

Name: Harbin Electric Machinery Co., Ltd. Quality Control Department

Address: No.99, Sandadongli Road, Xiangfang District, Harbin, Heilongjiang, China

Registration No. CNAS L5330

Accreditation Criteria: ISO/IEC 17025:2017 and relevant requirements of CNAS

Effective Date: 2026-01-22 Expiry Date: 2030-01-15

SCHEDULE 3 ACCREDITED TESTING SCOPE

№	Test Object	Item/Parameter		Standard or Method	Note	Effective Date
		№	Item/ Parameter			
Material detection						
1、Chemical analysis						
1	Superalloys	1	C	Methods for chemical analysis of superalloys-Part 3:Determination of carbon content by high frequency induction combustion-infrared absorption method HB 5220.3-2008		2026-01-22
		2	S	Methods for chemical analysis of superalloys-Part 6:Determination of sulfur content by high frequency induction combustion-infrared absorption method HB 5220.6-2008		2026-01-22
		3	O、N	Methods for chemical analysis of superalloys-Part 49:Determination of oxygen,nitrogen content by impulse heating-infrared,thermal conductivity method HB 5220.49-2008		2026-01-22
		4	Si	Methods for chemical analysis of superalloys-Part 10:Determination of silicon content by silicon molybdenum blue photometric method HB 5220.10-2008		2026-01-22
		5	Mn	Methods for chemical analysis of superalloys-Part 13:Determination of manganese content by potassium periodate		2026-01-22



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				photometric method HB 5220.13-2008		
		6	Cr	Methods for chemical analysis of superalloys-Part 15:Determination of chromium content by ammonium persulfate oxidation-ammonium iron(II) volumetric method HB 5220.15-2008		2026-01-22
		7	V	Methods for chemical analysis of superalloys-Part 16:Determination of vanadium content by ammonium ferrous sulfate volumetric method HB 5220.16-2008		2026-01-22
		8	Ti	Methods for chemical analysis of superalloys-Part 18:Determination of titanium content by diantipyrylmethane photometric method HB 5220.18-2008		2026-01-22
		9	Mo	Methods for chemical analysis of superalloys-Part 22:Determination of molybdenum content by thiocyanate photometric method HB 5220.22-2008		2026-01-22
		10	Ni	Methods for chemical analysis of superalloys-Part 23:Determination of nickel content by dimethylglyoxime-EDTA volumetric method HB 5220.23-2008		2026-01-22
2	Aluminium and aluminium alloy	1	Si, Fe, Cu, Mn, Mg, Cr, Ni, Zn, Ti	Optical emission spectrometric analysis method of aluminum and aluminum alloys GB/T 7999-2015		2026-01-22
		2	Fe, Cu, Mg, Mn, Ga, V, In, Sn, Bi, Cr, Zn	Methods for chemical analysis of aluminium and aluminium alloys-Part 25: Determination of elements content-Inductively coupled plasma atomic emission spectrometric method GB/T 20975.25-2020		2026-01-22
3	Tin-lead solders	1	Cu, Fe, Cd, Ag, As, Zn, Al, Bi, P	Methods for chemical analysis of tin-lead solders—Part 13: Determination of antimony, bismuth, iron, arsenic, copper, silver, zinc, aluminium, cadmium, phosphorous and gold contents—Inductively coupled plasma atomic emission spectrometric method GB/T 10574.13-2017		2026-01-22



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4	Copper and Copper alloy	1	Pb, Fe, Sb, Sn, Ni, Zn, P, Mn, Si, Cr, Al, Ag, Zr, Mg	Methods for analysis of copper and copper alloys-The spark discharge atomic emission spectrometry YS/T 482-2022	Except for Content is less than 0.001%	2026-01-22
		2	P, Ag, Bi, Sb, As, Fe, Ni, Pb, Sn, Zn, Mn, Cd, Se, Te, Al, Si, Co, Ti, Mg, Be, Zr, Cr, B	Methods for chemical analysis of copper and copper alloys-Part 27:The inductively coupled plasma atomic emission spectrometric method GB/T 5121.27-2008	Except for boron content is less than 0.1%	2026-01-22
		3	C, S	Methods for chemical analysis of copper and copper alloys-Part 4:Determination of carbon and sulfur content GB/T 5121.4-2008	Accereditd only for Infrared absorption method	2026-01-22
		4	O	Methods for chemical analysis of copper and copper alloys—Part 8 : Determination of oxygen, nitrogen and hydrogen contents GB/T 5121.8-2024	accredited only for 0.0003%~0.0675%	2026-01-22
		5	Cu	Methods for chemical analysis of copper and copper alloys—Part 1:Determination of copper content GB/T 5121.1-2008	Accereditd only for electrolytic - spectrophotometry	2026-01-22
5	Titanium and titanium alloy	1	C	Methods for chemical analysis of titanium alloys:Determination of carbon content by high frequency induction combustion-infrared absorption method HB 5297.22-2001		2026-01-22
				Methods of chemical analysis of titanium sponge, titanium and titanium alloys Deternation of carbon content GB/T 4698.14-2011		2026-01-22



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		2	O、N	Methods for chemical analysis of titanium alloys:Determination of oxygen,nitrogen content by impulse heating-infrared,thermal conductivity method HB 5297.24-2001		2026-01-22
				Methods of chemical analysis of titanium sponge, titanium and titanium alloys Determination of oxygen and nitrogen content GB/T 4698.7-2011		2026-01-22
		3	Fe	Methods for chemical analysis of titanium sponge , titanium and titanium alloys--Determination of iron content GB/T 4698.2-2011	Accereditd only for spectrophotometry	2026-01-22
		4	Si	Methods for chemical analysis of titanium titanium and titanium alloys-Part 3:Determination of silicon content-Molybdenum blue spectrophotometry GB/T 4698.3-2017		2026-01-22
		5	Mn	Methods for chemical analysis of titanium sponge,titanium and titanium alloys-Part 4:Determination of manganese content-Potassium periodate spectrophotometry and inductively coupoled plasma atomic emission spectrometry GB/T 4698.4-2017		2026-01-22
		6	Mo	Methods for chemical analysis of titanium sponge, titanium and titanium alloys-Part 5:Determination of molybdenum content-Thiocyanate spectrophotometry and inductively coupled plasma atomic emission spectrometry GB/T 4698.5-2017		2026-01-22
		7	H	HB5297.23-2001		2026-01-22
				Methods of chemical analysis of titanium sponge, titanium and titanium alloys Determination of hydrogen content GB/T 4698.15-2011		2026-01-22
8	Cr	Sponge titanium,titanium and titanium alloys-Part 10 Determination of chromium content in the presence of Vanadium-Ammonium ferrous sulfate titration method GB/T 4698.10-2020		2026-01-22		



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				Sponge titanium,titanium and titanium alloys-Determination of chromium content in the absence of Vanadium-Ammonium ferrous sulfate titration method GB/T 4698.11-1996		2026-01-22
		9	V	Methods for chemical analysis of titanium sponge, titanium and titanium alloys—Part 12: Determination of vanadium content—Ammonium ferrous sulfate titration and inductively coupled plasma atomic emission spectrometry GB/T 4698.12-2017		2026-01-22
6	Iron, steel and alloy	1	C, Si, Mn, P, S, Cr, Ni, Mo, V, Ti, Cu, Nb	Carbon and low-alloy steel—Determination of multi-element contents—Spark discharge atomic emission spectrometric method (routine method) GB/T 4336-2016(XG1-2017)		2026-01-22
		2	Si, Mn, P, Ni, Cr, Mo, Cu, V, Co, Ti, Al	Low-alloy steel-Determination of multi-element contents-Inductively coupled plasma atomic emission spectrometric method GB/T 20125-2006		2026-01-22
		3	Si, Mn, P, Ni, Cr, Mo, Cu, V, Co, Ti, Al	Stainless steel-Determination of multi-element contents-Spark discharge atomic emission spectrometric method (Routine method) GB/T 11170-2008		2026-01-22
		4	C、S	Steel and iron-Determination of total carbon and sulfur content Infrared absorption method after combustion in an induction furnace (routine method) GB/T 20123-2006		2026-01-22
		5	H	Steel and iron— Determination of hydrogen content — Thermal conductivity / infrared method after after fusion under inert gas GB/T223.82-2018		2026-01-22
		6	O	Steel and Iron-Determination of oxygen content-The pulse heating inert gas fusion-infra-red absorption method GB/T 11261-2006		2026-01-22
		7	N	Steel and iron-Determination of nitrogen content-Thermal conductimetric method after fusion in a current of inert gas (Routine method) GB/T 20124-2006		2026-01-22
		8	Nb	Iron,steel and alloy-Determination of niobium content by the sulphochlorophenol S spectrophotometric method GB/T		2026-01-22



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№	Test Object	Item/Parameter		Standard or Method	Note	Effective Date
		№	Item/ Parameter			
				223.40-2007		
Detection						
2、Mechanical testing						
1	Welding Seam, Deposited Metal and Welded Joint (Mechanical Testing)	1	Tensile Test	Destructive tests on welds in metallic materials Transverse tensile test GB/T 2651-2023	Accredited only for R_m , $R_{\phi 0.2}$, A , Z below 600kN	2026-01-22
				Tensile T Destructive tests on welds in metallic materials Longitudinal tensile test on weld metal in fusion welded joints Methods on Weld and Deposited Metal GB/T 2652-2022	Accredited only for R_m , $R_{\phi 0.2}$, A , Z below 600kN	2026-01-22
		2	Impact Test	Destructive tests on welds in metallic materials-Impact tests GB/T 2650-2022	Accredited only for t below 450J; impact temperature (-80°C~room temperature)	2026-01-22
		3	Hardness Test	Hardness Test Methods on Welded Joints GB/T 2654-2008		2026-01-22
		4	Bend test on welded joint	Bend test methods on welded joint GB/T 2653-2008	Accredited only for the roller	2026-01-22



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					bending below 600kN	
2	Metallic Materials (Mechanical Testing)	1	Tensile testing at room temperature	Metallic materials-Tensile testing-Part 1: Method of test at room temperature GB/T 228.1-2021	Accredited only for F_m less than 600kN, include parameters of $R_{eH}, R_{eL}, R_p, R_r, R_m, A, Z$, less than 600kN	2026-01-22
				Test Methods for Tension Testing of Metallic Materials ASTM E8/E8M-24	accredited only for UYS, LYS, Su, Elongation after fracture, Reduction of area, less than 600kN	2026-01-22
		2	Flattening test	Metal Materials - Tube-flattening test GB/T 246-2017	Accredited only for less than 600kN	2026-01-22
		3	Bend test	Metallic Materials - Bend test GB/T 232-2024	Accredited only for the roller	2026-01-22



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		№	Item/ Parameter			
					bending below 600kN	
		4	Drift-expanding test	Metal Materials - Tube - Drift-expanding test GB/T 242-2007	Accredited only for less than 600kN	2026-01-22
		5	Shear Test	Metallic materials - Shear test method for wires and rivets GB/T 6400-2007	Accredited only for T_b at room temperature	2026-01-22
		6	Charpy Pendulum Impact Test	Metallic Materials-Charpy Pendulum Impact Test Method GB/T 229-2020	Accredited only for below 450J; impact temperature (-80°C~room temperature), not for LE	2026-01-22
				Test Methods for Notched Bar Impact Testing of Metallic Materials ASTM E23-25	Accredited only for tbelow 450J; impact temperature (-80°C~room	2026-01-22



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№	Test Object	Item/Parameter		Standard or Method	Note	Effective Date
		№	Item/ Parameter			
					temperature) , not for LE	
		7	Brinell Hardness Test	Metallic Materials - Brinell Hardness Test - Part 1: Test Method GB/T 231.1-2018	Accredited only for HBW10/30 00、 HBW10/10 00、 HBW10/25 0、 HBW5/750 、 HBW5/250 、 HBW2.5/1 87.5、 HBW2.5/6 2.5	2026-01-22
				Test Methods for Brinell Hardness of Metallic Materials ASTM E10-23	Accredited only for HBW10/30 00、 HBW10/10 00、 HBW10/25 0、 HBW5/750 、	2026-01-22



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					HBW5/250 、 HBW2.5/1 87.5、 HBW2.5/6 2.5	
		8	Rockwell Hardness Test	Metallic materials - Rockwell hardness test - Part 1: Test method GB/T 230.1-2018	Accredited only for: HRA、 HRBW、 HRC、 HRN、 HRTW	2026-01-22
				Standard Test Methods for Rockwell Hardness of Metallic Materials ASTM E18-24	Accredited only for: HRA、 HRBW、 HRC、 HRN、 HRTW	2026-01-22
		9	Vickers -Hardness Test	Metallic Materials - Vickers Hardness Test - Part 1: Test Method GB/T 4340.1-2024	Accredited only for HV30、 HV10、 HV5、 HV3、 HV2、 HV1、	2026-01-22



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№	Test Object	Item/Parameter		Standard or Method	Note	Effective Date
		№	Item/ Parameter			
				Standard Test Method for Vickers Hardness and Knoop Hardness of Metallic Materials ASTM E92-23	HV0.5、 HV0.3、 HV0.2、 HV0.1、 HV0.05 Accredited only for HV50、 HV30、 HV20、 HV10、 HV5、 HV1	2026-01-22
		10	Leeb Hardness Test	Metallic Materials - Leeb hardness test-Part 1: Test method GB/T 17394.1-2014		2026-01-22
		11	Tensile testing at elevated temperature	Metallic materials-Tensile testing -Part 2:Method of test at elevated temperature GB/T 228.2-2015	Accredited only for below 300kN, below 600°C, R_{eH} , R_{eL} , R_p , $R_{r<s Ub>}$, R_m , A , Z	2026-01-22
Material detection						
3、Magnetic material						
1	Silicon-steel	1	specific total loss	Methods of measurement of the magnetic properties of electrical		2026-01-22

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	plates			steelstrip and sheet by means of an epstein frame GB/T 3655-2022		
		2	Peak magnetic polarization intensity	Methods of measurement of the magnetic properties of electrical steelstrip and sheet by means of an epstein frame GB/T 3655-2022		2026-01-22
2	Soft magnetic materials	1	magnetic polarization	Methods of measurement of d.c. magnetic properties of magnetically soft materials GB/T 13012-2008	Accredited only for permeability meter method	2026-01-22
3	Weak magnetic materials	1	μ_r	Standard Test Methods for Permeability of Feebly Magnetic Materials BS 5884-1999	Accredited only for permeability meter method	2026-01-22
				Methods for the determination of the relative magnetic permeability of feeblymagnetic materials GB/T 35690-2017	Accredited only for ancient magnetic balance	2026-01-22
4	Permanent magnetic materials	1	B_r 、 H_{cB} 、 H_{cJ} 、 $(BH)_{max}$	Permanent magnet(magnetically hard)materials-Methods of measurement ofmagnetic properties GB/T 3217-2013		2026-01-22
5	Copper and stainless steel	1	Resistivity coefficient	est methods for electrical properties of electric cables and wires - Part 2: Test of electrical resistivity of metallic materials GB/T 3048.2-2007		2026-01-22
				Metallic materials - Resistivity measurement method GB/T 351-2019		2026-01-22
Detection						



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4、Nondestructive examination						
1	Metal Products	1	Ultrasonic Testing	Nondestructive testing of pressure equipments-part 3: Ultrasonic testing NB/T 47013.3-2023	Except for special equipment	2026-01-22
				Non-destructive testing of welds—Ultrasonic testing—Techniques,testing levels,and assessment GB/T 11345-2023		2026-01-22
				Non-destructive testing of weld-Ultrasonic testing-characterization of indications in welds GB/T 29711-2023		2026-01-22
				Non-destructive testing of welds-Ultrasonic testing-Acceptance levels GB/T 29712-2023		2026-01-22
				ASME Boiler and pressure Vessel Code ASME BPVC.V-2025 Article 4	Accredited only for Ultrasonic testing	2026-01-22
				Steel Castings-Ultrasonic Examination-Part 1: Steel Castings for General Purposes GB/T 7233.1-2023		2026-01-22
				Standard Practice for Castings, Carbon, Low-Alloy and Martenditic Stainless Steel, Ultrasonic Examination Thereof ASTM A609/A609M-12(2023)		2026-01-22
				Specification for Inspection of Steel Castings for Hydraulic Machines CCH70-4 UT70-4		2026-01-22
				Standard Practice for Ultrasonic Examination of Steel Forgings ASTM A 388/A 388M-23		2026-01-22
				Method for Ultrasonic Testing of Thicker Steel Plates GB/T 2970-2016		2026-01-22
				Standard Specification for Straight-Beam Ultrasonic Examination of Steel Plates ASTM A435/A435M-17 (2023)		2026-01-22
			Ultrasonic testing for steel forgings JB/T 8467-2014		2026-01-22	



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				Ultrasonic testing for steel retaining rings of turbine generator JB/T 4010-2018		2026-01-22
				Ultrasonic testing method for rotor and shaft forgings of steam turbine and turbine generator JB/T 1581-2014		2026-01-22
				The magnetic ring forgings for turbine generators-Technical specification JB/T 1269-2014		2026-01-22
				Shaft forgings for hydraulic turbines and hydraulic generators – Technical specification JB/T 1270-2014		2026-01-22
				Shaft forgings for AC and DC electric machines JB/T 1271-2014		2026-01-22
				Thrust runner forgings for hydraulic generators:–Technical specification JB/T 7023-2014		2026-01-22
				Upper and lower disk forgings for hydraulic generators. Technical specification JB/T 10265-2014		2026-01-22
		2	Magnetic Particle Testing	Nondestructive testing of pressure equipments-part 4: Magnetic particle testing NB/T 47013.4-2015	Except for special equipment	2026-01-22
				ASME Boiler and pressure Vessel Code ASME BPVC.V-2025 Article 7		2026-01-22
				Steel and iron castings—Magnetic particle inspection GB/T 9444-2019		2026-01-22
				Specification for Inspection of Steel Castings for Hydraulic Machines CCH70-4 MT70-4		2026-01-22
				Magnetic Particle Examination of Steel Forgings ASTM A275/A275M-23		2026-01-22
				Methods of magnetic testing for forgings JB/T 8468-2014		2026-01-22
		3	Radiographic Testing	Nondestructive testing of pressure equipments-part 2: Radiographic testing NB/T 47013.2-2015 及 XG1-2018	Accredited only for X-ray	2026-01-22



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					radiographic testing; Except for special equipment.	
				Non-destructive testing of welds-Radiographic testing Part 1:X-and gamma-ray techniques with film GB/T 3323.1-2019	Accredited only for X-ray radiographic testing	2026-01-22
				ASME Boiler and pressure Vessel Code ASME BPVC.V-2025 Article 2	Accredited only for X-ray radiographic testing	2026-01-22
				Specification for Inspection of Steel Castings for Hydraulic Machines CCH70-4 RT70-4	Accredited only for X-ray radiographic testing	2026-01-22
		4	Liquid Penetrant Testing	Nondestructive testing of pressure equipments-part 5: Penetrant testing NB/T 47013.5-2015	Except for special equipment	2026-01-22
				ASME Boiler and pressure Vessel Code ASME BPVC.V-2025 Article 6		2026-01-22
				Penetrant Testing for Steel Castings GB/T 9443-2019		2026-01-22
				Specification for Inspection of Steel Castings for Hydraulic Machines CCH70-4 PT70-4		2026-01-22
				Standard Practice for Liquid Penetrant Testing for General		2026-01-22

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				Industry ASTM E165/E165M-23		
		5	Eddy Current Testing	Electromagnetic (eddy-current) examination of copper and copper alloy seamless tube GB/T 5248-2016		2026-01-22
5、Geometry detection						
1	General components	1	Geometrical Dimension	Geometrical Product Specification (GPS)-inspection of plain workpiece sizes GB/T 3177-2009		2026-01-22
		2	Geometrical Tolerance	Geometrical product specifications(GPS)-Geometrical tolerance-Verification GB/T 1958-2017 7		2026-01-22
		3	Screw Thread Measure	Test methods for parallel screw threads GB/T 28703-2012 6.1, 6.2	Accredited only for geometric quantity: Flank Angle, Pitch, Diameter	2026-01-22
2	Numerical controlled machine tool	1	Positioning accuracy	Machine tools - Test code for machine tools - Part 2: Determination of accuracy and repeatability of positioning of numerically controlled axes GB/T 17421.2-2023/ISO 230-2:2014 5, 6		2026-01-22
		2	Positioning repeatability	Machine tools - Test code for machine tools - Part 2: Determination of accuracy and repeatability of positioning of numerically controlled axes GB/T 17421.2-2023/ISO 230-2:2014 5,6		2026-01-22
6、Temperature detection						
1	*Furnace for heat treatment	1	Furnace Temperature	Test method for qualified work zone of heat treatment furnace GB/T 9452-2023 7		2026-01-22



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			Uniformity	Testing method for working zone of heat treatment furnace for aviation HB 5425-2012 7		2026-01-22
				Pyrometry AMS2750H-2024 3.5	Accredited only for (0~260) °C。	2026-01-22

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