

INTERNATIONAL ELECTROTECHNICAL COMMISSION  
COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

---

**IEC 60068-2-69**  
Edition 3.0 2017-03

**IEC 60068-2-69**  
Édition 3.0 2017-03

**ENVIRONMENTAL TESTING –**

**Part 1: 2-69: Tests – Test Te/Tc: Solderability testing of electronic components and printed boards by the wetting balance (force measurement)**

**ESSAIS D'ENVIRONNEMENT –**

**Partie 2-69: Essais – Essai Te/Tc: Essai de brasabilité des composants électroniques et cartes imprimées par la méthode de la balance de mouillage (mesure de la force)**

**CORRIGENDUM 1**

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

(<https://standards.iteh.ai>)

**7.1.4 Solder contamination control**

*Replace Table 2 with the following new table:*

[IEC 60068-2-69:2017/COR1:2018](https://standards.iteh.ai/catalog/standards/iec/f7db8584-fcce-4995-88a5-23b0a4a82970/iec-60068-2-69-2017-cor1-2018)

<https://standards.iteh.ai/catalog/standards/iec/f7db8584-fcce-4995-88a5-23b0a4a82970/iec-60068-2-69-2017-cor1-2018>

**Table 2 – Maximum limits of solder bath contaminants**

Contaminant	Maximum mass fraction contaminant limit	
	SnPb alloys <sup>a, b</sup> %	Lead-free alloys <sup>c, d</sup> %
Copper	0,300	1,100
Gold	0,200	0,200
Cadmium	0,005	0,005
Zinc	0,005	0,005
Aluminium	0,006	0,006
Antimony	0,500	0,200
Iron	0,020	0,020
Arsenic	0,030	0,030
Bismuth	0,250	0,250
Silver	0,100	4,000
Nickel	0,010	0,050
Lead	N/A	0,100

<sup>a</sup> The tin content of the solder shall be maintained within  $\pm 1,5$  % of the nominal alloy being used. Tin content shall be tested at the same frequency as testing for copper/gold contamination. The balance of the bath shall be lead and/or the items listed above.

<sup>b</sup> The total of copper, gold, cadmium, zinc, and aluminium contaminants shall not exceed 0,4 %. Not applicable to lead-free alloys.

<sup>c</sup> The tin content of the solder shall be maintained within  $\pm 1$  % of the nominal alloy being used. Tin content shall be tested at the same frequency as testing for copper/silver concentration. The balance of the bath shall be the items listed above.

<sup>d</sup> Maximum contamination limits are applicable for Sn96,5Ag3Cu,5. Other lead-free solder alloy contamination limits may be used upon agreement between user and vendor.

IEC 60068-2-69:2017/COR1:2018

<https://standards.iteh.ai/catalog/standards/iec/7db8584-fccc-4995-88a5-23b0a4a82970/iec-60068-2-69-2017-cor1-2018>

**8.2.2 Solder bath wetting balance procedure**

Replace the 3<sup>rd</sup> paragraph to Table 5 with the following new paragraph:

The recommended immersion speed for all components is between 1 mm/s and 5 mm/s, except for leaded non-SMD where between 5 mm/s and 20 mm/s is recommended.

**8.2.4.2 Procedure**

In the 1<sup>st</sup> paragraph, replace "7.2.3" with "7.2.1".

**10 Information to be given in the relevant specification**

In the list item e), replace "8.2.2" with "8.2.3".

In the list item l), replace with the following text and replace "9.2" with "8.2.2, 8.2.3":

Areas to be visually examined for wetting and de-wetting

## B.5 Test flux

In the 1<sup>st</sup> paragraph, replace "8.1.2" with "8.2.2".

### B.7.2.1 Stiffness of the spring (see Clause A.1 d))

In the title, replace "A.1 d)" with "A.1 e)".

### B.7.2.2 Noise level (see Clause A.1 e))

In the title, replace "A.1 e)" with "A.1 c)".

### B.7.4.1 Choice of test criteria

Replace "8.2" with "9.2".

## D.2 Evaluation criteria for components

Replace Figure D.1 and Figure D.2 with the following new figures:

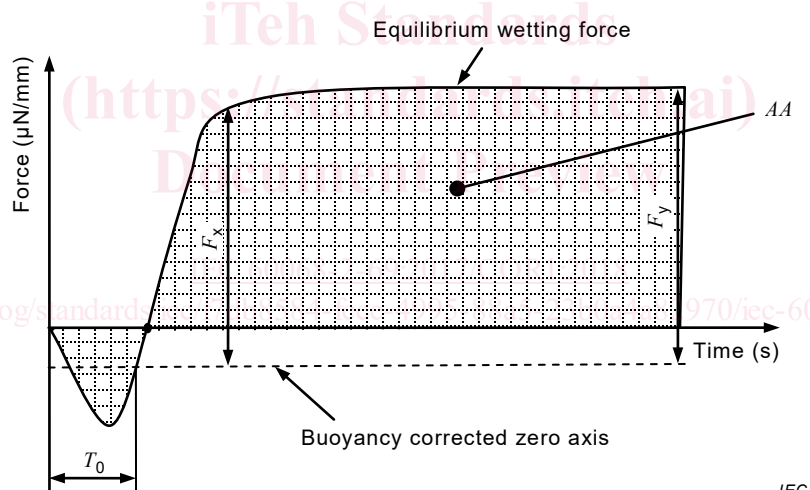


Figure D.1 – Set A wetting curve