

MIL-STD-883G

METHOD 2003.8

SOLDERABILITY

1. Purpose. The purpose of this test method is to provide a referee condition for the evaluation of the solderability of terminations (including leads up to 0.125 inch in diameter) that will be assembled using tin lead eutectic solder. This evaluation is made on the basis of the ability of these terminations to be wetted and to produce a suitable fillet when coated by tin lead eutectic solder. These procedures will test whether the packaging materials and processes used during the manufacturing operations process produce a component that can be successfully soldered to the next level assembly using tin lead eutectic solder. A preconditioning test is included in this test method, which degrades the termination finish to provide a guard band against marginal finishes.

* 2. Procedure. The solderability test shall be performed in accordance with IPC/EIA J-STD-002 (current revision) "Solderability Tests for Component Leads, Terminations, Lugs Terminals and Wires", and herein. The following details and exceptions shall apply:

2.1. Contractual Agreement. The contractual agreements statement in J-STD-002 shall not apply. Any exceptions to the requirements specified in J-STD-002 current revision and this test method shall be documented in the individual military procurement document or approved by the procuring military activity.

2.2. Coating Durability. The coating durability category (from J-STD-002 current revision) shall be as follows:

- a. Category 2 – All non-tin component finishes, excluding gold (1 hr steam preconditioning).
- b. Category 3 – For all other component finishes, including gold (8 hours \pm 15 minutes steam preconditioning).

2.3. Test Method. The test method from J-STD-002 (current revision) shall be used as follows:

Test A – For through hole mount and surface mount leaded components, solid wire less than 0.045 inch diameter and stranded wire 18 AWG or smaller. If not otherwise specified in the procurement document, angle of immersion for surface mount leaded components shall be 90 degrees.

Test B – For surface mount leadless components.

* Test C – For lugs, tabs, terminals, solid wires greater than 0.045-inch diameter, and stranded wires greater than 18 AWG.

3. Summary. The following details shall be specified in the applicable procurement document:

- a. Depth of immersion if other than specified.
- b. Angle of immersion for surface mount leaded components, if other than 90 degrees.
- c. Measurements after test, where applicable.