

TECHNICAL REPORT



**Multimedia systems and equipment – Multimedia e-publishing and e-book –
Guideline for protection against mechanical stress during distribution of
e-books in CD and DVD media**

[IEC TR 62780:2012](#)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTIMEDIA SYSTEMS AND EQUIPMENT –
MULTIMEDIA E-PUBLISHING AND E-BOOK –
GUIDELINE FOR PROTECTION AGAINST MECHANICAL STRESS
DURING DISTRIBUTION OF E-BOOKS IN CD AND DVD MEDIA**

FOREWORD

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IEC 62780, which is a technical report, has been prepared by technical area 10: Multimedia e-publishing and e-book technologies, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

Enquiry draft	Report on voting
100/1927/DTR	100/1972/RVC

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

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

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- withdrawn,
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A bilingual version of this publication may be issued at a later date.

INTRODUCTION

Some e-books are distributed by using interchangeable optical storage media such as CDs and DVDs. Those storage media are distributed being bound in paper books/magazines or attached to them in other appropriate manners. The media bound or included in books/magazines are suffered from strong pressure during their distribution and/or keeping, and sometimes become so damaged (broken or distorted) that e-book data can no longer be read.

In order to minimize those damages of e-books during their distribution, a guideline for protection against mechanical stress during distribution of e-books is required. Existing standards of optical storage media specify nothing about stress-strain characteristics. The guideline should specify how to deal with interchangeable optical storage media bound or included in paper books/magazines. Those specifications should be based on the stress-strain characteristics of the interchangeable optical storage media.

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MULTIMEDIA SYSTEMS AND EQUIPMENT – MULTIMEDIA E-PUBLISHING AND E-BOOK – GUIDELINE FOR PROTECTION AGAINST MECHANICAL STRESS DURING DISTRIBUTION OF E-BOOKS IN CD AND DVD MEDIA

1 Scope

This Technical Report provides protection schemes against mechanical stress during distribution or keeping of e-books (see IEC 62229) stored in interchangeable optical storage media such as CDs and DVDs, and shows the stress-strain characteristics of the interchangeable storage media from which the protection schemes are derived.

This Technical Report supplements the information of handling multimedia e-books defined in IEC/TS 62229.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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IEC 62229:2005, *Multimedia systems and equipment – Multimedia e-publishing and e-book – Conceptual model for multimedia e-publishing*

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3 Terms and definitions

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

3.1

residual strain

permanent strain after unloading

3.2

retaining force of disk center hole

friction force between the center hole of a disk and the protrusion of the disk holder in a disk case, to hold the disc in the disk case

Note 1 to entry: This force depends on the diameter of the center hole, the diameter of the disk holder protrusion, material and the surface finish of the protrusion, and of the structure of the disk holder.

3.3

elastic limit

residual strain generated when stress limit is exceeded

3.4

casebound book

book consisting of a stitched book block and bound in a hard cover

3.5**gutter**

page edge for binding

Note 1 to entry: See JIS Z 8125.

3.6**saddle stitching**

binding by gutter wiring

Note 1 to entry: See JIS Z 8125.

3.7**adhesive binding**

binding by gutter pasting

Note 1 to entry: See JIS Z 8125.

4 Residual strain of CD and DVD media

No residual strain is generated in CD and DVD media when the deflection at the point of 35 mm distance from the center of the disk is lower than 8,8 mm. Those characteristics are given by the simulation and experiments shown in Clause A.2. Therefore, CD and DVD media should be kept within the limit bending during their distribution.

NOTE The characteristics are valid for all the CD and DVD media used in e-books and other CD/DVD applications.

In order to keep the loading within the elastic limit during the distribution of e-books stored in CD and DVD media, bound in paper books/magazines or attached to them, the protection schemes of 5.1 and 5.2 are recommended.

5 Guideline for protection of CD and DVD media**5.1 Medium inclusion within a book or magazine****5.1.1 Attaching a medium envelope on a page**

A medium envelope made by paper or film is attached on a page, as shown in Figure 1. The medium inclusion scheme can be applied to books (with saddle stitching or adhesive binding) or magazines with such thickness that up to 20 books or magazines can be wrapped for conveying.