
**Imaging materials — Compact discs
(CD-ROM) — Method for estimating
the life expectancy based on the effects
of temperature and relative humidity**

*Matériaux pour l'image — Disques compacts (CD-ROM) — Méthode
d'estimation de l'espérance de vie basée sur les effets de la
température et de l'humidité relative*



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Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Purpose and assumptions	3
4.1 Purpose	3
4.2 Assumptions	3
5 Measurements	3
5.1 Block error rate (BLER)	3
5.2 Test equipment	3
5.3 Test specimen	4
6 Accelerated stress test plan	4
6.1 General	4
6.2 Stress conditions	5
6.3 Accelerated test cell specimen population	7
6.4 Time intervals	8
6.5 Test plan	8
6.6 Measurement conditions	8
7 Data evaluation	8
7.1 Eyring acceleration model	8
7.2 Failure distribution model	9
7.3 Acceleration factors	9
7.4 Survivor analysis	10
8 Disclaimer	10
Annex A (informative) Step analysis outline	11
Annex B (informative) Example of test plan and data analysis	12
Bibliography	19

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 18921 was prepared by Technical Committee ISO/TC 42, *Photography*.

This second edition cancels and replaces the first edition (ISO 18921:2002), of which it constitutes a minor revision.

The following changes have been made to the first edition:

- modification of definition 3.8 (life expectancy);
- modification of 5.1 on block error rate;
- correction of Equations (1) and (2) in 7.1;
- updating of normative and bibliographical references;
- removal of the original Annex A.

Imaging materials — Compact discs (CD-ROM) — Method for estimating the life expectancy based on the effects of temperature and relative humidity

1 Scope

This International Standard specifies a test method for estimating the life expectancy (LE) of information stored on compact disc (CD-ROM) media, including CD audio, but excluding recordable media. Only the effects of temperature and relative humidity on the media are considered.

2 Normative references

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

ISO/IEC 10149¹⁾, *Information technology — Data interchange on read-only 120 mm optical data disks (CD-ROM)*

3 Terms and definitions

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

3.1

cumulative distribution function

$F(t)$

probability that a random unit drawn from the population fails by time t , or the fraction of all units in the population which fails by time t

3.2

survivor function

$R(t)$

probability that a unit drawn from the population will survive at least time t , or the fraction of units in the population that will survive at least time t

NOTE $R(t) = 1 - F(t)$.

3.3

baseline

condition representing the disc at time of manufacture

NOTE This is customarily the initial parameter measurement taken prior to any application of stress. The designation is usually $t = 0$ for a stress time equal to zero hours.

1) Equivalent to ECMA 130.