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EIA STANDARD

Test Standard for Electromechanical Components – Environmental Effects of Machine Soldering

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Electronic Components, Assemblies & Materials Association

ELECTRONIC COMPONENTS, ASSEMBLIES & MATERIALS
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(From Standards Proposal No. 4672, formulated under the cognizance of the P-13 Committee on Switches & Interrupting Devices.)

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METHOD 16

TEST STANDARD FOR ELECTROMECHANICAL COMPONENTS
ENVIRONMENTAL EFFECTS OF MACHINE SOLDERING

1. PURPOSE

The purpose of this standard is to evaluate electromechanical components which have been subjected to the environmental effects of machine soldering and the associated fluxing, preheating and cleaning operations.

This standard shall not be construed as a production procedure in machine soldering operations. For production procedures and controls, refer to EIA RS-445.

The solderability determination is made on the basis of the ability to provide a wetted coat of new solder between the component terminal(s) and the printed wiring board.

The acceptable performance of a component subjected to the complete solderability test as specified in this standard is determined by visual examination and those tests specified to be performed upon completion of this test.

Soldering temperatures and times given in this standard should be chosen so that reliable soldered joints are obtained with respect to component, terminal size, etc.

2. DEFINITIONS

2.1 Solderability - The property of a metal surface to be readily wetted by molten solder.

2.2 Fluxing - The preconditioning of a metal surface prior to the soldering operation utilizing activated flux and a conventional foam application system.

2.3 Preheating - The elevating of the printed wiring board assembly temperature as measured on the component side of the printed wiring board just prior to machine soldering.

2.4 Machine soldering - The automatic application of molten solder to the printed wiring board assembly; e.g., wave soldering.

2.5 Cleaning - The removal of flux and other residue from the printed wiring board assembly using chemical and/or aqueous solvent systems.

3. EQUIPMENT

3.1 A conventional wave soldering machine with provisions for fluxing and preheating shall be used. Production equipment outlined in EIA RS-445 may be used. However, in the case of conflict, this standard shall take precedence.