

CERTIFICATE OF REGISTRATION



# ARBOR GAGE & TOOLING, INC.

2031 Calvin Avenue SE  
Grand Rapids, Michigan 49507 USA

*American Global Standards, LLC (AGS) issues this certificate to the firm named above, Having assessed and approved the firm's quality management system and finding the system conforms to the standards of:*

## ISO 9001:2008

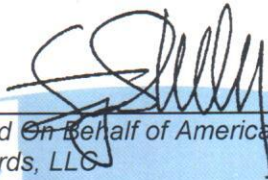
*The quality management system is applicable to the following:*

### Design, Manufacture & Certification of Check Fixtures

*This approval is subject to the firm maintaining its management system to the required standards, which will be monitored by AGS. In the issuance of this certificate, AGS assumes no liability to any party other than the firm named above, and then only in accordance with the agreed upon Quality System Assessment Agreement.*

Certification Number: AGS-US031711-1/2  
Original Approval: August 31, 1999  
Date of Issue: March 18, 2017  
Date of Expiration: September 15, 2018



  
For and On Behalf of American Global Standards, LLC

1187 Coast Village Road, Suite #495, Montecito, CA 93108 USA  
Tel: 617-838-4648

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2031 Calvin Avenue SE  
Grand Rapids, Michigan 49507 USA

## ISO/IEC 17025:2005

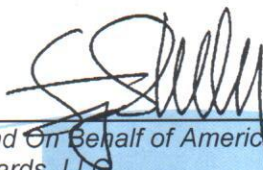
*This laboratory is accredited in accordance with the recognized Standard ISO/IEC 17025:2005. "General Requirement for the Competence of Testing and Calibration Laboratories." This laboratory also meets the requirements of ANSI/NCSL Z540.3 2006 and any additional program requirements in the field of calibration. This accreditation demonstrates technical competence for a defined scope and the operation of laboratory quality management systems*

### Calibration

*This approval is subject to the firm maintaining its system to the required standards, which will be monitored by AGS. In the issuance of this certificate, AGS assumes no liability to any party other than the firm named above, and then only in accordance with the agreed upon Quality System Assessment Agreement.*

Certification Number: AGS-US031711-2/3  
Original Approval: October 22, 2008  
Date of Issue: March 18, 2017  
Date of Expiration: March 17, 2020



  
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## ARBOR GAGE & TOOLING, INC.

2031 Calvin Avenue SE, Grand Rapids, Michigan 49507 USA

Original Approval: October 22, 2008  
Date of Expiration: March 17, 2020

Date of Issue: March 18, 2017  
Certificate Number: AGS-US031711-2/3

### Calibration

	Manufacturer Specification	Equipment	Result	U = Uncertainty
<b>Linear Laser Positional Accuracy</b>				
X Axis	0.010 mm	Laser	0.006 mm	+/- U=0.5+1.3L um, L in meters.
Y Axis	0.012 mm	Laser	0.0004 mm	+/- U=0.5+1.2L um, L in meters.
Z Axis	0.008 mm	Laser	0.002 mm	+/- U=0.5+1.4L um, L in meters.
<b>Measurement Repeatability on Sphere</b>				
X Axis	0.004 mm	Cal' Sphere	0 mm	U=+/- 0.0006 mm
Y Axis	0.004 mm	Cal' Sphere	0 mm	U=+/- 0.0006 mm
Z Axis	0.004 mm	Cal' Sphere	0 mm	U=+/- 0.0006 mm
<b>Volumetric Performance with Ballbar</b>				
<b>Accuracy</b>	0.016 mm	Ballbar	0.014 mm	U=+/- 0.003 mm
<b>Equipment Description</b>	<b>Serial Number</b>	<b>N.I.S.T. Number</b>	<b>OTC ID#</b>	<b>Calibration Due Date</b>
XL 80 Laser head	131M13	NPL2010080175	900	April 11, 2017
XC 80 Comp station	293F73	151102-00	901	April 8, 2017
Ballbar / Ref Sphere	401 /445	683/285541-14	231	September 25, 2016

Data Obtained on July 13, 2016