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BSI Standards Publication

Packaging of components for automatic handling

Part 7: Introduction of a bulk blister pack for miniaturized components

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National foreword

This Published Document is the UK implementation of IEC TR 60286-7:2019.

The UK participation in its preparation was entrusted to Technical Committee EPL/40X, Capacitors and resistors for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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colour inside

Packaging of components for automatic handling – Part 7: Introduction of a bulk blister pack for miniaturized components

Emballage de composants pour opérations automatisées – Partie 7: Introduction d'une plaquette thermoformée en volume pour des composants miniaturisés

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 7: Introduction of a bulk blister pack for miniaturized components

FOREWORD

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IEC TR 60286-7, which is a technical report, has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
40/2648/DTR	40/2676/RVDTR

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

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

A list of all parts in the IEC 60286 series, published under the general title *Packaging of components for automatic handling*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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- withdrawn,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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Purpose of this Technical Report

This Technical Report includes the practical experience made during pilot projects and a proposal for standardization of the interface between the package and automatic assembly systems as well as requirements to the properties of the package itself.

Patent situation

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning a "magazine for portion-wise receiving individualized electronic components which are present in bulk"[1].

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences free of charge with applicants throughout the world for claims related to the items described in this Technical Report. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

ASM Assembly Systems GmbH & Co.KG, Munich(DE)

Rupert-Mayer-Straße 44, 81379 München

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

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1 German Patent: DE102016125495, published 28.06.2018

United States Patent Application: US 2018/0184555 A1

PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 7: Introduction of a bulk blister pack for miniaturized components

1 Scope

This part of IEC 60286 contains information about the introduction of an innovative bulk blister packing system for miniaturized components, for example chip type components of size 1005 (metric) and smaller. It includes a proposal for standardization of the interface between the packaging and automatic assembly systems and requirements to the properties of the packaging.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
packaging
product made of any material or any nature to be used for the containment, protection, and structured alignment for automatic assembly, handling and delivery

[SOURCE: IEC 60286-3:2019, 3.1.3]

3.2
packing
operations involved in the preparation of goods for containment, protection, and structured alignment for automatic assembly, handling, and delivery

3.3
blister pack
type of packaging in which components are packed, consisting of domes of plastic

EXAMPLE The example is shown in Figure 1.

4 Existing bulk feeding systems and challenges

4.1 Challenges of miniaturized components

Progressing miniaturization of components has caused an increasing mismatch between packaging volume and component size, where the volume of components became just a small percentage of the total packaging volume in the case of tape and reel packaging.