



ASSOCIATION CONNECTING  
ELECTRONICS INDUSTRIES

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# Adhesive Coated Dielectric Films for Use as Cover Sheets for Flexible Printed Wiring and Flexible Adhesive Bonding Films

Developed by the Flexible Base Materials Subcommittee of the Flexible Circuits Committee of IPC

***Supersedes:***

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Users of this standard are encouraged to participate in the development of future revisions.

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## Table of Contents

|  |    |   |    |
|--|----|---|----|
| <b>1.0 GENERAL</b> .....                                       | 1  | <b>5.0 PREPARATION FOR DELIVERY</b> ..... | 11 |
| 1.1 Scope.....   | 1  | 5.1 Packaging.....                        | 11 |
| 1.2 Classification System.....                                 | 1  | <b>6.0 NOTES</b> .....                    | 11 |
| 1.3 Quality Classifications.....                               | 2  | 6.1 Ordering Data .....                   | 11 |
| <b>2.0 APPLICABLE DOCUMENTS</b> .....                          | 2  | 6.2 Chemical Resistance.....              | 11 |
| 2.1 IPC .....  | 2  | 6.3 Storage/Shelf Life.....               | 11 |
| 2.2 Military Standards .....                                   | 3  | 6.4 References.....                       | 11 |
| 2.3 American Society for Testing and Materials<br>(ASTM) ..... | 3  | 6.5 Cleaning Procedure.....               | 11 |
| <b>3.0 REQUIREMENTS</b> .....                                  | 3  |   |    |
| 3.1 Terms and Definitions .....                                | 3  |   |    |
| 3.2 Specification Sheets.....                                  | 3  |   |    |
| 3.3 Conflict.....  | 4  |   |    |
| 3.4 Qualification.....   | 4  |   |    |
| 3.5 Materials .....  | 4  |   |    |
| 3.6 General Requirements—Acceptability.....                    | 4  |   |    |
| 3.7 Physical Requirements .....                                | 5  |   |    |
| 3.8 Chemical Requirements .....                                | 5  |   |    |
| 3.9 Electrical Requirements .....                              | 5  |   |    |
| 3.10 Environmental Requirements .....                          | 6  |   |    |
| <b>4.0 QUALITY ASSURANCE PROVISIONS</b> .....                  | 6  |   |    |
| 4.1 Quality Conformance Evaluations .....                      | 6  |   |    |
| 4.2 Statistical Process Control (SPC).....                     | 9  |   |    |
| 4.3 Group D Properties.....                                    | 11 |   |    |

### Figures

|          |  |    |
|----------|--|----|
| Figure 1 | Control Plan.....  | 12 |
| Figure 2 | Process Flow and Control/Inspection<br>Points Chart..... | 13 |
| Figure 3 | Parameter to Process Correlation Chart.....              | 14 |
| Figure 4 | Quality Conformance Test Reduction Chart.....            | 15 |

### Tables

|         |  |    |
|---------|--|----|
| Table 1 | Test Method Frequency.....               | 7  |
| Table 2 | Small Lot Inspection Plan.....           | 8  |
| Table 3 | Cleaning Process for Bright Copper ..... | 16 |

# Adhesive Coated Dielectric Films for Use as Cover Sheets for Flexible Printed Wiring and Flexible Adhesive Bonding Films

## 1.0 GENERAL

**1.1 Scope** This document establishes the requirements for dielectric films coated with an adhesive on one side which are to be used as cover sheets for flexible printed wiring, dielectric films coated on one side or two sides with adhesive and for unsupported adhesive films to be used in the fabrication of flexible printed wiring.

**1.2 Classification System** The following system identifies adhesive coated dielectric films and flexible adhesive bonding films.

**1.2.1 Specific Designation** The specific designation **shall** be in the following form and is intended for use on purchase orders (6.1). The specific designation **shall** not be used by designers on master drawings to indicate their material selection. Master drawings **shall** indicate the material design by the non-specific designation (1.2.1.1), supplemented in notes with the material specifications 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.

Example:

|   |                                    |                                    |                                  |                                       |
|---|------------------------------------|------------------------------------|----------------------------------|---------------------------------------|
| IPC-FC-232/S  | -E                                 | 1                                  | E                                | 3                                     |
| Where S is specification Sheet number (see 1.2.1.1) | Base Material Type (see 1.2.1.2)   | Reinforcement Method (see 1.2.1.3) | Reinforcement Type (see 1.2.1.4) | Base Material Thickness (see 1.2.1.5) |
| <b>M</b>  | <b>1/1</b>                         | <b>2</b>                           |                                  |                                       |
| Adhesive Type (see 1.2.1.6.1)                       | Adhesive Thickness (see 1.2.1.6.2) | Quality Classification (see 1.3)   |                                  |                                       |

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

**1.2.1.1 Non-Specific Designation** The non-specific 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 (1.2.1) in drawing notes and purchase documents. At the end of this document is a series of material specification sheets designated by individual non-specific

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 numbers for ordering purposes. For example, if a user wished to order from the specification sheet number 1, the number "1" would be substituted for the "S" in the above designation example (IPC-FC-232/1).

The flexible cover sheets and bonding films contained in this standard represent known materials. As new materials become available, they will be added to future revisions. Users and material developers are encouraged to supply information on new flexible materials for review by the IPC Flexible Printed Wiring Committee. Users who wish to invoke this specification for flexible materials not listed **shall** list a zero (O) for the specification sheet number (IPC-FC-232/O).

New or revised specification sheets may become approved by the committee independent from revision of the document text. When this occurs, the new or revised specification sheet **shall** be printed and made available through IPC-FC-FLX, specification sheets for IPC-FC-231, IPC-FC-232 and IPC-FC-241. The effective date of the new or revised sheet **shall** be clearly indicated on the individual sheet. Specification sheets **shall** be transferred from IPC-FC-FLX to the appropriate parent document whenever that document is revised. Per paragraph 6.1, the specification sheet revision date **shall** be specified in the order.

**1.2.1.2 Base Dielectric Material Type** The type of dielectric material **shall** be as specified as follows:

- A. Polyvinylfluoride (PVF)
- B. Polyethylene Terephthalate Polyester (PET)
- C. Fluorinated Ethylene-Propylene Copolymer (FEP)
- D. Polytetrafluoroethylene (PTFE)
- E. Polyimide
- F. Aramid
- G. Polyamide-imide
- H. Epoxy
- J. Polyetherimide
- K. Polysulfone
- L. Polyethylene Naphthalate (PEN)
- O. No dielectric film (unsupported)