International Standard

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Plastics — Determination of yellowness index and change in yellowness index

Plastiques — Détermination de l'indice de jaunissement et du changement de l'indice de jaunissement

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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This second edition cancels and replaces the first edition (ISO 17223:2014), which has been technically revised.

The main changes are as follows:

— new terms (3.3 and 3.4) have been added;

— measurement environment conditions have been adapted (see 4.3), and conditioning of test specimens (see 4.2) has been added.

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Plastics — Determination of yellowness index and change in yellowness index

1 Scope

This document specifies an instrumental method for determining the yellowness index and change in yellowness index on clear, translucent, or opaque plastics.

NOTE Change in yellowness index is often used to evaluate the effect of environment, e.g. heat, UV exposure, etc., on colour stability.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 291, *Plastics — Standard atmospheres for conditioning and testing*

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
yellowness index
Y_I
deviation in chroma from colourless or whiteness toward yellow

3.2
change of yellowness index
ΔY_I
difference between yellowness index of specimen before additional test and yellowness index of specimen after additional test

Note 1 to entry: For example, before and after exposure to specified conditions.

3.3
integrating sphere
optical component consisting of a hollow spherical cavity with an inner surface that is covered with a diffuse white reflective coating

3.4
optical geometry
method and angle of incidence of light on the test piece, the method and angle of incidence of light on the light receiver, and combinations of these.

Note 1 to entry: There are two methods of incidence: parallel light incidence and diffuse light incidence.

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