



SLOVENSKI STANDARD SIST EN ISO 18314-4:2024

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Nadomešča:

SIST EN ISO 18314-4:2021

Analizna kolorimetrija - 4. del: Metamerični indeks parov vzorcev pri spremembi vrste svetila (ISO 18314-4:2024)

Analytical colorimetry - Part 4: Metamerism index for pairs of samples for change of illuminant (ISO 18314-4:2024)

Analytische Farbmessung - Teil 4: Metamerie-Index von Probenpaaren bei Lichtartwechsel (ISO 18314-4:2024)

Analyse colorimétrique - Partie 4: Indice de métamérisme de paires d'échantillons pour changement d'illuminant (ISO 18314-4:2024)

Ta slovenski standard je istoveten z: EN ISO 18314-4:2024

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English Version

**Analytical colorimetry - Part 4: Metamerism index for
pairs of samples for change of illuminant (ISO 18314-
4:2024)**

Analyse colorimétrique - Partie 4: Indice de
métamérisme de paires d'échantillons pour
changement d'illuminant (ISO 18314-4:2024)

Analytische Farbmessung - Teil 4: Metamerie-Index
von Probenpaaren bei Lichtartwechsel (ISO 18314-
4:2024)

This European Standard was approved by CEN on 20 October 2023.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 18314-4:2024) has been prepared by Technical Committee ISO/TC 256 "Pigments, dyestuffs and extenders" in collaboration with Technical Committee CEN/TC 298 "Pigments and extenders" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2024, and conflicting national standards shall be withdrawn at the latest by July 2024.

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

This document supersedes EN ISO 18314-4:2021.

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The text of ISO 18314-4:2024 has been approved by CEN as EN ISO 18314-4:2024 without any modification.

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**International
Standard**

ISO 18314-4

**Analytical colorimetry —
Part 4:
Metamerism index for pairs of
samples for change of illuminant**

Analyse colorimétrique —

*Partie 4: Indice de métamérisme de paires d'échantillons pour
changement d'illuminant*

**Second edition
2024-01**

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CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
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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.

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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This document was prepared by Technical Committee ISO/TC 256, *Pigments, dyestuff and extenders*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 298, *Pigments and extenders*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18314-4:2020), which has been technically revised.

The main changes are as follows:

- a brief introduction about differentiation between metamerism and paramerism has been added in [8.1](#);
- [Formula \(1\)](#) has been updated to align with [Formulae \(2\)](#) and [\(4\)](#) to [\(24\)](#);
- the key of [Figure A.1](#) has been updated.

A list of all parts in the ISO 18314 series can be found on the ISO website.

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.

ISO 18314-4:2024(en)

Introduction

This document distinguishes three kinds of metamerism of pairs of samples:

- a) Illuminant metamerism occurs if both of the object colours of a pair of samples are perceived as being the same only under a specific illuminant (e.g. under illuminant D65), while they differ under a different illuminant (e.g. illuminant A).
- b) Observer metamerism occurs if the object colours of a pair of samples are perceived as being the same by one observer, while a different observer perceives a colour difference under the same illuminant and the same reference conditions.

NOTE 1 The observer metamerism is caused by differences between the distributions of spectral colour matching functions of different observers.

- c) Field-size metamerism occurs if both of the object colours of a pair of samples are perceived as being the same on the retina for a size of an observation field (e.g. determined by the 2° standard observer), while they differ for a different observation field on the retina (e.g. 10°).

NOTE 2 The reason for field-size metamerism is based on the existent colour matching functions of an observer during an observation situation. The colour matching functions change with the size of the observation field on the retina. Such change of the observation field can also occur if, for example, the pair of samples is examined from different distances.

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