

Standard Calibration Criteria – Electrical Offerings

Decision Rules

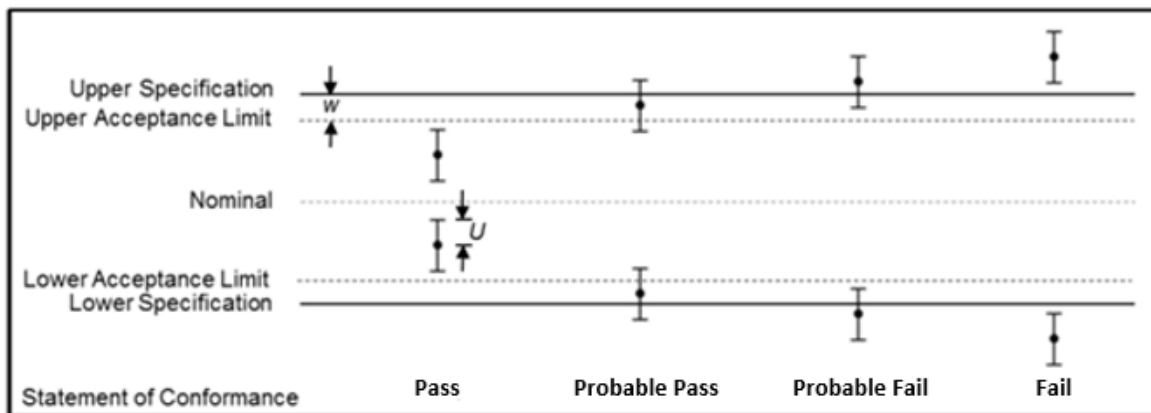
Conformity is reported using guard banding as detailed below:

Result	Symbol	Explanation
Pass ¹	None	The result is within the specified limits provided even when including the measurement uncertainty.
Probable Pass	!	The result is within the specified limits, however when including the measurement uncertainty, the result may be outside of the limits. However, compliance with the specified limits is more likely than non-compliance.
Probable Fail	^	The result is outside the specified limits, however when including the measurement uncertainty, the result may be inside of the limits. However, non-compliance with the specified limits is more likely than compliance.
Fail	F	The result is outside the specified limits provided even when including the measurement uncertainty.
No Conformity	@	The Calibration uncertainty is greater than the specified limit, therefore conformity can not be provided. Calibration will also be marked as limited calibration.

Notes

¹ = The absence of a compliance annotation can also mean that the measurement taken does not have any specified limits. In this instance, the calibration result would also be classified as a “PASS”.

Example of Guard Banding:



U = 95% expanded measurement uncertainty

Standard Calibration Criteria

- ✓ Calibration certificates will be in an electronic format. It will be digitally signed and emailed to the customer shortly after the completion of the calibration. If particular timescales are required for the provision of the certificate, these must be highlighted at the enquiry stage.
- ✓ All equipment will be calibrated as per the manufacturer's instruction manual which will include the allowed tolerances, if applicable. If no manufacturer's tolerance is available, then no tolerance will be used.
- ✓ All equipment must be in a good condition, items may be returned with no calibration if found otherwise – There will be a charge for this.
- ✓ Batteries will be replaced prior to calibration.
- ✓ All electrical equipment will be tested to a minimum of one test point taken at each range defined by the instrument under test. AC tests will be tested up to 1kHz unless higher is agreed prior to purchase order. The below shows the tests performed and to what range.
 - AC Voltage (0 to 1000V)
 - DC Voltage (0 to 5.5 kV)
 - AC/DC Current (0 to 1000A)
 - Resistance (10Ω to 10GΩ)
 - Frequency (10Hz to 2MHz)
 - Ground Bond Resistance (1 mΩ to 1700 Ω)
 - Line/Loop Impedance (25 mΩ to 1700 Ω)
 - Leakage Current (0.1 to 30 mA)
 - RCD Trip Current (5 to 150 mA)

Temperature Indicating Devices (via Electrical Simulation)

- ✓ All temperature indicating devices calibrated by electrical simulation will be tested at the following test points as a minimum:
 - 0, 10, 20, 40, 60, 80 and 100% of the full range of the instrument under test
- ✓ More tests points may be added, depending on the accuracy of the device.