中国认可
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能力验证
PROFICIENCY TESTING
CNAS PT0002

CHINA NIL | 2027

Proficiency Testing Schemes Announcement

For laboratories with Nadcap-related testing needs

China NIL invites materials testing laboratories, aerospace manufacturers and suppliers, and independent testing organizations to participate in its 2027 proficiency testing (PT) schemes. The catalogue covers chemical analysis, mechanical testing, hardness, metallography, corrosion and selected composite-material activities.

Accreditation and purpose

Established in December 2002, China NIL is a CNAS-accredited PT provider under ISO/IEC 17043:2023 (registration no. CNAS PT0002). Accreditation applies to the activities and limitations within the scope of competence for ISO 17043 accreditation, including the scope effective 2 June 2026.

Participation can support independent performance evaluation, identification of improvement needs and preparation of relevant laboratory quality records. For a Nadcap application, each scheme must be aligned with the laboratory's test scope, customer requirements and applicable provider-selection route. PT participation does not itself confer Nadcap accreditation or guarantee acceptance during a Nadcap audit.

2027 schemes at a glance

Category	Scheme rounds	Catalogue pages
Chemical analysis of metals and alloys	13	3–4
Metal mechanical testing	10	5
Hardness and metallography	10	6
Corrosion, coating testing and additional activities	11	7

Enquiries and enrolment

Contact: Ms CHEN Jinghua | Email: nil@analysis.org.cn

Please send the required scheme codes, test methods and audit/report timing needs. NIL can then confirm the suitable round, technical instructions, availability and quotation.

Participation and scheme selection

How to enroll

Method 1 ：

Log in to the website to register, which is http://www.nilpt.com

Method 2 ：

Select the PT schemes in the item list and send the order to nil@analysis.org.cn

Using PT evidence for Nadcap

Match against the actual testing activity and customer requirements before selecting a provider. For MTL work, use the applicable AC7101/14 provider-selection process and relevant test criteria; written customer requirements take precedence. CNAS accreditation is distinct from MTL recognized provider status.

PT, operator IRR and equipment IRR are separate activities. A PT report or the purchase of a QC sample does not automatically complete an IRR programme. Laboratories remain responsible for applicable frequencies, coverage, performance review and retained records.

Schedule, methods and charges

The catalogue reproduces the 2027 planned dispatch months. A past month does not indicate that late enrolment is available. Current availability, dispatch and report dates require confirmation with NIL; allow time for evaluation and any follow-up before an audit.

Reference standards apply only to the relevant material, parameter and method option. Where a validated method is allowed, confirm its suitability and reporting requirements with NIL. Fees are in USD and exclude shipping; confirm any additional charges and payment arrangements in the quotation.

CHEMICAL ANALYSIS | 6 ROUNDS

A1 Gas elements and superalloys

Scheme / dispatch[1]	Material / analysis	Parameters	Reference method[2]	Sample	USD[3]
NIL-Chem-1-2027 Sep 2027	Stainless steel / carbon and sulfur	C, S	Any validated method	Chips	280
NIL-Chem-2-2027 Sep 2027	Stainless steel / oxygen and nitrogen	O, N	Any validated method	φ6mm , spherical pellet	280
NIL-Chem-3-2027 Sep 2027	Titanium Alloy /oxygen, nitrogen and hydrogen	O, N,H	Any validated method	φ6mm , spherical pelle	500
NIL-Chem-4-2027 Sep 2027	Super alloys	Mo, Al, Ti, Nb	Any validated method	Chips	400
NIL-Chem-5-2027 Sep 2027	Nickel-base superalloys	Pb, Sb, As, Sn, Bi	Any validated method	Chips	400
NIL-Chem-6-2027 Oct 2027	Nickel-base superalloys	Cu,Mg,P,B,Co	Any validated method	Chips	500

[1] Original planned dispatch month, not a report date. Contact NIL to confirm availability and the current timetable.

[2] Use the method option and applicable edition agreed in the scheme instructions.

[3] USD per listed scheme/round, plus shipping; obtain a quotation before enrolment.

CHEMICAL ANALYSIS | 7 ROUNDS

A2 Non-ferrous metals and alloys

Scheme / dispatch[1]	Material / analysis	Parameters	Reference method[2]	Sample	USD[3]
NIL-Chem-7-2027 Sep 2027	Aluminum Alloy	Si, Fe, Cu, Mg, Mn	Any validated method	Chips	320
NIL-Chem-8-2027 Sep 2027	Aluminum Alloy	Si, Fe, Cu, Cr, Ti, Zn	Any validated method	Disc	320
NIL-Chem-9-2027 Sep 2027	Magnesium Alloy	Mn, Cu, Zn, Al	Any validated method	Chips	320
NIL-Chem-10-2027 Sep 2027	Zinc Alloy	Cu, Fe, Al, Mg	Any validated method	Chips	320
NIL-Chem-11-2027 Sep 2027	Copper Alloy	Zn, Ni, Cu, Fe, Pb	Any validated method	Chips	320
NIL-Chem-12-2027 Sep 2027	Titanium Alloy	Fe, Al, V, Si	Any validated method	Chips	500
NIL-Chem-13-2027 Sep 2027	Titanium Alloy	Cr, Ni, Cu, Mo	Any validated method	Chips	500

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[3] USD per listed scheme/round, plus shipping; obtain a quotation before enrolment.

MECHANICAL TESTING | 10 ROUNDS

B Mechanical testing of metallic materials

Scheme / dispatch[1]	Test / material	Reported parameters	Reference method[2]	USD[3]
NIL-Mech-1-2027 Aug 2027	Room-temperature tensile test / titanium alloy	Tensile strength; yield strength (offset=0.2%); elongation after fracture; reduction of area	ASTM E8/E8M; ASTM A370	600
NIL-Mech-2-2027 Aug 2027	Room-temperature tensile test / aluminium alloy	Tensile strength; yield strength (offset=0.2%); elongation after fracture	ASTM B557	600
NIL-Mech-3-2027 Aug 2027	Charpy V-notch impact test / ultra-high strength steel or other aviation related materials	Absorbed energy	ASTM E23; ASTM A370	600
NIL-Mech-4-2027 Aug 2027	Room-temperature compression Test / aluminium alloy	Modulus of elasticity; yield strength (offset=0.2%)	ASTM E9	600
NIL-Mech-5-2027 Aug 2027	Elevated-temperature tensile test / superalloy	Tensile strength; yield strength (offset=0.2%); elongation 4D; reduction of area	ASTM E21	700
NIL-Mech-6-2027 Aug 2027	Stress rupture test / superalloy	Time to rupture; elongation 4D; reduction of area	ASTM E139	700
NIL-Mech-7-2027 Aug 2027	High cycle fatigue (axial force control) / aluminium alloy	Fatigue life (number of cycles)	ASTM E466	1000
NIL-Mech-8-2027* Aug 2027	Low cycle fatigue (strain control) / aluminium alloy	Number of cycles to failure	ASTM E606/E606M	1000
NIL-Mech-9-2027* Sep 2027	Fracture toughness / ultra-high strength steel or other aviation related materials	K_q or K_{IC}	ASTM E399	1000
NIL-Mech-10-2027* Sep 2027	Crack propagation/ ultra-high strength steel or other aviation related materials	da/dN	ASTM E647	1000

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For NIL-Mech-8-2027, NIL-Mech-9-2027, NIL-Mech-10-2027, these activities fall outside the scope of NIL's accreditation to ISO/IEC 17043. Confirm the applicable accreditation status and provider-selection route before enrolment.

HARDNESS AND METALLOGRAPHY | 10 ROUNDS

C Hardness and metallography

Scheme / dispatch[1]	Test / material	Reported parameters	Reference method[2]	USD[3]
NIL-Hard-1-2027 Aug 2027	Hardness / aerospace bearing steel or other aviation related materials	Brinell hardness; Rockwell hardness	ASTM E10 and ASTM E18	550
NIL-Hard-2-2027 Aug 2027	Hardness / aerospace bearing steel or other aviation related materials	Rockwell hardness; Vickers hardness	ASTM E18 and ASTM E92	550
NIL-Hard-3-2027 Aug 2027	Hardness / aerospace bearing steel or other aviation related materials	Brinell hardness; Vickers hardness	ASTM E10 and ASTM E92	600
NIL-Hard-4-2027 Aug 2027	Microindentation hardness / aerospace bearing steel or other aviation related materials	Microhardness	ASTM E384	600
NIL-Micro-1-2027 Aug 2027	Average grain size / aluminium alloy or other aviation related materials	Grain size number	ASTM E112	450
NIL-Micro-2-2027 Aug 2027	Surface contamination / titanium alloy	Alpha case	EN 2003-009	500
NIL-Micro-3-2027 Aug 2027	Nonmetallic inclusions / steel photographs	Inclusion rate	ASTM E45	300
NIL-Micro-4-2027 Aug 2027	Decarburization / steel	Depth of decarburization	ASTM E1077	450
NIL-Micro-5-2027 Aug 2027	Welding and Brazing / picture	Classification of geometric imperfections	ISO 6520-1 and ISO 6520-2	300
NIL-Micro-6-2027 Aug 2027	Porosity / superalloy photographs	Porosity	Metallographic method	300

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CORROSION, COATING TESTING AND ADDITIONAL ACTIVITIES | 11 ROUNDS

D Corrosion, coating testing and additional activities

Corrosion testing

Scheme / dispatch[1]	Test / material	Reported parameters	Reference method[2]	USD[3]
NIL-Corr-1-2027 Aug 2027	Salt Spray - mass loss determination / steel	Mass loss	ASTM B117	500
NIL-Corr-2-2027 Aug 2027	Intergranular attack (Practice E) / austenitic stainless steel	Intergranular attack	ASTM A262	500

Coating testing

Scheme / dispatch[1]	Test / material	Reported parameters	Reference method[2]	USD[3]
NIL-Coat-1-2027 Jul 2027	Metal coating thickness (Microscopical method) /nickel-plate	Thickness of metal coating	ISO1463	450
NIL-Coat-2-2027 Sep 2027	Determination of organic coating thickness of steel plate - Magnetic method / steel plate coating	Coating thickness	ISO 2808; ISO 2178	500
NIL-Coat-3-2027 Sep 2027	Paints and varnishes-Cross-cut / steel plate coating	Adhesion	ISO 2409	500

Additional activities — check scope before enrolment

Scheme / dispatch[1]	Test / material	Reported parameters	Reference method[2]	USD[3]
NIL-Comp-1-2027 Aug 2027	Tensile test / fibre-reinforced composite materials	Ultimate tensile strength; ultimate tensile strain; tensile chord modulus of elasticity; Poisson's ratio	ASTM D3039/D3039M	1000
NIL-Phys-1-2027* Aug 2027	Electrical Conductivity (Eddy current methods) / aluminium alloy	Electrical Conductivity	EN 2004-1	500
NIL-Phys-2-2027 Jul 2027	Particle size analysis (Laser diffraction methods) / powder	$D_{10,3}$; $D_{50,3}$; $D_{90,3}$	ISO 13320	500
NIL-Phys-3-2027 Oct 2027	Tap Density / Metallic Powders	Tap Density	ISO 3953	500
NIL-Phys-4-2027 Oct 2027	Flow Rate/ Metallic Powders	Flow Rate	ISO 4490	500
NIL-Phys-5-2027 Oct 2027	Apparent Density / Metallic Powders	Apparent Density	ISO 3923-1	500

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