



Issue Date: 02-21-2025

Certificate of Calibration



Certificate # 0866.01
Calibration Lab

Equipment calibration was performed for:

TensileMill CNC, Inc

2220 Meridian Blvd
Minden, NV 89423

Thursday, 02/25/2025

Calibration performed by:

[Redacted] 540

Calibration Summary

Applied Force	Average Microstrain (µε)	Max Bending (%)	Max Bending Strain (µε)	ASTM E-1012 Tolerance	Uncertainty (µε)	Pass/Fail
6000-lbf	1019.0	8.15	N/A	≤10% Bending	15	PASS
12000-lbf	2058.1	4.57	N/A	≤10% Bending	26	PASS
18000-lbf	3095.6	3.33	N/A	≤10% Bending	36	PASS

ALIGNMENT VERIFICATION INFORMATION

ASTM Round Specimen, .500" Dia, 1" Shanks, Inconel 718 Stainless material - Serial# [Redacted]

ALIGNMENT TRANSDUCER INFORMATION

Instrumentation consists of 12 foil type strain gauges adhesively fastened to the specimen. The gauges are arranged at four positions around the specimen on each plane. Strain measuring device has a sensitivity of 0.1 micro strain, and relative accuracy of +/- 1.0% - 1.0 micro strain.

DESCRIPTION: LOAD TRAIN AND GRIPPING METHOD

Load train consists of the following in order from top: Castle nut atop threaded rod on top of crosshead, threaded rod through crosshead, alignment fixture, load cell, upper hydraulic grip, axial alignment specimen, lower hydraulic grip mounted to base.

* Decision Rule: Simple Acceptance Rule was used - readings fall within tolerance. Measurement uncertainty is stated, but not used to determine pass/fail status. TUR is > 4:1, unless stated.

Cal-Rite has calibrated the testing equipment described above in accordance with the latest applicable specifications (ISO/IEC 17025, ANSI Z-540-1 and 10-CFR-21). All calibration measurements are traceable to the International System of Units (SI) through NIST. The results of this calibration apply only to the unit that was calibrated. The uncertainty of the calibration process was estimated approximately at the 95% confidence level (k=2).

Service Notes

Alignment performed IAW ASTM E1012 Class 10. All readings within tolerance.

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Axial Alignment Verification

TensileMill, LLC
3320 Mainline Blvd
Minden, NV 89423

Instrument Profile

Table with 10 columns: Manufacturer, Model/Type, Asset ID#, Machine Serial No., Load Cell Serial No., Alignment Fixture Serial No., Max Force, Direction, Specimen Type, Temp/Humidity, Verification Type, Software Version, Date, Next Due, Class.

Calibration Results

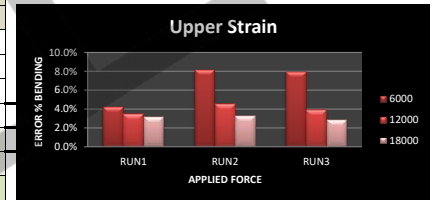
Strain Gage Configuration



Run 1 Calibration Results Table (UPPER PLANE)

Run 2 Calibration Results Table (UPPER PLANE)

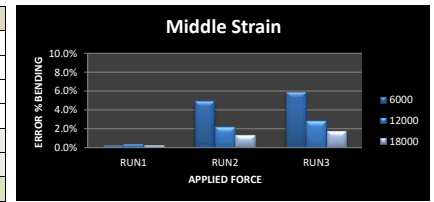
Run 3 Calibration Results Table (UPPER PLANE)



Run 1 Calibration Results Table (MIDDLE PLANE)

Run 2 Calibration Results Table (MIDDLE PLANE)

Run 3 Calibration Results Table (MIDDLE PLANE)



Run 1 Calibration Results Table (LOWER PLANE)

Run 2 Calibration Results Table (LOWER PLANE)

Run 3 Calibration Results Table (LOWER PLANE)



Calibrating Apparatus Used

Table with 7 columns: Asset Number, Manufacturer, Model, Serial Number, Calibration Date, Calibration Due, Calibrated By.

PROCEDURE: CR113 rev 7
SPECIFICATION: ASTM E1012-19
QMS REVISION: 3.01

Table with 2 columns: Service Order #, N/A

Table with 2 columns: Purchase Order #, N/A

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