



## Designation: **F375 – 89 (Reapproved 2010) F375 – 89 (Reapproved 2015)**

# Standard Specification for Integrated Circuit Lead Frame Material<sup>1</sup>

This standard is issued under the fixed designation F375; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers the special requirements for metal strip to be used to fabricate integrated-circuit lead frames by stamping or photochemical milling.

1.2 The metals that are applicable to these parts include copper and copper alloys, ferrous alloys usually containing nickel or cobalt or chromium, nickel and nickel alloys, and other metallic materials.

1.3 The general chemical, physical, and mechanical property requirements of these materials are covered by other ASTM specifications (specifically Specifications **B103/B103M**, **B122/B122M**, **B152/B152M**, **B162**, **B465**, **F15**, **F30**, **F31**, **F49** and **F68**), and these should be consulted for properties and tempers that are different for the different metals. For metals for which no ASTM specification is available, other specifications should be adopted by agreement of the parties concerned.

1.4 ~~The~~The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

## 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

**B103/B103M** Specification for Phosphor Bronze Plate, Sheet, Strip, and Rolled Bar

**B122/B122M** Specification for Copper-Nickel-Tin Alloy, Copper-Nickel-Zinc Alloy (Nickel Silver), and Copper-Nickel Alloy Plate, Sheet, Strip, and Rolled Bar

**B152/B152M** Specification for Copper Sheet, Strip, Plate, and Rolled Bar

**B162** Specification for Nickel Plate, Sheet, and Strip

**B465** Specification for Copper-Iron Alloy Plate, Sheet, Strip, and Rolled Bar

**E112** Test Methods for Determining Average Grain Size

**F15** Specification for Iron-Nickel-Cobalt Sealing Alloy **F375-89(2015)**

**F30** Specification for Iron-Nickel Sealing Alloys

**F31** Specification for Nickel-Chromium-Iron Sealing Alloys

**F49** Specification for Molybdenum Strip for Electron Tubes (Withdrawn 1978)<sup>3</sup>

**F68** Specification for Oxygen-Free Copper in Wrought Forms for Electron Devices

## 3. Ordering Information

3.1 Orders for material under this specification shall include the following information:

3.1.1 Quantity of each size,

3.1.2 Material and specification number appropriate to the material (see **2.1**),

3.1.3 Temper or mechanical properties (see **4.1**),

3.1.4 Dimensions: thickness, width, length if applicable (see **6.2 – 6.4**),

3.1.5 How furnished: coils and coil size or lengths (see **10.1**),

3.1.6 ASTM designation, referencing this specification number, and the fabricating process to be used,

3.1.7 Certification or test report requirements (see **11.1**), and

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee **F01** on Electronics and is the direct responsibility of Subcommittee **F01.03** on Metallic Materials/Wire Bonding, and Flip Chip.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced in www.astm.org.