SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

MIDWEST METALLURGICAL LABORATORY
200 Travis Lane
Waukesha, WI 53189
Andrew Berner Phone: 414-628-7723

MECHANICAL

Valid To: May 31, 2028 Certificate Number: 7618.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on metal parts and test pieces, casting, forgings, and various other manufacturing materials:

Test:	Test Methods:
Microhardness	
Knoop (HK100, HK500, HK1000) Vickers (HV100, HV500, HV1000, HV5000, HV 10,000)	ASTM B578, E92, E384
Hardness Testing	
Brinell (500kg, 3000 kgf)	ASTM A370, E10
Rockwell (15N, 30N, 15T, A, B, C, E, F)	ASTM A370, E18; ISO 6508-1
Leeb Hardness[1] (300 to 900 HL, 30 to 99 HRBW, 20 to 65 HRC, 80 to 650 HBW)	ASTM A956/A956M
Mechanical Testing	
Tensile Testing	ASTM E8
Impact Testing	ASTM E23
Metallography	
Detrimental Inter-Metallic Phases in Duplex Austenitic/Ferrite Stainless Steels	ASTM A923 (Method A, C)
Evaluating Microstructure of Graphite in Iron Castings	ASTM A247, E2567
Ferrite Determination	ASTM E562
Grain Size	ASTM E112, E930, E1181
Inclusion Content and Second-Phase Constituent Content by Image Analysis	ASTM E45, E1245
Macroetching	ASTM E340, E381, A561, A604/604M; AWS B4.0
Microetching	ASTM E407

Test:	Test Methods:
Metallography *(cont'd)*	
Preparation of Samples	ASTM E3
Total Case Depth and Effective Case Depth Measurement	SAE J423
Susceptibility to Intergranular Attack - Stainless Steel	ASTM A262
Failure Analysis	ASM Handbook Volume 11
Chemical	
Optical Emission Spectroscopy (DR-OES) (Iron, Steel, Alloy Steel, Tool Steel, Stainless Steel, Nickel, Cobalt, Zinc)	ASTM A751, E327, E415, E1086, E1507, E2209, E255, B985, E826, E716, E1251
Positive Material Identification (PMI) via Portable XRF[1] (Iron, Steel, Alloy Steel, Tool Steel, Stainless Steel, Nickel, Cobalt, Titanium, Copper, Aluminum, Zinc, Tin, Lead, Babbitt, Precious Metal, Ferro Alloys, Other)	ASTM E1476, E1916; API RP 578
Weld Testing	
Bend Test	ASTM A370, E190, E290, A990, B369
Welding Procedure and Performance Qualification	AWS D1.1/D1.1M
Visual Inspection	API 1104

[1]This laboratory performs field testing activities for these tests.

Accredited Laboratory

A2LA has accredited

MIDWEST METALLURGICAL LABORATORY

Waukesha, WI

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 April 2017*).

Presented this 12th day of May 2026.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7618.01
Valid to May 31, 2028
Revised August 25, 2026

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