IPC-4203A

2013 - January

Cover and Bonding Material for Flexible Printed Circuitry

Supersedes IPC-4203
May 2002

A standard developed by IPC

Association Connecting Electronics Industries

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Cover and Bonding Material for Flexible Printed Circuitry

Developed by the Flexible Circuits Base Materials Subcommittee (D-13) of the Flexible Circuits Committee (D-10) of IPC

Supersedes:

IPC-4203 - May 2002
IPC-FC-232C with
Amendment 1 - April 1995
IPC-FC-232C - June 1994
IPC-FC-232B - February 1986
IPC-FC-232A
IPC-FC-232
IPC-FC-233

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Acknowledgment

Any document involving a complex technology draws material from a vast number of sources. While the principal members of the Flexible Circuits Base Materials Subcommittee (D-13) of the Flexible Circuits Committee (D-10) are shown below, it is not possible to include all of those who assisted in the evolution of this standard. To each of them, the members of the IPC extend their gratitude.

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Cover and Bonding Material for Flexible Printed Circuitry

1 SCOPE

This standard establishes the classification system, the qualification and quality conformance requirements for dielectric films coated with an adhesive on one or both sides which are to be used as cover material for flexible printed circuitry as well as supported or unsupported adhesive films to be used in the fabrication of flexible printed circuitry. It does not cover non-flexible adhesives designed to be used in the rigid board areas of rigid flex constructions which are covered in IPC-4101. Materials such as liquid-applied covercoat (see 3.1.8.3) are covered in IPC-SM-840 and are excluded from this document.

This specification supersedes both IPC-FC-232C and IPC-FC-233A and the requirements herein meet or exceed the requirements for Class 3 in these superseded documents. Note that conformance to Class 3 meets or exceeds conformance to Classes 1 and 2. IPC-4203 no longer utilizes the 3-class system.

1.1 Classification System The system described in 1.1.1 through 1.1.2.6 identifies adhesive coated dielectric films and flexible adhesive bonding films.

1.1.1 Nonspecific Designation A nonspecific designation is intended for use by designers on master drawings to designate their material choice. Further specification details may be indicated by using the specific designation in drawing notes and purchase documents. At the end of this standard is a series of material specification sheets designated by individual nonspecific designators. Each sheet outlines engineering and performance data for a flexible cover sheet and bonding film indicating base material type, adhesive type and method of reinforcement. 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 be substituted for the ''S'' in the designation example (i.e., IPC-4203/1). Example of nonspecific designation: *IPC-4203/S Where S is specification sheet number.*

1.1.2 Specific Designation The specific designation should be as shown in the following example and is intended for use on purchase orders (see 6.1). The specific designation should not be used by designers on master drawings to indicate their material selection. Master drawings **shall** indicate the material design by the nonspecific designation, supplemented in notes with the material specification details as defined by the specific designation. This procedure is necessary because the specific designation is normally lengthy and will not fit the field for most computer cataloging.

NOTE: The alpha character ''N'' replaces and is entirely equivalent to both the alpha character ''O'' (ref: Table 1-1) and the digit ''0'' (ref: Table 1-3) in the original release (prior revision) of this IPC standard. This interchange of characters within the designation will help alleviate confusion from using both the alpha character ''O'' and the digit ''0'' from the original release of this IPC standard. Legacy designs that utilize a designation and material description from the original release of this IPC standard [alpha character ''O'' (from Table 1-1) and/or digit ''0'' (from Table 1-3)] may continue to be used. Supplier material certifications will reflect the current IPC standard's revision, and accordingly the alpha character ''N,'' in the designation.

Example of specific designation: *IPC-4203/S - C1E2M3/3*
Where:
IPC-4203/S - Nonspecific Designation (see 1.1.1)
C - Base Dielectric Type Designation (see 1.1.2.1)
1 - Reinforcement Method Designation (see 1.1.2.2)
E - Reinforcement Type Designation (see 1.1.2.3)
2 - Base Dielectric Thickness Designation (see 1.1.2.4)
M - Adhesive Type Designation (see 1.1.2.5)
3/3 - Adhesive Thickness Designation (see 1.1.2.6)

Note: The letter ''X'' **shall** be entered into the designation where an item is not specified (e.g., dielectric thickness).