



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

METAL IMPROVEMENT COMPANY TECHNOLOGY SERVICE (SUZHOU) CO., LTD. –

IMR TEST LABS SUZHOU

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MECHANICAL

Valid To: November 30, 2020

Certificate Number: 1140.09

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aluminum alloys, brass & bronze, carbon steel, cast iron, cobalt alloys, low alloy steel, nickel alloys, stainless steel alloys, titanium alloys for the following industries: aerospace, automotive, nuclear, medical device, consumer products and industrial goods, metal production, general manufacturing, utilities, petrochemical and power generation:

<u>Test</u>	<u>Test Method(s)</u>
<u>Coatings and Platings</u>	
Thickness by Cross Section	ASTM B487
<u>Mechanical Properties</u>	
Charpy Impact (Room Temperature to -60° C)	ASTM A370, E23; ISO 148-1; GB/T 229
Creep, Creep Rupture	ASTM E139; GB/T 2039
Stress Rupture	ASTM E139, E292; GB/T2039
Hydrogen Embrittlement Test (Specimen Type 1a)	ASTM F519
Hardness	
Brinell (1000, 3000 kgf)	ASTM A370, E10; GB/T 231.1
Microhardness	
Vickers (HV 0.05, HV 0.1, HV0.2, HV0.3, HV0.5, 1 Kgf)	ASTM E384; GB/T 4340.1
Rockwell (BW, C, 15N, 15TW, 30N, 30TW)	ASTM A370, E18; GB/T 230.1
Tensile, Room Temperature – 300KN Max (UTS, YS, EL, R/A), Young's Modulus	ASTM A370, B557/557M, E8/E8M; GB/T 228.1; ISO 6892.1
Tensile, Elevated Temperature ($\leq 1100^{\circ}$ C)	ASTM E21; GB/T 228.2; ISO 6892.2
Low Cycle Fatigue ($\leq 1100^{\circ}$ C)	ASTM E606
High Cycle Fatigue ($\leq 1100^{\circ}$ C)	ASTM E466
Coating Shear Fatigue	ASTM F1160

<u>Test</u>	<u>Test Method(s)</u>
<u>Metallographic Evaluation</u>	
Alpha Case	ASTM E407
Carburization/Effective Case Depth	SAE J423 (Optical and Hardness Methods); GB/T 9450
Decarburization	ASTM E1077 (Optical); GB/T 224
Grain Size	ASTM E112; GB/T 6394, 24177; GE E50TF133; ISO 643
IGA	AMS 2772; AMS-H-6088; ASTM A262 (Method A & E), G110
Inclusion Content	ASTM E45 (Method A); GB/T 10561
Microstructure	ASTM A247, E3, E407; GB/T 13298
Macroetching	ASTM E340, E381; GB/T 226, 1979
Replication	ASTM E1315
Photomicrography	ASTM E883
Stereological Evaluation of Porous Coating on Medical Implants	ASTM F1854
Failure Analysis	Using the methods listed above in accordance with the ASM Handbook Volume 11
<u>Chemical Analysis</u>	
Combustion Analysis (C, H, N, O, S)	ASTM E1019, E1409, E1447, E1941
OES (Al, Co, Cu, Fe, Ni, Ti base metals) Elements: Al, B, Bi, C, Co, Cr, Cu, Fe, Mg, Mn, Mo, N, Nb, Ni, P, Pb, S, Si, Sn, Ta, Ti, V, Zn, Zr	ASTM A751, E415, E1086, E1251; CZP-045 ¹
<u>Fasteners</u>	
Hardness	ASTM F606/606M; GB/T 3098.1
Proof (Internal & External Threads)	ASTM A370, F606/606M; SAE J429, J995; ISO 898-1; GB/T 3098.1
Tensile (Axial & Wedge)	ASTM F606/606M, E8/E8M, A370; SAE J429, J995
Stress Durability (Hydrogen Embrittlement)	ASTM F606/606M; GB/T3098.1; ISO 15330

¹Methods starting with CZP are internal methods





Accredited Laboratory

A2LA has accredited

IMR TEST LABS SUZHOU

Suzhou, Jiangsu, People's Republic of China

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 30th day of November 2018.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1140.09
Valid to November 30, 2020
Revision Date February 5, 2019

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