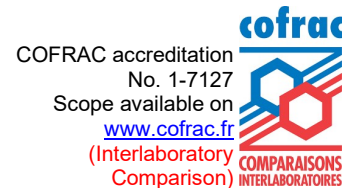


## Fact sheet of the interlaboratory comparison:

### **Mass calibration 2024-2025**



#### **1. Context and objectives**

In 2024-2025, the CT2M organizes an international inter-laboratory comparison in the field of mass calibration. Since January the 1<sup>st</sup>, 2023, CT2M is accredited for the organization of inter-laboratory comparisons on mass calibration, according to the scope of accreditation n°1-7127 (scope available on [www.cofrac.fr](http://www.cofrac.fr)).

You are a calibration laboratory or a testing laboratory performing its own calibrations: this inter-laboratory comparison is organized for you.

The objectives of this proficiency testing are:

- Evaluate the performance of the participants to achieve mass calibration,
- Improve client confidence of participants,
- Identify differences between participants.

#### **2. Proficiency testing items**

The nominal masses of the entities to be calibrated in this inter-laboratory comparison are:

**2mg, 20mg, 200mg, 2g, 20g, 200g, 2kg et 20kg**

The masses are calibrated at the beginning and end of the round by a reference laboratory whose uncertainties are:

Masses	2 mg	20 mg	200 mg	2 g	20 g	200 g	2 kg	20 kg
Expanded uncertainties (k=2)	2,0 µg	3,3 µg	6,6 µg	13 µg	26 µg	0,10 mg	3,3 mg	30 mg

The metrological traceability of the reference value is guaranteed by the accreditation according to ISO 17025 of the reference laboratory.

#### **3. Calibration Method**

The most appropriate calibration method is the comparison of the mass to be calibrated with a standard mass of equivalent nominal value, using a comparator or a balance. Numbers of repetitions and calibration cycles are left to the participant's choice. His own procedure must be used as well as his own calibration means (standards, comparators/balances).

**Participants may register for one or more masses; it is not mandatory to calibrate all the proposed entities. In addition, any laboratory may participate, regardless of its uncertainty.**

A detailed protocol will be provided to each participant at the beginning of the campaign.

#### **4. Conditions for participation**

The following conditions must be met in order to take part:

- ✓ Possess the resources and facilities needed to carry out the calibrations,
- ✓ Provide an uncertainty associated with each result (conventional mass).

#### **5. Organization of the proficiency testing**

Each participant must calibrate the masses within one week. All the masses will circulate successively from one participant to the other.

CT2M will provide the participants with an Excel form to use to register its results. For each calibrated mass, the participants must indicate at least the following results:

- ✓ Conventional value of the calibrated mass,
- ✓ Associated expanded uncertainty ( $k=2$ ).

#### **6. Assigned values and evaluation of performance**

The objectives of the performance evaluation of this inter-laboratory comparison are:

- The evaluation of the ability of each participant to obtain results in agreement with the results of all the participants (z-score or z'-score depending on the number of participants),
- The evaluation of the ability of each participant to obtain results close to an independent reference value taking into account the claimed expanded uncertainty ( $E_n$  score).

Two assigned values will therefore be established to meet each of these objectives:

- The robust average of the participants' results determined from the A algorithm defined in ISO 13528.
- The "reference value" determined from the reference laboratory results.

The standard deviation for proficiency assessment and the uncertainties of the assigned values will be determined in order to establish the performance scores of each participant for each entity.

The rounding rules and acceptance criteria for performance scores are those described in the ISO 13528 and ISO 17043 standards.

#### **7. Report(s)**

At the end of the round, a statistical analysis will be performed, and a final report will be sent to the participants. This report will contain the results of all the participants (rendered with a codification to respect anonymity), the detection of outliers, the assigned values and their uncertainties, the performance scores of the participants and all other elements useful for the interpretation.

The final report will be distributed to all participants and to the reference laboratory. The final report sent by the CT2M must not be distributed by participants outside their organisation. The information contained in the report may not be used by participants for scientific publications or any other communication medium.

Intermediate reports will also be issued during the circuit, in cases where a large number of participants means that the circuit will last longer than 6 months.

## 8. Provisional schedule:

Key steps	Estimated deadline
End of registration	November, the 4 <sup>th</sup> , 2024
Emailing of the detail protocol and the results form	November, the 22 <sup>th</sup> , 2024
Launching of the round	December, the 2 <sup>nd</sup> 2024
Publication of the final report	December 2025

## 9. Price

### Participation fees: 690 € net total

This price is independent of the number of masses. This price includes the provision of the masses to be calibrated, of the results file to be completed and the participation protocol, transport costs to the circuit launch and the supply of interim and final reports containing the analysis of results and the evaluation of performance.

For participant located in the European Union, the transport cost of the proficiency testing items to the next participant (located in the European Union) will be borne by him, who is free to choose the carrier. For the participants located outside the European Union, the transport to and from of proficiency testing items must be organised and paid for by the participant.

### Option: 150 € net total (in addition to the participation fees)

In addition to the final report, you have the option of receiving a personalised individual report that includes your performance evaluation only.

## 10. Reciprocal commitments:

### CT2M commitments:

The CT2M undertakes to:

- guarantee the confidentiality of participants results and respect their anonymity (\*),
- carrying out the performance evaluation in complete impartiality,
- organize and process the results in accordance with the reference applicable documents (ISO 17043, ISO 13528).

(\*) The data obtained and generated during the inter-laboratory comparison may be consulted during internal or external audits. Auditors are systematically subject to a confidentiality agreement. For communication purposes (conferences, articles, etc.), the results may be used but in a totally anonymous manner. The transport of the test item from one participant to another necessarily entails the partial loss of anonymity concerning the identity of the previous participant and the following participant. Registration for this inter-laboratory comparison implies acceptance of this condition.

### Participant commitments:

The participants in this inter-laboratory comparison undertake to:

- respect the protocol provided for carrying out the calibrations,
- provide their results within the deadlines defined by the organizer,
- not to communicate with any other participant who may be known in order to avoid any risk of collusion,
- transmit all the necessary information of the successful completion of the inter-laboratory comparison to all the persons concerned within their laboratory,
- inform the CT2M of any malfunction.

### **11. Registration and contact:**

To take part in the inter-laboratory comparison "ILC ", please complete the registration form "CT2M: REGISTRATION FORM - ILC Masses 2024-2025" by clicking on the following link: <https://forms.office.com/e/udhZXh1QD1> or by scanning the QR Code below:



For further information, please contact us:

- ✓ Email: [cilmasses@ct2m.fr](mailto:cilmasses@ct2m.fr)
- ✓ Phone: +33 (0)4 90 50 90 14

## Appendix: Terms of sale

### 1. Invoicing

Invoicing is carried out after sending the final report or an intermediate report of the proficiency testing. **The settlement is 30 days end of month of the invoice date.**

Every registration fee is due when the campaign is started and won't be cancelled or refund.

### 2. Loss, degradation or elimination of the test item

In case of loss, damage or elimination of the proficiency test item by a participant, the CT2M reserves the right to claim its amount or purchase and new shipment. Pricing will be based on the corresponding invoice for the items.

The CT2M cannot be held responsible for loss, disposal or non-receipt of the proficiency test item.

### 3. Number of participants

If number of participants is insufficient for an appropriate statistical treatment, the CT2M reserves the right to cancel this inter-laboratory comparison.

### 4. Rules for the use of accreditation mark

The COFRAC accreditation mark "Interlaboratory Comparison", No. 1-7127 (scope available on [www.cofrac.fr](http://www.cofrac.fr)) may not be used by participants.

### 5. Management and storage of personal data

The CT2M will use the data of the participants in order to communicate with the participant during the the ILC. These datas are also used to send them intermediate and/or final reports. The data may be used for commercial purposes: communication of new features on the website, communication on new ILC or on ILC in which a participant have already participated. The data will be kept for 5 years after the last communication. (The data listed in the quotes and reports are kept for 10 years.)

The provisions governing the management of personal data under the RGPD are available on our website in the "RGPD Policy" document: <https://ct2m.fr/presentation-ct2m/politique-rgpd/>

In the event of refusal, an email should be sent to [ct2m@ct2m.fr](mailto:ct2m@ct2m.fr).