

---

---

**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*

Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)



# Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Preparation and conditioning of samples and test specimens</b> .....	<b>2</b>
4.1 Sample and preparation of test specimen.....	2
4.2 Environment of measurement and standard condition.....	2
<b>5 Procedure</b> .....	<b>2</b>
5.1 General.....	2
5.2 Transmission measurement method for sheet, film, moulded plaque, or disc specimens...	2
5.3 Reflection measurement method for sheet or film specimens.....	3
5.4 Reflection measurement method for pellet or powder specimens.....	3
5.5 Measurement requirements.....	4
<b>6 Expression of results</b> .....	<b>5</b>
6.1 Calculation procedure of yellowness index.....	5
6.2 Calculation procedure of change of yellowness index.....	6
6.3 Precision.....	6
<b>7 Test report</b> .....	<b>9</b>

# Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)

## 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 documents 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

get full document from [standards.iteh.ai](http://standards.iteh.ai)

# Plastics — Determination of yellowness index and change in yellowness index

## 1 Scope

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

NOTE 1 Specimen shapes can include moulded plaques or discs, films, sheets, powders, and pellets. Plaque, disc, film, and sheet specimens can have smooth, matt, or patterned surfaces. Fluorescent plastics are not permitted.

NOTE 2 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, 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.

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ASTM E313, *Standard Practice for Calculating Yellowness and Whiteness Indices from Instrumentally Measured Color Coordinates*

CIE 15, *Colorimetry*

## 3 Terms and definitions

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

### 3.1

#### **yellowness index**

*YI*

deviation in chroma from colourless or whiteness toward yellow

### 3.2

#### **change of yellowness index**

$\Delta YI$

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.