
- **333514 Tooling, Jigs & Fixtures**
- **332710 Machine Shop**

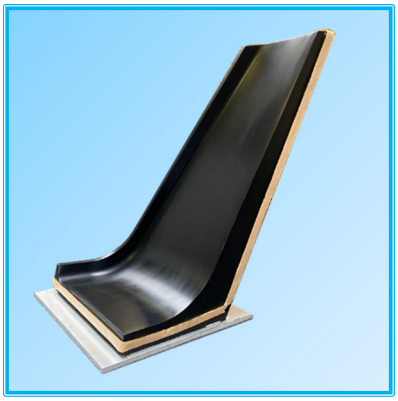
ITAR Registered

Certified Small Business

CORE COMPETENCIES

Proprietary material technology for tooling applications:
1) composite layup molds and 2) vacuum trim fixtures and tables.

Our material begins in a malleable state, placed only where needed and formed to near net shape, eliminating unnecessary scrap & machine time.



Ultra-Low CTE Layup Molds

- **Proprietary Ravin™ LM base material**
- **Autoclave capable up to 350°F**
- **Direct to mold, shorter lead times**
- **Coefficient of thermal expansion of 3.3x10-6 in/in/f°**
- **Fraction of the price of Invar tooling with comparable performance.**

Vacuum Workholding

- **Even vacuum across entire contact surface**
- **Meets any complex, 3-Dimensional geometry**
- **Stronger sheer holding force over grooved fixtures**
- **Repairable and modifiable surfaces**
- **Fast part change over**
- **No Tool Path interference**

Contact Info:

Technical Tooling, LLC
1118 East D Street
Tacoma, WA 98421
(253) 327-1149
sales@technicaltooling.com
www.technicaltooling.com

EXPERIENCE

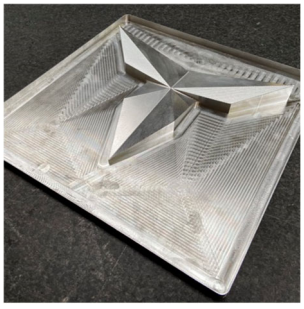
Layup Molds and Vacuum Trim Fixtures for:
Private Jet Interior Panels ● Drones/UAV's ● Military Aircraft
Fuselages Panels ● Nose Cones ● Radomes ● Winglets
Nacelles ● Assembly Jigs ● Wing Skins ● Heat Shields
Secondary Bonding ● Co-Curing Tools ● Green Cure Forming Tools
Large Envelope Vacuum Tables ● Autobody ● Marine ● Space

Unique Vacuum Applications

Metal Machining

- Achieve thin walls and floors on flat fixtures without toolpath interference or distortion caused by traditional vices/clamps.
- Extensive holding force allows for more aggressive machining.
- Works with complex contoured parts.
- Vacu-Grip™ is not impacted by liquids or coolant.

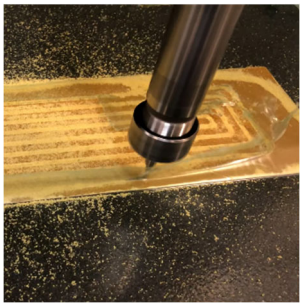
Alum Plate: 0.030” Wall and Floor Thickness



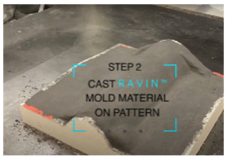
Thin Material

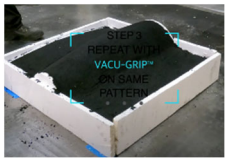
- Use as the “no-spoil” spoil board
- No need for damaging double sided adhesives.
- No bruising or tool path interference caused by toggle clamps.
- No part deflection or delamination caused by vacuum channels.

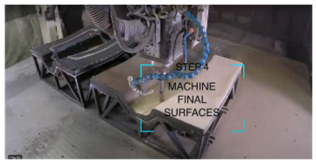
0.020” Thick Phenolic



Process Efficiency







- **Material begins in a malleable state and is casted directly onto a frame or into an inexpensive styrofoam to achieve near net shape, eliminating most of the unnecessary scrap and reducing machine time.**
- **The scalability of tools is nearly limitless.**
- **Repair and modification of tools use the same process, making it far easier than any available alternative.**
- **After final machine, the tools only require their respective surface finishes and then they are ready for inspection**

Secondary Capabilities

Composites:	Composite Mold Making ● Composite Vacuum Fixtures ● 5-axis Composite Machining ● High Temp Oven Curing ● Layup & Infusion
Metal Working:	Metal Milling (3 & 4-axis) ● Turning/Lathe Work ● Laser Etching ● Welding ● CAD Design ● 5-Axis Programming
Technical:	Laser Inspection ● Surface Coating ● Painting / Powder Coating

TECHNICAL TOOLING
MOLD | FIXTURE | MATERIAL

Complex Layup Molds and Vacuum Fixtures

Delivering faster cycle times • Reducing costs • Producing better parts