Australian Standard®

Methods of test for metallic and related coatings

Method 4.6: Physical tests—Solderability

METHOD

1 SCOPE. This Standard sets out procedures for dip soldering and iron soldering to determine the solderability of metallic coatings. The procedure to be used is governed by the particular soldering application, and is normally specified in the relevant product Standard.

The procedures are intended to assess the solderability of electroplated coatings and solder coatings that are to be subsequently joined by soldering.

The determination of solderability of metallic coatings intended for the electronics industry is outside the scope of this Standard.

NOTE: Where specific soldering characteristics for the electronic industry are required, reference should be made to AS 1099.1, AS 1099.2, and AS 1099.3.4, as applicable.

2 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS
1099 Basic environmental testing procedures for electrotechnology
1099.1 Part 1: General
1099.2 Part 2: Tests
1099.3.4 Part 3: Section 4—Guidance on Test T: Soldering.

1834 Material for soldering
1834.1 Part 1: Solder alloys
1834.2 Part 2: Flux-cored solders

3 MATERIALS.

3.1 Solders and fluxes. The following test solders and fluxes are required:

(a) A nominal 60:40 solder complying with the requirements of AS 1834.1.

(b) A nominal 60:40 activated rosin-cored solder complying with the requirements of AS 1834.2.

NOTE: Use non-activated rosin-cored solder if specified in the product Standard.

(c) Activated rosin flux formulated as follows:

(i) Colophony (water white wood rosin) . . . . . 25 g
(ii) Isopropanol (isopropyl alcohol) (AR) or ethanol (ethyl alcohol) (AR) 75 g
(iii) Diethylammonium chloride (AR) . . . . . 0.39 g
or
Dimethylammonium chloride (AR) . . . . . 0.29 g

NOTES:

1. This formulation provides for 0.5 percent chloride activation.
2. Should non-activated flux be specified in the product Standard, delete diethylammonium chloride and dimethylammonium chloride from the above formulation.

3.2 Cleaning solvents.

3.2.1 *Isopropanol* or ethanol (commercial quality), for removal of flux residues.

3.2.2 *Trichloroethane* (commercial quality), for degreasing.

4 APPARATUS. The following apparatus is required:

(a) *Solder bath*—an electrically-heated thermostatically controlled solder bath containing at least 1 kg of the specified solder.

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