

NSAI NML's Decision Rule Policy

In accordance with the requirement set out in **ISO/IEC 17025:2017**, it is the policy of NSAI NML to report compliance (or non-compliance) of the calibration results with a stated specification, where requested by the customer and where the specification is available. When requested, the **Decision Rule** employed by the NSAI NML includes the uncertainty of measurement.

The Decision Rule employed by the NSAI NML is in compliance with Sec. 4.2.3 of the **ILAC-G8:09/2019** Guidance Document on Decision Rules and Statements of Conformity, albeit without the use of Guard Bands.

Where an instrument does not have a specification assigned to it, it is the policy of the NSAI NML to provide calibration results with expanded uncertainties only, without any statement of conformance.

In general, specifications which are reported on NSAI NML calibration certificates are obtained from one of the following sources:

- recognised international standards (e.g. ISO, OIML, IEC, etc).
- manufacturer's manuals.
- customer's assigned tolerances.
- other recognised sources.

In stating compliance, NSAI NML's policy is to highlight those results where the error found exceeds the allowed specification limits. The policy requires that, when judging compliance, the uncertainty of measurement must be considered since there are several possible cases where the uncertainty has a bearing on the compliance statement.

If the results for an instrument are found to be within specification for all test points, extended by the uncertainty of measurement, a statement of compliance with the assigned specification can be made.

If the results for an instrument, extended by the uncertainty of measurement, are found to be either conditional-to or out-of-specification, those specific set points are denoted as follows on the calibration certificate and a statement to that effect highlighting those particular test points is given in the comments section of the certificate.

The symbols used to indicate the state of compliance of the instrument calibration and their meanings are given in the following table:

Statement of compliance and associated symbol	Description
PASS	The absence of a symbol indicates that the measurement result is inside the specification limit by a margin greater than its associated expanded uncertainty; the instrument meets its accuracy specification.
Conditional PASS Symbol: £	The measurement result is inside the specification limit by a margin less than or equal to its associated expanded measurement uncertainty; it is therefore not possible to state compliance. There is a risk that the instrument fails to meet its specification.
Conditional FAIL Symbol: &	The measurement result is on the specification limit or is outside the specification limit by a margin less than or equal to its associated expanded measurement uncertainty; it is therefore not possible to state non-compliance.
FAIL Symbol: \$	The measurement result is outside the specification limit by a margin greater than its associated measurement uncertainty; the instrument fails to meet its accuracy specification.
Unc. > Spec Symbol: #	The expanded measurement uncertainty is greater than the instrument's accuracy specification. It is not possible to determine compliance or otherwise with the specification. The user should expand the in-use accuracy specification to make allowance for the calibration uncertainty.
Outside CIPM MRA Symbol: ¢	Indicates that the calibration result is traceable to SI units but is not currently included in the table of NSAI NML's calibration and measurement capabilities approved under the CIPM MRA.

Where no specification exists, and none is prescribed by the client, the Decision Rule policy of the NSAI NML does not apply and results are provided without a statement of compliance.

The risk of using a calibrated instrument which has been found to be conditional-to-specification or out-of-specification at certain test points lays solely with the client.

The statement of conformity will clearly identify:

- to which results the statement of conformity applies;
- which specifications, standards or parts thereof are met or not met;
- the Decision Rule applied (unless it is inherent in the requested specification or standard).