CERTIFICATE OF ACCREDITATION

This is to attest

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Testing Laboratory TL-1471

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories.* This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date October 16, 2026

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Accredited to ISO/IEC 17025:2017 *Effective Date October 16, 2026*

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Metallic Materials Testing	Metallic Materials	Tensile testing	BS EN 10002-1:2001 Metallic materials-Tensile testing-Part 1: Method of test at ambient temperature
			BS EN ISO 6892-1 Metallic materials — Tensile testing Part 1: Method of test at room temperature
			ISO 15835-2 Steels for the reinforcement of concrete — Reinforcement couplers for mechanical splices of bars — Part 2: Test methods
			GB/T 13014-2013 Quenching and self-tempering ribbed bars for the reinforcement of concrete
			BS EN 14399-10 High-strength structural bolting assemblies for preloading Part 10: System HRC - Bolt and nut assemblies with calibrated preload
			ISO 898-1 Mechanical properties of fasteners made of carbon steel and alloy steel Part 1: Bolts, screws and studs with specified property classes Coarse thread and fine pitch thread.Excluding Clauses 9.8, 9.10, 9.10.2, 0.12, 9.13 & 9.15
			AS 1391-2020 Metallic materials—Tensile testing at ambient temperature
			BS 4449:2005+A3:2016

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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Metallic Materials Testing (cont'd.)	Metallic Materials (cont'd.)	Tensile testing (cont'd.)	Tensile test of steel reinforcing rebars
			BS 8110-1:1985 Tensile test of re-bar at special mechanical connection position
			BS 8110-1:1985 Tensile testing of welded position of re-bar
			BS EN ISO 15630-1 Tensile test of steel reinforcing rebars Excluding Clauses 8, 9 & 13
			CS2-2012 Tensile test of steel reinforcing rebars
		Bend test	BS EN ISO 5173 Destructive tests on welds in metallic materials-Bend tests
			BS EN ISO 15630-1 Steel for the reinforcement and prestressing of concrete-Test methods Part 1: Reinforcing bars, rods and wire-Bend test Excluding Clauses 8, 9 & 13
			CS2-2012 Bending and re-bending test of rebars
			GB/T 232 Metallic materials-Bend test
		Impact test	BS EN ISO 148-1 Metallic materials—Charpy pendulum impact test Part 1:Test method
			GB/T 229Metallic materials-Charpy pendulum impact test method
Non-destructive testing	Metallic Materials	Ultrasonic testing	NB/T47013.3 Non-destructive testing of pressure equipments-Part 3:Ultrasonic testing
			GB/T11345 Non-destructive testing of welds-Ultrasonic testing-

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Non-destructive testing (cont'd.)	Metallic Materials (cont'd.)	Ultrasonic testing (cont'd.)	Techniques, testing levels, and assessment
			AWS D1.1/D1.1M:2025 Structure welding code-steel 8.13 / 8.14 / 10.26 / 10.29 / part F
			BS 3923:Part:1-1986 Ultrasonic examination of welds Part 1. Methods for manual examination of fusion welds in ferritic steels
			BS EN 1714:1997+A1:2002 Non-destructive testing of welded joints-Ultrasonic testing of welded Joints
			BS EN 10160 Ultrasonic testing of steel flat product of thickness equal or greater than 6mm (reflection method)
			BS EN 1713:1998+A1:2002 Non-destructive testing of welds -Ultrasonic testing - Characterization of indications in welds
			BS EN 10306 Iron and steel-ultrasonic testing of H beams with parallel flanges and IPE beams
			BS EN 10228-3 Non destructive testing of steel forgings-part 3 - ultrasonic testing of ferritic or martensitic steel forgings
			BS EN 10228-4 Non-destructive testing of steel forgings-part 4 - ultrasonic testing of austenitic and austenitic-ferritic stainless steel forgings
			CB/T 3559 Ship steel weld ultrasonic testing technology and quality classification

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Non-destructive testing (cont'd.)	Metallic Materials (cont'd.)	Ultrasonic testing (cont'd.)	AS 2207 Non-destructive testing-ultrasonic testing of fusion welded joints in carbon and low alloy steel
			AS 1710 Non-destructive testing-ultrasonic testing of carbon and low alloy steel plate and universal sections-test methods and quality classification
			BS EN ISO 17640 Non-destructive testing of welds-ultrasonic testing-Techniques,testing levels,and assessment
			JB/T 9212-2010 Non-destructive testing-Test methods for ultrasonic testing of welds on steel tanks
			AWS D1.1/D1.1M 8.10/part F Structure welding code-steel - Ultrasonic test Part F - Phased Array UT (PAUT) / Advanced UT
		Magnetic particle testing	BS 6072:1981 Method for magnetic particle flaw detection
			BS EN 1290:1998 Non-destructive examination of welds-magnetic particle examination of welds
			BS EN ISO 9934-1 Non-destructive testing - Magnetic particle testing - part 1:General principles
			ASTM E709 Standard Guide for Magnetic Particle Testing
			GB/T 15822.1 Non-destructive testing-magnetic particle testing-part 1:general principles

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Non-destructive testing (cont'd.)	Metallic Materials (cont'd.)	Magnetic particle testing (cont'd.)	GB/T 9444 Steel and iron castings-Magnetic particle inspection
			AS 1171-1998 Non-destructive testing-Magnetic particle testing of ferromagnetic products, components and structures
			BS EN ISO 17638 Non-destructive testing of welds - Magnetic particle testing
			NB/T47013.4 Nondestructive testing of pressure equipments-part 4:magnetic particle testing
		Penetrant testing	BS 6443:1984 British standard method for penetrant flaw detection
			BS EN 571-1-1997 Non-destructive testing. Penetrant testing. General principles
			BS EN ISO 3452-1 Non-destructive testing. Penetrant testing Part 1: General principles
			JB/T 6062 Non-destructive testing - penetrant testing of welds
			JB/T 9218 Non-destructive testing - test method penetrant testing
			ASTM E 1208 Standard Practice for Fluorescent Liquid Penetrant Testing Using the Lipophilic Post-Emulsification Process
			ASTM E1417/E1417M Liquid Penetrant Testing
			AS 2062-1997 Non-destructive testing-Penetrant testing of products and components

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Non-destructive testing (cont'd.)	Metallic Materials (cont'd.)	Penetrant testing (cont'd.)	NB/T47013.5 Nondestructive testing of pressure equipment-part 5:penetrant testing
			ASTM E 165/E165M Liquid Penetrant Testing for General Industry - Method C
		Visual inspection	BS 5289:1976 Visual inspection of fusion welded joints
			BS EN 970:1997 Non-destructive examination of fusion welds-Visual examination
			AS 3978 Non-destructive testing - Visual inspection of metal products and components
			BS EN 1321-1997 Destructive tests on welds in metallic materials -Macroscopic and microscopic examination of welds
			BS EN ISO 17637 Non-destructive testing of welds-Visual testing of fusion-welded joints
Building Inspection	Building	Water Leakage	AAMA 501.2 Quality Assurance and Diagnostic Water Leakage Field Check of Installed Store fronts, Curtain Walls, and Sloped Glazing Systems
	Concrete	Rebound number	BS 1881:PART 202 Testing concrete in structures-determination of rebound number
			BS EN 12504-2 Testing concrete in structures-determination of rebound number
			JGJ/T 23

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Building Inspection (cont'd.)	Concrete (cont'd.)	Rebound number (cont'd.)	Testing concrete in structures-determination of rebound number
			ISO 1920-7 Testing concrete in structures-determination of rebound number
		Detection of the distribution	BS 1881-204:1988 (R2014) Detection of the distribution of concrete cover and steel reinforcement
		Pull-out test	BS 5080 Part 1:1993 Structural fixings in concrete and masonry-Part 1: Method of test for tensile loading
			PNAP APP169 Strength Tests for Structural Fixings in Concrete-Appendix A,B,C
			JGJ 145-2013 Concrete structure anchor pull test
		Bend test	Code of Practice for Structural Use of Steel (2011)Table14.3b COP SUOS 2011 14.3.7
		Pull-off test	JGJ/T110 Pull-off test of tile and tile adhesive and render
		Proof Load test	BS EN 13964 Annex F Suspended ceilings — Requirements and test methods – Membrane components – Flexural Tensile Strength Test
Coating Measurement & Adhesive & Mass	Coating	Thickness & Adhesive & Mass	ISO 1461 Determination of dry film thickness
			ISO 4624 Paints and varnishes-Pull-off test for adhesion
			BS EN 24624:1993 7.3. Paints and varnishes pull-off test
			ASTM D 4541

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Coating Measurement & Adhesive & Mass (cont'd.)	Coating (cont'd.)	Thickness & Adhesive & Mass (cont'd.)	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
			ASTM E736/E736M Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
			BS EN ISO 12944-7 Paints and varnishes-corrosion protection of steel structures by protective paints systems-part 7:execution and supervision of paintwork
			API RP5L2-2002(2015) Appendix D Recommended practice for internal coating of line pipe for non-corrosive gas transmission service
			GB/T 11374 Thermal spraying coating-nondestructive methods for measurement of thickness
			ISO 2808 Paints and varnishes — Determination of film thickness
			BS 5493:1977 41.1 Code of practice for protective coating of iron and steel structures against corrosion
			BS EN 10346 Continuously hot-dip coated steel flat products for cold forming — Technical delivery conditions
			BS 2989:1991 Specification for Continuously hot-dip zinc coated and iron-zinc alloy coated steel of structural qualities:wide strip, sheet/plate and slit wide strip
			BS 729:1971

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Coating Measurement & Adhesive & Mass (cont'd.)	Coating (cont'd.)	Thickness & Adhesive & Mass (cont'd.)	Specification for Hot dip galvanized coatings on iron and steel articles Appendix B
			AS 3894.3 Site testing of protective coatings Method 3: Determination of dry film thickness
			BS EN ISO 12944-7 7.3 Paints and varnishes-corrosion protection of steel structures by protective paints systems-part 7:execution and supervision of paintwork
			ISO 2360 Measurement of coating thickness -Amplitude-sensitive eddy- current method
Qualification Testing of Welders	Metallic Materials	Weld Test	BS EN 287-1: 2011 Qualification testing of welders-Fusion welding
			BS EN ISO 9606-1 Qualification testing of welders-Fusion welding
			BS EN ISO 15614-1:2017+A1:2019 Specification and qualification of welding procedures for metallic materials – Welding procedure test – Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
			BS EN ISO 15613Specification and qualification of welding procedures for metallic materials- Qualification based on pre-production welding test
			BS EN ISO 14555:2017 (ISO 14555:2017€)Specification and qualification of welding procedures for metallic materials – Welding procedure test – Part 1: Arc and gas welding of steels

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Qualification Testing of Welders (cont'd.)	Metallic Materials (cont'd.)	Weld Test (cont'd.)	and arc welding of nickel and nickel alloys
			BS EN ISO 14732Inspection of qualification tests for mechanized and automatic welding (MIG, MAG, FCAW, stud)
			BS EN ISO 17660-1Inspection of welding of reinforcing steel for load-bearing welded joints
			AS 2205.2.2 Methods for destructive testing of welds in metal Method 2.2: All-weld-metal tensile test
			BS EN ISO 4136 Destructive tests on welds in metallic materials — Transverse tensile test
			BS EN ISO 5178 Destructive tests on welds in metallic materials. Longitudinal tensile test on weld metal in fusion welded joints
			BS EN ISO 5173 Destructive tests on welds in metallic materials. Bend tests
			AS 2205.3.3 Methods for destructive testing of welds in metal Method 3.3:Longitudinal guided bend test
			AS 2205.3.1 Methods for destructive testing of welds in metal Method 3.1: Transverse guided bend test
			BS EN ISO 9016 Destructive tests on welds in metallic materials – Impact tests -Test specimen location, notch orientation and examination
			BS EN ISO 17639 Destructive tests on welds in metallic materials –

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Qualification Testing of Welders (cont'd.)	Metallic Materials (cont'd.)	Weld Test (cont'd.)	Macroscopic and microscopic examination of welds
			AS/NZS 2205.5.1 Methods for destructive testing of welds in metal Method 5.1: Macroscopic and microscopic examination of welds
			BS EN ISO 9017 Destructive tests on welds in metallic materials. Fracture test
			AS 2205.4.1 Methods for destructive testing of welds in metal Method 4.1: Fracture test
			BS EN ISO 5178 Destructive tests on welds in metallic materials. Longitudinal tensile test on weld metal in fusion welded joints
			BS EN ISO 5173 Destructive tests on welds in metallic materials. Bend tests
			AS 2205.3.3 Methods for destructive testing of welds in metal Method 3.3:Longitudinal guided bend test
			AS 2205.3.1 Methods for destructive testing of welds in metal Method 3.1: Transverse guided bend test
			BS EN ISO 9016 Destructive tests on welds in metallic materials – Impact tests – Test specimen location, notch orientation and examination
			AS 2205.7.1 Methods for destructive testing of welds in metal Method 7.1: Charpy V-notch impact fracture toughness test
			BS EN ISO 17639 Destructive tests on welds in metallic materials –

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Qualification Testing of Welders (cont'd.)	Metallic Materials (cont'd.)	Weld Test (cont'd.)	Macroscopic and microscopic examination of welds
			AS/NZS 2205.5.1 Methods for destructive testing of welds in metal Method 5.1: Macroscopic and microscopic examination of welds
			BS EN ISO 9017 Destructive tests on welds in metallic materials. Fracture test
			AS 2205.4.1 Methods for destructive testing of welds in metal Method 4.1：Fracture test
			AS 2205.4.2 Methods for destructive testing of welds in metal Method 4.2：Fillet break test
			AS 2205.6.1 Methods for destructive testing of welds in metal Method 6.1: Weld joint hardness test
			ISO 6507-1 Metallic materials-Vickers hardness test-Part 1: Test method
			BS EN ISO 9015-1 Destructive tests on welds in metallic materials — Hardness testing Part 1: Hardness test on arc welded joints
			GB/T 17394.1 Metallic materials-Leeb hardness test-Part 1：Test method