



Insituware Materials Measurement Solution

Vision MARK-1 for Solder Paste Quality Control

Rapid, Small Sample Solder Paste Quality Control Solutions

Applications Include

- **Prior to Printing Quality Control** — Reduce printing and reflow defects by monitoring solder paste quality before printing.
- **In Process Paste Condition Monitoring** — Increase line utilization by extending stencil life of solder paste. Avoid unnecessary setups and wasted solder paste caused by premature disposal.
- **Printing Defect Troubleshooting and Root Cause Analysis**

Best in Class Solder Paste Quality Control Solution

Quick Detection of Paste Quality

- Verify correct solder paste handling throughout shipping, storage, and use
- Catch defective paste that may cause short stencil life, poor tack, solder balling, non-wetting, and de-wetting

Extend Solder Paste Stencil Life

- Directly determine end of solder paste stencil life to increase line utilization

Small-Sample Requirements

- Requires only 5 grams of solder paste

Rapid Measurement

- Receive measurement results in under 4 minutes

Clear Control Indicators

- Customizable process control limits with red, yellow, green light indicators

Correlates to Standards

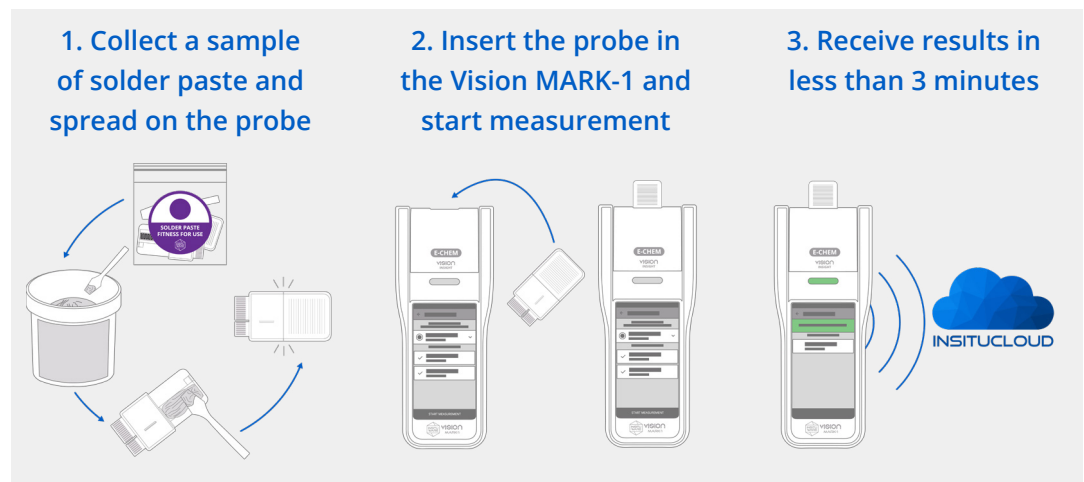
- Measurements correlate to J-STD-005 standards and TM-650 test methods



Principle of Operation

Solder paste fitness for use measurements use a technique called electrochemical impedance spectroscopy (EIS) to characterize the properties of a solder paste. During a measurement, a small electrical signal is applied to the solder paste and the current response is measured.

Results are provided as the Flux Coefficient (FC), the dielectric properties of the flux, and the Powder Reactivity Coefficient (PRC), the interaction between the flux and powder. These properties correlate to the printing and reflow performance of a solder paste.





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Product Information

- A solder paste fitness for use measurement requires the Vision MARK-1, E-Chem Insight, and a multi-use solder paste fitness for use probe.
- Multiple probe configurations available to match a wide range of solder paste activity levels.
- The recommended starter kit includes everything necessary for a measurement.
- Additional probes may be ordered in quantities of 50.

Required Parts (Included in Starter Kit)	
810-00003	Vision MARK-1
810-00013	Vision MARK-1, EU
810-00001	E-Chem Insight
810-00002	Solder Paste Fitness for Use Probe (COMB 500, COMB 1250, RECT 2500)

Product Information	
Sample Quantity	5 grams
Applications	Water Soluble, No-Clean, and RMA Solder Pastes
Measurement Outputs	Flux Coefficient (FC) and/or Powder Reactivity Coefficient (PRC) – Outputs Depend on Specific Solder Paste Model; Temperature; Humidity
Methodology	Electrochemical Impedance Spectroscopy
Measurement Time	3.5 minutes
Accuracy	Voltage: ± 3% Current: ± 3% Temperature: ± 0.3 °C Humidity: ± 3% RH
Repeatability	Voltage: ± 1% Current: ± 1% Temperature: 0.1 °C Humidity: ± 0.1% RH
Calibration	Every Two Years

Operational Specifications	
Ambient Operating Temperature	0°C to 40°C (32°F to 104°F)
Relative Humidity	10% to 80% RH non-condensing

User Interface Specifications (Vision MARK-1)	
Display	5" touchscreen display
Data Transfer	Wi-Fi (802.11a/b/g/n/ac)
Data Entry	Touchscreen
Outputs	Audio, LED Status Indicator

Power Specifications (Vision MARK-1)	
Battery Power Source	Built in rechargeable lithium-ion battery
Battery Charger	AC 110/240 V, 50/60 Hz, 15 Watts
Typical Runtime	6-8 hours with full charge
Recharge Time	2 hours

Mechanical Specifications (Vision MARK-1)	
Dimensions	24 cm x 10 cm x 6 cm
Weight	< 0.6 kg
Shipping Package Dimensions	49 cm x 40 cm x 20 cm
Shipping Package Weight	< 5 kg

Compliance	
FCC, CE, ISED, RoHS	

Order Numbers	
900-00001	Vision MARK-1 Starter Kit, NA Shippable
900-00011	Vision MARK-1 Starter Kit, EU Shippable
900-00002	Solder Paste Fitness for Use Probes: COMB 500, 50 pack
900-00009	Solder Paste Fitness for Use Probes: COMB 1250, 50 pack
900-00010	Solder Paste Fitness for Use Probes: RECT 2500, 50 pack
900-00006	Solder Paste Fitness for Use Add-On

info@insituware.com | insituware.com | 856.324.6776



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