



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 from 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.



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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

This machine offers several practical advantages for preparing flat tensile and impact specimens across laboratory and production testing environments.

- 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

The system is operated through the TensileSoft interface on an integrated 15.6" touchscreen. The workflow is structured to guide the operator through specimen setup and machining without requiring CNC programming experience.

- 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. With your new TensileMill CNC MICRO - Compact Precision for Flat Tensile & Impact Sample Preparation machine you may also upgrade to our Carbon software interface, making this unit a hybrid of tensile sample and a CNC machine. Our intuitive and powerful CNC control system comes with virtually endless possibilities.

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE	PARAMETER	VALUE
Controller	MachMotion	Feed Rate	1-3,000 mm/min
Travel (X / Y / Z)	8.27" x 4.72" x 0.79" <small>(215mm x 120mm x 20mm)</small>	Positioning Accuracy	± 0.03 mm
Spindle Speed	18,000 rpm	Repeatability	± 0.02 mm
Spindle Power	3.5 kW	Spindle Cooling	Air-cooled
Tool Holder	E-25	Machine Dimensions	20.5" x 24" x 59" (52 x 60 x 150 cm)
Coolant System	Recirculating flood coolant	Enclosure	Full safety enclosure
Traverse Speed (X/Y/Z)	up to 8,000 mm/min	Base	Mobile stand integrated coolant tank

UNIQUE SOLUTION FOR TENSILE AND IMPACT SPECIMEN CNC PREPARATION