



APLAC T101 Proficiency Testing Programme
“Winding temperature-rise test (resistance method)”

Instructions for Participating Laboratories

1. Objective

The APLAC proficiency testing programme “Winding temperature-rise test (resistance method) (APLAC T101)” is organized by China National Accreditation Service for Conformity Assessment (CNAS), with Technical Center for Mechanical and Electrical Product Inspection and Testing of SHCIQ (SMEC) as the collaborator, under the auspices of Asia Pacific Laboratory Accreditation Cooperation (APLAC).

This program is intended to assist participants in demonstrating their testing capacity of using resistance method on the measurement of temperature-rise, understand the difference between the different laboratories, and to identify problems and opportunities for self-improvement.

2. Analysis Of The Proficiency Test Sample

Each participating laboratories will be provided with ONE patented electrical boxes to simulate the windings in various electrical and electronic appliances, each containing a winding and an electronic circuit. Upon receipt of the sample, please complete the Sample Receipt Form (Participating Laboratories) and return it to the coordinator of the proficiency testing programme (E-mail: jiangyz@shciq.gov.cn, heping@cnas.org.cn). Replacement of a new sample will be arranged if the proficiency test sample is identified to be not suitable for testing.

Participants should treat the proficiency test sample in the same manner as the majority of routine samples. They are expected to use the test method described in relevant end-product standards of their choice, which should be consistent with their routine procedures.

The proficiency testing sample should be stored under room temperature conditions ($20 \pm 5^\circ\text{C}$, relative humidity below 75%) for at least 4 hours.

The proficiency testing sample should be setup according to the instructions. A wiring diagram will be provided to the participants and the participants are asked to connect accordingly. The instruments and facilities used in the test are as follows,

No.	Instruments and facilities	Measurand
1	AC Power supply	/
2	Ohmmeter	the resistance of the winding at the beginning and the end of the test(R1, R2)
3	Ammeter	the input current in the circuit, optional
4	Voltmeter	the input voltage of the sample
5	Thermometer	ambient temperature at the beginning and the end of the test(t1, t2)
6	Humidity meter	ambient humidity
7	Chronograph	the time the sample is powered

After the test, the participants should calculate the temperature-rise of copper winding upon the parameters recorded. If applicable, the backward induction is used.

3. Reporting And Submission Of Results

AB shall remind the nominated laboratories to complete the Result Sheet and Questionnaire and submit it via email to the coordinator of the proficiency testing programme (E-mail: jiangyz@shciq.gov.cn, cc to:heping@cnas.org.cn) no later than the deadline **Oct 15th, 2016**. Results submitted after the deadline will not be accepted.

Participants should complete the Result Sheet and Questionnaire. The testing parameter to be measured is the winding temperature-rise of the sample tested and calculated using resistance method. The participants are encouraged to report their uncertainties of measurement. The participants are asked to provide photos of test set-ups.

Participants should provide information about the factors in the process such as, the resistance of the winding at temperature t1, Ω ; the resistance of the winding at the end of the thermal test t2, Ω ; the room temperature at the beginning of the test, $^{\circ}\text{C}$; the room temperature at the end of the test, $^{\circ}\text{C}$; and the reciprocal of the temperature coefficient of resistance at 0 $^{\circ}\text{C}$ of the conductor material, etc..

Participants should be aware that any submitted results are considered final and accordingly such results and units should be thoroughly checked before submission. Participants should submit the Result Sheet and Questionnaire via email to the coordinator of the proficiency testing programme (E-mail: jiangyz@shciq.gov.cn, heping@cnas.org.cn) on or before the deadline **Oct 15th, 2016**. Results submitted after the deadline will not be accepted. Participants are reminded that the ability to report results in the specified unit and within the given time scale are part of the proficiency test.

4. Important Notes

FOR SAFETY, THE PROFICIENCY TEST SAMPLE SHOULD BE HANDLED WITH CARE TO PREVENT THERMAL INJURY AND ELECTRIC SHOCK.

For this proficiency testing programme, return of the proficiency test sample is not necessary, but the sample should be properly stored and may not be opened until the final report is issued.

5. Contact

AB may wish to contact the coordinator of the proficiency testing programme for any inquires.

The contact details are given below:

Coordinator of organising accreditation body CNAS:

Name: He Ping (Mr.)

Add.: No.8 Nanhuashi, Dongcheng District, Beijing, 100062, China

E-mail: heping@cnas.org.cn

Tel: +8610 6710 5290

Coordinator of the proficiency testing provider in SMEC:

Name: Jiang Yingzhou (Mr.)

Add.: No.1208, Minsheng Road, Pudong New Area, Shanghai 200135, China

E-mail: jiangyz@shciq.gov.cn

Tel: +86 21 38620831