



The American Association for Laboratory Accreditation

World Class Accreditation

# Accredited Laboratory

A2LA has accredited

## WROUGHT WASHER MANUFACTURING INC. - QA LAB

*Milwaukee, WI*

for technical competence in the field of

**Mechanical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).



Presented this 28th day of August 2009.

  
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President & CEO

For the Accreditation Council  
Certificate Number 1725.01  
Valid to February 28, 2011

*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.*

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

WROUGHT WASHER MANUFACTURING INC.-QA LAB<sup>1</sup>  
 2100 South Bay Street  
 Milwaukee, WI 53207  
 Paul Schaefer Phone: 414 747 8343

MECHANICAL

Valid To: February 28, 2011

Certificate Number: 1725.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following washer tests:

<u>Test</u>	<u>Test Methods</u>
<u>Hardness</u>	
Rockwell (B, C)	ASTM E18
Microhardness (Knoop) (500gf)	ASTM E384
Case Depth	SAE J423 (Para 5.2, 6.3)
<u>Chemical</u>	
Optical Emission Spectroscopy on Steel and Stainless Steel (C, Mn, P, S, Si, Cr, Ni)	ASTM E415, E1086

Dimensional Testing:

<u>Parameter</u>	<u>Range</u>	<u>Best Uncertainty*(±)</u>	<u>Technique</u>	<u>Standards</u>
Inside Diameter	(9/32 to 5) in	0.0008 in	(0 to 12) in Caliper	MIL-STD-120
Outside Diameter	(5/16 to 12) in	0.0008 in	(0 to 12) in Caliper	MIL-STD-120
Thickness	(0.016 to 0.625) in	0.0008 in	(0 to 1) in Micrometer	MIL-STD-120

<sup>1</sup> This accreditation covers testing performed at the main laboratory listed above, and the following satellite laboratory listed below:



WROUGHT WASHER MANUFACTURING INC.-QA LAB  
 1901 Chicory Road  
 Mount Pleasant, WI 53403

<u>Test</u>	<u>Test Methods</u>
Sampling	ASME/ANSI B18.18.2 M
Plating thickness (Eddy Current)	ASTM E376
Plating Adhesion	ASTM B571 (Para. 4 & 7)
Twist (of Lockwashers)	ASME/ANSI B18.21.1
 <u>Hardness</u>	
Rockwell (A, B, C, 15N)	ASTM E18

Dimensional Testing:

<u>Parameter</u>	<u>Range</u>	<u>Best Uncertainty*(±)</u>	<u>Technique</u>	<u>Standards</u>
Inside Diameter	(9/32 to 5) in	0.0008 in	(0 to 12) in Caliper	MIL-STD-120
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Thickness	(0.016 to 0.625) in	0.0008 in	(0 to 1) in Micrometer	MIL-STD-120

\*“Best Uncertainty” is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine tests of nearly ideal measurement standards with nearly ideal measuring equipment. Best uncertainties represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The best uncertainty of a specific test performed by the laboratory may be greater than the best uncertainty due to the behavior of the customer’s test piece to the environment and to influences from the circumstances of the specific test.

