The Institute for Interconnecting and Packaging Electronic Circuits

IPC-CF-152B

Composite Metallic Material Specification for Printed Wiring Boards

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A standard developed by the Institute for Interconnecting and Packaging Electronic Circuits

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Composite Metallic Material Specification for Printed Wiring Boards

1.0 SCOPE

This specification covers the requirements for copper/invar/copper (CIC), copper/molybdenum/copper (CMC), three-layer composite. The CIC material consists of copper bonded to each side of a layer of invar (nominal 36% nickel and 64% iron alloy). The copper clad molybdenum consists of copper bonded to each side of molybdenum.

1.1 Purpose This specification addresses the requirements for procurement of copper/invar/copper and copper/molybdenum/copper for use in electronic applications.

1.1.1 Applications Printed boards with ground and power planes and/or metal cores.

1.2 Designation The designation shall be in the following form:

IPC-CF-152/x	CIC	W	2	S
When x is the specification sheet number (see 1.2.1)	Composite Metal (see 1.2.2)	Composite Materials Foil Type (see 1.2.3)	Composite Material Thickness (see 1.2.4)	Bond Enhancement Treatment (see 1.2.5)

1.2.1 Specification Sheet Description At the end of this document is a series of specification sheets. Each sheet outlines engineering and performance data for composite materials. The sheets are provided with a number for ordering purposes. For example, if a user wishes to order from specification sheet number 1, the number ''1'' would substitute the ''x'' in the above designation example (e.g., IPC-CF-152/1). The composite materials contained in this standard represent known products. As new materials become available they will be added to future revisions. Users and material developers are encouraged to supply information on new materials for review to the IPC-MF-150 Task Group (3-12a). Users who wish to invoke this specification for composite materials not listed shall list a zero (0) for the specification sheet number (e.g., IPC-CF-152/0).

1.2.2 Composite Metal The composite material shall be designated by a suitable two or three letter code.

CIC —Copper/Invar/Copper

CMC—Copper/Molybdenum/Copper

XX—Other

1.2.3 Composite Material Type Composite material types shall be distinguished by their process of manufacture and shall be designated:

E—Electrodeposited

W—Wrought (rolled)

O—Other

1.2.4 Composite Material Thickness Thickness of composite material shall be indicated in increments of 0.025 mm.

1.2.5 Bond Enhancement Treatment The bond enhancement treatment used on the metal surface shall be designated in the following manner:

N—No treatment, no stain proofing.

P—No treatment, with stain proofing both sides.

S—Single-sided bond enhancement treatment, with stain proofing both sides.

D—Double-sided bond enhancement treatment, with stain proofing both sides.

1.3 Presentation All dimensions and tolerances are expressed in millimeters and are not direct conversions in order to provide usable numbers. Users are cautioned to employ a single system and not to intermix millimeters and inches. Reference information is shown in parentheses ( ).

2.0 APPLICABLE DOCUMENTS

The following documents are referenced in this specification.

2.1 IPC[1]

IPC-T-50 Terms and Definitions

IPC-PC-90 General Requirements for Implementation of Statistical Process Control

1. Publications are available from IPC, 2215 Sanders Road, Northbrook, IL 60062-6135.