



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

IMR METALLURGICAL SERVICES
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MECHANICAL

Valid to: April 30, 2012

Certificate Number: 1140.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the below listed tests on the following materials and products: adhesives, aerospace and automotive products, aluminum alloys, brass & bronze, cables, carbon steel, cast iron, ceramics, coatings, copper alloys, elastomers, fasteners, labels, low alloy steel, nickel, paints, plastics, powder metals, power and hand tools, rubber, stainless steel, superalloys, titanium alloys, zinc alloys, thermal spray, oil and oil products.

Test:

Test Methods:

Mechanical Properties

Tension (UTS, YS, EL, R/A)

n-Value (Strain Hardening Exponent)

r-Value (Plastic Strain Ratio)

Young's Modulus

Compression

Bend

Impact (Charpy)

ASTM A48, A370, B557, E8, E8M, F606, F606M;
API-5L; JIS Z 2201, JIS Z 2241

ASTM E646; JIS Z 2253

ASTM E517; JIS Z 2254

ASTM E111

ASTM E9

ASTM D522, A370; ASME Sect. IX

ASTM A370, E23; JIS Z 2242

Hardness

Rockwell and Superficial (A, B, C, E, F, 15N,
30N, 45N, 15T, 30T, 45T)

Brinell¹

Microhardness (Knoop & Vickers)

ASTM A370, E18, F606, F606M;

MIL-STD-1312-6; SAE J429, J995

ASTM A370, E10, E110

ASTM E92, E384, B933; MIL-STD 1312-6

Metallurgical Examination

Preparation of Samples

Microstructure – Cast Iron

Microetching

Macroetching

Grain Size

Discontinuities

Photomicrography

Depth of Decarburization

Case Depth

Inclusion Content

ASTM E3

ASTM A247

ASTM E407

ASTM E340, E381

ASTM E112

ASTM F788, F812

ASTM E883

ASTM E1077; SAE J121, J419

SAE J423; ASTM B934

ASTM E45 (Method A)

Test:

Test Methods:

Metallurgical Examination (continued)

Intergranular Attack
Orientation in Microstructure
²Ferrite Measurement
²Replication
Phase Volume Determination

ASTM A262; AMS-H-6088
ASTM E1268; ASM Metals Handbook
ASTM A799
ASTM E1351
ASTM E562

Coatings and Platings

Thickness by SEM
Thickness by Cross Section
Microhardness of Coatings

ASTM B748
ASTM B487; MIL-STD-1312-12
ASTM B578

Coating Testing and Evaluation

AA-P 194; ASTM D609, D610, D714, D1654;
DBL 7381, 7391, 7399, 8451, 8461; GS 90010,
90011; ISO 4628-2, 4628-3

Coating Adhesion

AA 0180; AA-P 177; ASTM D3359; GM9071P;
ISO 2409

Fasteners

Tensile (Axial and Wedge)

ASTM F606, F606M, A370; MIL-STD-1312-8;
SAE J429, J995

Proof (External Threads)

ASTM A370, F606, F606M; MIL-STD-1312-8;
SAE J429, J995

Coating Thickness

MIL-STD-1312-12

Decarburization

SAE J121, J419

Corrosion/Environmental Testing

Salt Spray, CASS & Accelerated Corrosion

AA 0324; AA-P 184; ASTM B117, B368, D610,
G85 (except A4); DIN 50021; HES D6501; ISO
9227; MIL-STD 1312-1

Humidity, Condensation/Water Fog

AA 0213, AA-P 224; ASTM D1735, D2247; DIN
50017; GM4465P; ISO 6270-2, 4628-3

Cyclic Corrosion

AA 0224; AA-P 175; GM9540P, GMW 14872; ISO
11997-1; VDA 621-415L

Welder and Procedure Qualification Testing

ASME Section IX; AWS C1.1³, C1.4, D1.1, D1.2,
D1.5; API Std.1104; ABS Rules for Welding Part 2;
SAE AMS-W-6858A; NAVSEA S9074-AQ-G1B-
010/248; API RP 582

Pipeline Integrity (Steel Pipe)

49 CFR Part 192; APP. B & C

¹ On-Site testing is available for these test methods.

²Failure Analysis

Laboratory can perform Failure Analysis using the test methods listed above, referencing ASM Handbook, ASTM E620, E678, E860, and E1188.

³ AWS C1.1: - Destructive: Metallographic, Peel, Bend, Chisel
- Mechanical: Tension Shear, Tension (U-specimen), Pull





The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

IMR METALLURGICAL SERVICES

Louisville, KY

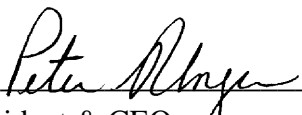
for technical competence in the field of

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 19th day of May 2010.





President & CEO
For the Accreditation Council
Certificate Number 1140.03
Valid to April 30, 2012

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