IPC J-STD-005A

Requirements for Soldering Pastes

A standard developed by the Solder Paste Task Group (5-24b) of the Assembly and Joining Committee (5-20) of IPC

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Users of this publication are encouraged to participate in the development of future revisions.

Contact:

IPC
3000 Lakeside Drive, Suite 309S
Bannockburn, Illinois 60015-1249
Tel 847 615.7100
Fax 847 615.7105

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Requirements for Soldering Pastes

1 GENERAL

1.1 Scope This standard prescribes general requirements for the characterization and testing of solder pastes used to make high quality electronic interconnections. This specification is a material quality control document and is not intended to relate directly to the material's performance in the assembly process. Solder paste users are referred to 6.3 for a listing of requirements information and options that should be addressed when procuring solder paste.

1.1.1 Purpose This standard defines the characteristics of solder paste through the definitions of properties and specification of test methods and inspection criteria. The materials include solder powder and solder paste flux blended to produce solder paste. Solder powders are classified by the shape of the particles and size distribution of the particles. It is not the intent of this standard to exclude particle sizes or distributions not specifically listed. The flux properties of the solder paste, including classification and testing, **shall** be based on J-STD-004, or equivalent. The requirements for solder paste are defined in general terms. In practice, where more stringent requirements are necessary, additional requirements **shall** be as agreed between user and supplier (AABUS). Users are cautioned to perform tests (beyond the scope of this specification) to determine the acceptability of the solder paste for specific processes.

2 APPLICABLE DOCUMENTS

The following documents of the issue currently in effect, form a part of this specification to the extent specified herein.

2.1 Joint Standards[1]

J-STD-001 Soldering Requirements for Electronic Interconnections

J-STD-004 Requirements for Soldering Fluxes

J-STD-006 Requirements for Alloys and Solder Products

2.2 International Organization for Standardization[2]

ISO 9001 Quality Systems - Model for Quality Assurance in Design, Development, Production, Installation and Servicing.

2.3 IPC[3]

IPC-A-20 Fine pitch stencil pattern for slump (artwork)

IPC-A-21 Standard pitch stencil pattern for slump (artwork)

IPC-T-50 Terms and Definitions for Interconnecting and Packaging Electronic Circuits

IPC-TM-650 Test Methods Manual[4]

2.2.14.3 Determination of Maximum Solder Powder Particle Size
2.2.20 Solder Paste Metal Content by Weight
2.4.34 Solder Paste Viscosity—T-Bar Spin Spindle Method (Applicable for 300,000 to 1,600,000 centipoise)
2.4.34.1 Solder Paste Viscosity—T-Bar Spindle Method (Applicable at less than 300,000 centipoise)
2.4.34.2 Solder Paste Viscosity—Spiral Pump Method (Applicable for 300,000 to 1,600,000 centipoise)
2.4.34.3 Solder Paste Viscosity—Spiral Pump Method (Applicable at less than 300,000 centipoise)
2.4.35 Solder Paste—Slump Test

1. www.ipc.org
2. www.iso.org
3. www.ipc.org
4. Current and revised IPC Test Methods are available on the IPC Web site (www.ipc.org/html/testmethods.htm)