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**Prevleke za z elementi opremljene tiskane plošče (standardne prevleke) - 1.  
del: Definicije, razvrstitev in splošne zahteve (IEC 61086-1:2004)**

Coatings for loaded printed wire boards (conformal coatings) – Part 1: Definitions, classification and general requirements (IEC 61086-1:2004)

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EUROPEAN STANDARD

**EN 61086-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2004

ICS 29.035.20

Supersedes EN 61086-1:1994

English version

**Coatings for loaded printed wire boards  
(conformal coatings)  
Part 1: Definitions, classification and general requirements  
(IEC 61086-1:2004)**

Revêtements appliqués  
sur les cartes de câblage imprimées  
(revêtements enrobants)  
Partie 1: Définitions, classification  
et exigences générales  
(CEI 61086-1:2004)

Beschichtungen für bestückte  
Leiterplatten (conformal coatings)  
Teil 1: Begriffe, Einteilung  
und allgemeine Anforderungen  
(IEC 61086-1:2004)

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SIST EN 61086-1:2004

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 15C/1544/FDIS, future edition 2 of IEC 61086-1, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61086-1 on 2004-03-01.

This European Standard supersedes EN 61086-1:1994.

This edition includes the following significant technical changes from EN 61086-1:1994:

- a) a Class 3 material for aerospace applications has been included;
- b) a new resin type (oligomeric blend material) has been added.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-03-01

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**Endorsement notice**

The text of the International Standard IEC 61086-1:2004 was approved by CENELEC as a European Standard without any modification.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC

61086-1

Deuxième édition  
Second edition  
2004-01

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**Revêtements appliqués sur les cartes  
de câblage imprimées (revêtements enrobants) –**

**Partie 1:  
Définitions, classification et exigences générales**

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**Coatings for loaded printed wire boards  
(conformal coatings) –**

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**Part 1:  
Definitions, classification and general  
requirements**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## COATINGS FOR LOADED PRINTED WIRE BOARDS (CONFORMAL COATINGS) –

### Part 1: Definitions, classification and general requirements

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61086-1 has been prepared by subcommittee 15C: Specifications, of IEC technical committee 15: Insulating materials.

The text of this standard is based on the following documents:

FDIS	Report on voting
15C/1544/FDIS	15C/1562/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This second edition cancels and replaces the first edition, published in 1992, and constitutes a technical revision.

This edition includes the following significant technical changes from the previous edition:

- a) a Class 3 material for aerospace applications has been included;
- b) a new resin type (oligomeric blend material) has been added.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This International Standard forms part of a series published under the general title *Coatings for loaded printed wire boards (conformal coatings)*.

The series consists of three parts:

Part 1: Definitions, classification and general requirements (IEC 61086-1)

Part 2: Methods of tests (IEC 61086-2)

Part 3: Specifications for individual materials (IEC 61086-3)

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# COATINGS FOR LOADED PRINTED WIRE BOARDS (CONFORMAL COATINGS) –

## Part 1: Definitions, classification and general requirements

### 1 Scope

This part of IEC 61086 gives the definitions, classification and general requirements for electrical insulating materials suitable for application as coatings for loaded printed wire boards (conformal coatings).

This standard excludes requirements for compatibility between such coatings and printed wire boards, this characteristic being evaluated in individual applications.

Surface modifiers are not classified as conformal coatings. They only provide a thin film that does not cure and has low mar resistance. They are excluded from this standard.

Materials which conform to this standard meet established levels of performance. However, the selection of a material by a user for a specific application should be based on the actual requirements necessary for adequate performance in that application and not based on this standard alone.

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### 2 Terms and definitions (standards.iteh.ai)

For the purposes of this document, the following terms and definitions apply.

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#### 2.1

##### **conformal coating**

electrical insulating material applied as a coating to loaded printed wire boards to produce a thin layer conforming to the surface in order to provide a protective barrier against deleterious effects from environmental conditions

#### 2.2

##### **surface modifier**

non-curing hydrophobic material, applied as a surface layer of thickness 1 µm to 2 µm to a loaded printed wiring board to protect against deleterious effects from environmental conditions by changing the surface characteristics

#### 2.3

##### **oligomeric**

oligomeric blended material derived from a low molecular mass acrylic material and other low molecular mass reactive materials (for example, polyester, epoxy, etc.), possibly with other additions to give specific properties

### 3 Classification

The types of conformal coatings covered by this standard shall be identified according to a code consisting of:

- Number: indicating the classification of the material;
- Letter: indicating the resin type, and
- Suffix number distinguishing between the variants of each of the resin types.