# Counterfeit Component Detection Manufacturing Process Control

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Solderability testing helps you...
Identify counterfeit components
Control your manufacturing process

## MUST 3

5 tests in only 1 machine:

- 1 Standard Wetting Balance testing using solder bath
- 2 Micro-Wetting Balance testing using Solder Globules
  - 4 mm; 3.2 mm; 2 mm and 1 mm
  - Solder pellets: 200 mg; 100 mg; 25 mg; 10 mg, 5 mg and 2.5 mg
  - · Accurately testing down to 0201
- **3** MUST Synchronous test using solder paste
- 4 NEW unique MUST Temperature Profile test
- 5 Reflow simulation

MUST 3 – delivered with everything you need to conduct solderability tests including:

- Comprehensive newly updated component library
- A full set of 13 component clips
- Comprehensive user manual including solderability test theory
- Free NPL solderability testing good practice guide
- USB camera 'optional'





#### When should I use Solderability Tests?

- As components leave the supplier
- When they arrive at "Goods In"
- Repeat the test after storage, before using them in production

### Why should I run Solderability Tests?

- Verify components and minimise counterfeiting risks
- Verify that there is no storage damage
- Verify that the board finish has not been compromised

### Why shouldn't I use "dip & look"?

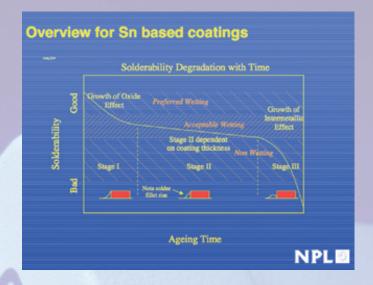
- Too operator dependent
- No test traceability
- Inaccurate

Using Force Measurement at mN levels, the MUST 3 provides an accurate, repeatable and recordable measurement method to determine the condition of the metallised terminations of electronic circuit boards and components prior to their use.

Good measurement practice involves only 1 variable: the item under test. Solderability testing involves a number of variables: flux, alloy, temperature and mechanical noise.

For these reasons the Standards require that only 1 flux, alloy and temperature be used, to avoid the inevitable argument between a supplier and user as to the veracity of the test. As the instrument is required to measure at levels as low as 0.01mN, it logically follows that the instrument be devoid of as much noise interference as possible such as mechanical juddering, cooling effects and excessive air turbulation.





Q "I wish to employ this test to control my process, so I want to use my flux, alloy and process temperature."

A "OK, but make sure that your supplier is also conducting this test using EXACTLY the same materials and conditions to avoid unnecessary argument."

Q "How accurate is this test?"

A Done correctly, the instrument **MUST** provide a Gauge R&R of «10%

#### **MUST 3 Sets the Standard.**

- ✓ IEC 60068-2-54 (Equates to BSI JIS DIN AFNOR et al)
- ✓ IEC 60068-2-69 (Equates to BSI JIS DIN AFNOR et al)
- ✓ IEC 60068-2-83 (Equates to BSI JIS DIN AFNOR et al)
- ✓ IPC J-STD002
- ✓ IPC J-STD003
- ✓ JEDEC
- ✓ MIL STD 883
- ✓ JEITA & JIS

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