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ISO 17514

Time-measuring instruments — Photoluminescent deposits — Test methods and requirements

Instruments de mesure du temps — Dépôts photoluminescents — Méthodes d'essais et exigences

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 114, *Horology*, Subcommittee SC 5, *Luminescence*.

This second edition cancels and replaces the first edition (ISO 17514:2004), which has been technically revised.

The main changes are as follows:

— precisions have been added in the different test methods;

— the method of the ageing resistance test has been changed;

— in 4.2, tests on components and on time-measuring instruments has been separated;

— adhesion tests (refers to ISO 3157 in ISO 17514:2004) have been added in this document.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Luminescent deposits on watch components (hands, dial, bezel) give the possibility to read the time in the dark. Radioluminescent deposits were common in the past but are not used anymore except for certain products under certain conditions which may be the subject of national regulations. Nowadays, photoluminescent products are mainly used. Their properties have been considerably improved these last years.

The present document describes test methods performed only on photoluminescent deposits, including some which were described in ISO 3157 and ISO 4168 concerning radioluminescent deposits, these standards having been withdrawn.

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Time-measuring instruments — Photoluminescent deposits — Test methods and requirements

1 Scope

This document specifies the test methods of various aspects of the photoluminescent deposits applied to time-measuring instruments, together with the requirements related to them.

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 terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
photoluminescent deposit
composite material made of photoluminescent pigment and binding, which can accumulate luminous energy and release it as visible light, and destined to be applied on a support

3.2
luminous intensity
light intensity for a remote observer

Note 1 to entry: This is expressed as nanocandelas (ncd), millicandelas (mcd) are also accepted.

Note 2 to entry: The definition given differs from the definition given in ISO 80000-7 and is used only within the scope of this document.

3.3
luminance
ratio of the light intensity to the surface unit of emission for a remote observer

Note 1 to entry: This is expressed as nanocandelas per square centimetre (ncd/cm^2), millicandelas per square metre (mcd/m^2) are also accepted.

Note 2 to entry: The definition given differs from the definition given in ISO 80000-7 and is used only within the scope of this document.

3.4
legibility
ability to the time-measuring instrument with luminescent items (hands, dial…) to be read distinctly

3.5
legibility limit
minimum *luminous intensity* (3.2) with which indications from the time-measuring instrument can be read distinctly

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