



CHINA NIL | 2026

Proficiency Testing Programme Announcement

For laboratories with Nadcap-related testing needs

China NIL invites materials testing laboratories, aerospace manufacturers and suppliers, and independent testing organizations to select from its 2026 proficiency testing (PT) programme. The catalogue brings together 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). Its accredited legal entity is China NIL Research Co., Ltd. for Proficiency Testing.

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

2026 programme at a glance

Category	Scheme rounds	Catalogue pages
Chemical analysis of metals and alloys	38	3–6
Metal mechanical testing	6	7
Hardness and metallography	7	8
Corrosion and additional activities	4	9

55 listed rounds. Repeated rounds of the same scheme are grouped in the catalogue; every round code and its planned dispatch month are retained.

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 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 recognised-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 2026 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.

Technical notes M1–M4 and T1–T6 form part of the catalogue. Specific limitations are highlighted beside the affected schemes.

CHEMICAL ANALYSIS | 14 ROUNDS

A1 Steel and stainless-steel chemistry

Scheme / dispatch ¹	Material / analysis	Parameters	Reference method ²	Sample	USD ³
NIL PT-5571-1 Apr 2026 NIL PT-5571-2 Sep 2026	Medium- and low-alloy steel	C, Si, Mn, P, S	ASTM E1019; ISO 15350; ISO 4829-1/-2; ISO 629; ISO/TR 17055	Chips	350
NIL PT-5572-1 Apr 2026 NIL PT-5572-2 Sep 2026	Medium- and low-alloy steel	Cr, Ni, Cu, Mo, Al	ISO 4937; ISO 4940; confirm methods for remaining elements	Chips	350
NIL PT-5573-1 Apr 2026 NIL PT-5573-2 Sep 2026	Medium- and low-alloy steel / ICP-OES	Cr, Ni, Cu, V, Ti	Validated ICP-OES method	Chips	350
NIL PT-5574-1 Apr 2026 NIL PT-5574-2 Sep 2026	Medium- and low-alloy steel / spark OES	C, Si, Mn, P, S	ASTM E415	Discs	350
NIL PT-5575-1 Apr 2026 NIL PT-5575-2 Sep 2026	Medium- and low-alloy steel / spark OES	Cr, Ni, Cu, Mo, Al	ASTM E415	Discs	350
NIL PT-5578-1 Apr 2026 NIL PT-5578-2 Sep 2026	Stainless steel	Si, Mn, P, Cr, Ni, Ti	Any validated method suitable for the scheme	Chips	350
NIL PT-5579-1 Apr 2026 NIL PT-5579-2 Sep 2026	Stainless steel / spark OES	C, Si, Mn, P, S, Cr, Ni	ASTM E1086	Discs	350

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.

For multi-element schemes, no single cited standard should be assumed to cover every listed element. Confirm the method used for each reported parameter. ICP-OES is also commonly termed ICP-AES; spark OES requires the appropriate solid sample.

CHEMICAL ANALYSIS | 8 ROUNDS

A2 Gas elements and super alloy

Scheme / dispatch ¹	Material / analysis	Parameters	Reference method ²	Sample	USD ³
NIL PT-5581-1 Apr 2026 NIL PT-5581-2 Jun 2026 NIL PT-5581-3 Sep 2026	Steel / carbon and sulfur	C, S	ASTM E1019	Chips	280
NIL PT-5582-1 May 2026 NIL PT-5582-2 Jul 2026 NIL PT-5582-3 Sep 2026	Steel / oxygen and nitrogen	O, N	ASTM E1019	Chips	280
NIL PT-5583 Oct 2026	Steel / hydrogen	H	Hydrogen method to be agreed with NIL; see M1	Chips	300
NIL PT-5584 Oct 2026	Super alloy	Mo, Al, Ti, Nb	ASTM E2594; confirm nickel-alloy matrix and applicability; see M2	Chips	400

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.

Method notes

M1 — NIL PT-5583: the steel-hydrogen method must be confirmed separately. ASTM E1019 covers C, S, N and O determinations; listing hydrogen in its alloy-composition table does not establish a hydrogen determination method. An applicable hydrogen method is therefore to be agreed with NIL before enrolment.

Method scope reference: [ASTM E1019](#)

M2 — NIL PT-5584: ASTM E2594 concerns nickel-alloy analysis by ICP-AES. Confirm the high-temperature alloy matrix and the applicability of the method to Mo, Al, Ti and Nb at the scheme's concentrations; the generic term "high-temperature alloy" alone does not establish the match.

Method scope reference: [ASTM E2594](#)

CHEMICAL ANALYSIS | 6 ROUNDS

A3 Ferroalloy chemistry

These schemes may support upstream material and chemical-testing needs. Match the alloy family, analytical technique and customer requirements for the intended Nadcap application.

Scheme / dispatch ¹	Material / analysis	Parameters	Reference method ²	Sample	USD ³
NIL PT-5580 Sep 2026	Ferromolybdenum	C, Si, P, S, Mo	Any validated method suitable for the scheme	Chips	350
NIL PT-5588 Sep 2026	Ferrosilicon	Si, Mn, P, Al, Ca	Methods to be agreed with NIL; see M3	Chips	300
NIL PT-5590 Oct 2026	Ferronickel	C, Si, Mn, P, S, Ni, Cr	P: ASTM E1917; other elements: methods to be agreed; see M4	Chips	300
NIL PT-5591 Sep 2026	Low-carbon ferrochromium	C, Si, Mn, P, Cr	Any validated method suitable for the scheme	Chips	300
NIL PT-5592 Oct 2026	Silicon manganese alloy	Si, Mn, P, S	Any validated method suitable for the scheme	Chips	300
NIL PT-5593 Oct 2026	Ferrovandium	C, Si, Mn, P, S, V, Al	Any validated method suitable for the scheme	Chips	400

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.

M3 — NIL PT-5588: methods for Si, Mn, P, Al and Ca are to be agreed with NIL. ASTM E372 addresses Ca and Mg in magnesium ferrosilicon by EDTA titrimetry and is not a general method for this complete parameter set in ferrosilicon.

Method scope reference: [ASTM E372](#)

M4 — NIL PT-5590: ASTM E1917 applies to phosphorus determination. Confirm separate suitable methods for C, Si, Mn, S, Ni and Cr.

Method scope reference: [ASTM E1917](#)

CHEMICAL ANALYSIS | 10 ROUNDS

A4 Non-ferrous metals and alloys

Scheme / dispatch ¹	Material / analysis	Parameters	Reference method ²	Sample	USD ³
NIL PT-5595 Sep 2026	Pure aluminium	Si, Fe, Cu, Mg, Zn	Any validated method suitable for the scheme	Discs / Chips	320
NIL PT-5596-1 May 2026 NIL PT-5596-2 Sep 2026	Aluminium alloy	Si, Fe, Cu, Mg, Mn	ASTM E3061 (ICP-OES); ASTM E1251 (spark OES)	Discs / Chips	320
NIL PT-5597 Sep 2026	Aluminium alloy / spark OES	Si, Fe, Cu, Cr, Ti, Zn	ASTM E1251	Discs	320
NIL PT-5598 Oct 2026	Zinc alloy	Cu, Mg, Fe, Al	Any validated method suitable for the scheme	Chips	320
NIL PT-5600 Oct 2026	Copper alloy	Zn, Fe, Ni, Pb, Cu	Any validated method suitable for the scheme	Discs / Chips	320
NIL PT-5603 Jul 2026	Blister copper	Cu, Ag, Au	YS/T 521 (applicable parts)	Chips	500
NIL PT-5604 Jul 2026	Titanium alloy	Fe, Al, V, Si	ASTM E2371	Chips	500
NIL PT-5605 Oct 2026	Titanium alloy	O, N, H	ASTM E1409 (O, N); ASTM E1447 (H)	Granules	500
NIL PT-5606 Sep 2026	Titanium alloy	Cr, Ni, Cu, Mo	ASTM E2371	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.

Sample selection — NIL PT-5595, PT-5596-1, PT-5596-2 and PT-5600 offer discs or chips. State the required form in your enquiry. Chips may suit solution-based methods such as ICP-OES; discs may suit spark OES or XRF, subject to the agreed scheme method and preparation requirements.

MECHANICAL TESTING | 6 ROUNDS

B Mechanical testing of metallic materials

Scheme / dispatch ¹	Test / material	Reported parameters	Reference method ²	USD ³
NIL PT-6077 Sep 2026	Room-temperature tensile test / steel	Tensile strength; lower yield strength; elongation after fracture; reduction of area	ASTM E8/E8M; ASTM A370	600
NIL PT-6078 Sep 2026	Room-temperature tensile test / aluminium alloy sheet	Tensile strength; 0.2% offset yield strength; elongation after fracture	ASTM B557	600
NIL PT-6079 Sep 2026	Charpy V-notch impact test / steel	Absorbed impact energy	ASTM E23	600
NIL PT-6084 Aug 2026	Elevated-temperature tensile test / steel	Tensile strength; 0.2% offset yield strength; elongation after fracture; reduction of area	ASTM E21	650
NIL PT-6085 Aug 2026	Uniaxial tensile creep test / steel; see T2	Time to rupture; elongation after rupture; reduction of area after rupture	ASTM E139	700
NIL PT-6086 Aug 2026	High-cycle fatigue / metallic materials; axial force control	Fatigue life (number of cycles)	ASTM E466	1000

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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.

T1 — Equipment and specimens: PT-6077 recommends a 100–300 kN machine and a 12.5 mm specimen diameter. PT-6078 recommends 50–100 kN. PT-6079 specifies an 8 mm striker radius and a V-notch, with a recommended machine capacity of at least 150 J. PT-6084 recommends 50–100 kN, a 6 mm specimen diameter and M12 threads at both ends; compatible grips are required. The listed temperature is ≥ 300 °C; confirm the exact temperature and specimen drawing with NIL. These machine capacities are recommendations, not specified test loads.

T2 — PT-6085 lists rupture endpoints. Confirm whether creep deformation versus time is also measured and evaluated before using it as evidence for a creep-testing requirement. Confirm temperature, stress, specimen geometry and reported outputs for this round. PT-6086 uses axial force control; confirm stress ratio, frequency, test temperature and termination criterion.

HARDNESS AND METALLOGRAPHY | 7 ROUNDS

C Hardness and metallography

Scheme / dispatch ¹	Test / material	Reported parameters	Reference method ²	USD ³
NIL PT-6080 Sep 2026	Brinell hardness / steel	HBW 10/3000	ASTM E10	550
NIL PT-6081 Sep 2026	Rockwell hardness / steel	HRC	ASTM E18	550
NIL PT-6082 Sep 2026	Vickers hardness / steel	HV10	ASTM E92	600
NIL PT-6083 Sep 2026	Microindentation hardness / steel	HV0.5	ASTM E384	600
NIL PT-6087 Sep 2026	Average grain size / steel; physical specimens	Grain size number; intercept procedure recommended	ASTM E112	450
NIL PT-6088 Aug 2026	Nonmetallic inclusion rating / steel photographs; see T3	Inclusion rating	ASTM E45	300
NIL PT-6090 Sep 2026	Decarburization / steel	Depth of decarburization	ASTM E1077	450

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.

T3 — PT-6088 uses photographs and evaluates inclusion-rating performance. It does not exercise specimen preparation and microscopy across the complete laboratory process. For Nadcap use, determine whether this form of comparison meets the applicable requirement; do not treat it as full-process PT evidence without that assessment.

Use the listed hardness scale and force, and the specified metallographic procedure. Confirm specimen preparation responsibilities, measurement locations and the reporting convention in the scheme instructions.

CORROSION AND ADDITIONAL ACTIVITIES | 4 ROUNDS

D Corrosion and additional activities

Corrosion testing

Scheme / dispatch ¹	Test / material	Reported parameters	Reference method ²	USD ³
NIL PT-6089 Aug 2026	Salt spray exposure / steel; see T4	Mass loss	ASTM B117	500
NIL PT-6091 Jul 2026	Intergranular corrosion / austenitic stainless steel	Susceptibility to intergranular attack	ASTM A262, Practice E	500

T4 — PT-6089: ASTM B117 defines the salt-spray exposure environment; it does not by itself define this scheme's mass-loss evaluation. Confirm exposure duration, specimen area, cleaning procedure, weighing and calculation rules with NIL.

Method scope reference: [ASTM B117](#)

Additional activities — check scope before enrolment

Scheme / dispatch ¹	Test / material	Reported parameters	Reference method ²	USD ³
NIL PT-6197 Aug 2026	Tensile test / fibre-reinforced composite materials; see T5	Ultimate tensile strength; ultimate tensile strain; tensile chord modulus; Poisson's ratio	ASTM D3039/D3039M	1000
NIL PT-6200 Aug 2026	Low-cycle fatigue / metallic materials; strain control; see T6	Number of cycles to failure	ASTM E606/E606M	1000

T5 — PT-6197 concerns composite materials. It should be assessed against the applicable composite-testing/customer requirements rather than assumed to fall within the metallic MTL criteria.

T6 — PT-6200 is strain-controlled fatigue. This activity is not included in the ISO 17043 accreditation scope recognized by NIL. The fatigue load is limited to axial force control only. Confirm the applicable accreditation status and provider-selection route before enrolment. No CNAS-accredited claim is made for this entry in this announcement.

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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.