The Institute for Interconnecting and Packaging Electronic Circuits
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IPC-TM-650
TEST METHODS MANUAL

Number	
2.2.20	
Subject	
Solder Paste Metal Content by Weight	
Date	Revision
1/95	
Originating Task Group	
Solder Paste Task Group (5-24b)	

1.0 Scope This procedure determines the percent metal content for solder paste.

2.0 Applicable Documents None

3.0 Test Specimen 50 grams of solder paste

4.0 Equipment/Apparatus

Balance

Crucible or Beaker

Heat Source

Flux Solvent

5.0 Procedure

5.1 Preparation

5.1.1 Weigh 10 to 50 grams (to the nearest 0.01 gram) of solder paste into a tared vessel suitable for melting the solder paste.

5.2 Test

5.2.1 Melt the solder at approximately 25°C above liquidus of the alloy, remove from heat and allow solder to solidify.

5.2.2 Extract melt from residual flux with a suitable solvent, dry and weigh metal to within 0.01 grams to determine % metal content.

5.3 Evaluation

$$\frac{\text{Weight of extracted metal}}{\text{Weight of original sample}} \times 100 = \% \text{ Metal}$$

Enter the results in Table 1 ''Test Report on Solder Paste.''

Table 1 Test Report on Solder Paste

Enter appropriate information in top portion of report and complete report by entering the test results or checkmarks in the appropriate spaces.

Inspection Purpose:
__ Qualification
__ Quality Conformance A
__ Quality Conformance B
__ Shelf-Life Extension
__ Performance

QPL I.D. Number: _____
Manufacturer's Identification: _____
Manufacturer's Batch Number: _____
Date of Manufacture: _____
Original Use-By Date: _____
Revised Use-By Date: _____

Date Inspection Completed: _____ Overall Results: __ Pass __ Fail
Inspection Performed by: _____ Witnessed by: _____

Inspections	User's Actual Requirement	Test Result	P/F (*)	Tested by & Date
Material				
Visual				
Metal Content				
Viscosity				
Solder Ball				
Slump				
Alloy				
Flux				
Powder Size				
% In Top Screen				
% In Next Screen				
% In Bottom Screen				
% In Receiver Bottom				
Max. Powder Size				
Powder Shape				
Tack				
Wetting				

* P/F = PASS/FAIL; enter P if test results are within tolerance of actual requirement; otherwise, enter F