



TensileMill CNC

MICRO

The Compact Revolution in Tensile
& Impact Sample Preparation

- 📏 **SMALL FOOTPRINT**
- 🎯 **ACCURATE AND REPEATABLE RESULTS**
- 🔧 **TURNKEY SOLUTION**
- 👨 **PERFECT FOR UNTRAINED CNC MACHINIST**
- 👍 **SUPER USER-FRIENDLY**
- 🎯 **FREE PROOF OF CONCEPT**

DESCRIPTION

The TensileMill CNC MICRO is a compact, 2-axis machining system designed for preparing flat tensile and impact test specimens for metal, plastic, and composite materials. The system is suitable for laboratories and production environments where precise specimen geometry and consistent repeatability are required, but the volume of samples does not justify a full industrial CNC machining setup.

The MICRO uses a guided touchscreen interface and a dedicated workflow tailored specifically for specimen preparation. This allows technicians without prior CNC experience to produce accurate, test-ready specimens with stable dimensional results. Custom baseplates and tensile jigs allow the MICRO to machine both sides in a single machining cycle without re-clamping, helping maintain symmetry while minimizing operator involvement.

- 📍 2220 Meridian Blvd., Suite #AF937, Minden, NV, 89423, USA
- 📍 11407 SW Amu St., Tualatin, OR, 97062, USA
- 📍 4071 L.B. Mcleod Rd. Ste D PMB 34, Orlando, FL, 32811, USA
- 📍 847 Sumpter Road, Belleville, MI, 48111, USA
- 📍 918 16 Ave NW, Calgary, AB, T2M 0K3, Canada

📞 +1 877 672 2622

🌐 sales@tensilemillcnc.com

📧 +1 775 981 9041

🌐 www.tensilemillcnc.com

TensileMill CNC MICRO



The TensileMill CNC MICRO is your compact, highly efficient solution for precise tensile specimen preparation. Featuring a 15.6-inch touchscreen, the MICRO runs on our intuitive TensileSoft platform, making specimen prep easy, even for non-machinists.



**SMALL
FOOTPRINT**



**PERFECT FOR UNTRAINED
CNC MACHINIST**



**TURNKEY
SOLUTION**



**ACCURATE AND REPEATABLE
RESULTS, EVERY TIME!**



**SUPER
USER-FRIENDLY**



**FREE
PROOF OF CONCEPT**

APPLICATION AND USE CASES

The TensileMill CNC MICRO is used for preparing flat specimens required for tensile and impact testing. Laboratories and testing facilities need to create specimens with the same shape to get trustworthy test results, and the MICRO helps achieve this by making consistent shapes within specific size limits.

The system is applied in QA/QC workflows, material qualification, research and development programs, and educational testing environments. It is suitable for metals, plastics, and composite materials processed in sheet or strip form. The MICRO can handle both standard sizes set by ASTM and ISO standards and special shapes defined by internal testing rules.

The machine is most commonly integrated into testing workflows where:

- mechanical properties need to be verified as part of production or batch release;
- research teams evaluate new alloys, polymers, or composite formulations;
- educational and training labs prepare specimens as part of academic instruction;
- outsourcing specimen preparation results in inconsistent geometry or delayed turnaround.

In these situations, the MICRO provides a stable method for preparing specimens with uniform thickness, width, and gauge dimensions, supporting repeatable and comparable testing outcomes.



KEY ADVANTAGES

2-Axis Simplicity: Operates along X and Y axes, smoothly cutting both sides in one machining cycle. Stack blanks up to 0.5 inches thick under the tensile jig—produce either one thick specimen or multiple thinner specimens in a single run.

- Purpose-built for flat specimen preparation rather than adapted from a general-purpose CNC system.
- Dimensional repeatability up to ± 0.02 mm, supporting consistent mechanical test results.
- Guided touchscreen workflow allows operation without prior CNC programming experience.
- Custom baseplates and tensile jigs enable two-sided machining in one cycle without re-clamping, helping preserve alignment and symmetry.
- Compact, enclosed, and self-contained layout supports installation in laboratory environments.
- Suitable for both standardized geometries and custom specimen dimensions.

TENSILESOFT INTERFACE

With TensileSoft, the machine programs itself. The operator simply inputs specimen details, selects the material, and the MICRO generates the machining path automatically.

- Selection of standardized specimen geometries or entry of custom dimensions.
- The machine provides guided prompts for blank alignment and fixture clamping.
- The system automatically pauses when a specimen flips during two-sided machining.
- Saving and recalling previously used specimen profiles for repeat work.

The interface is focused on consistent specimen geometry and straightforward operation in laboratory settings. Optional Carbon interface upgrade is available if extended CNC machining capability is required. The tensile software interface saves and provides quick access to previously entered specimen sizes. It also includes a diverse library of preprogrammed tensile specimens allowing the operator to quickly launch a program without having to enter any measurements at all.

WORKFLOW EFFICIENCY:

Custom baseplates and jigs allow seamless cutting of both sides without re-clamping. Load, start, and let the MICRO handle the rest—efficiency and precision in one. CNC MICRO delivers repeatable, accurate results—an ideal addition to any lab or production floor streamlining tensile specimen preparation.

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
Controller	MachMotion
Travel (X / Y / Z)	8.27" x 4.72" x 0.79" (210mm x 120mm x 20mm)
Spindle Speed	18,000 rpm
Spindle Power	3.5 kW
Tool Holder	E-25
Coolant System	Recirculating flood coolant
Traverse Speed (X/Y/Z)	up to 8,000 mm/min

PARAMETER	VALUE
Feed Rate	1-3,000 mm/min
Positioning Accuracy	± 0.03 mm
Repeatability	± 0.02 mm
Spindle Cooling	Air-cooled
Machine Dimensions	20.5" x 24" x 59" (52" x 60" x 150 cm)
Enclosure	Full safety enclosure
Base	Mobile stand integrated coolant tank

SPECIMEN CAPABILITIES:

Prepares specimens up to 8 inches in length. Compatible with 4-inch and 8-inch tensile jigs for versatile sample prep.

UNIQUE SOLUTION FOR TENSILE AND IMPACT SPECIMEN CNC PREPARATION