

Third edition
2022-07

Paper and board — Determination of colour by diffuse reflectance —

Part 1: Indoor daylight conditions (C/2°)

Papier et carton — Détermination de la couleur par réflectance diffuse —

Partie 1: Conditions d'éclairage intérieur de jour (C/2°)



Reference number
ISO 5631-1:2022(E)

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Published in Switzerland

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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 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).

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).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 6, *Paper, board and pulps*.

This third edition cancels and replaces the second edition (ISO 5631-1:2015), of which it constitutes a minor revision. The changes are as follows:

- update of the CIE and joint ISO/CIE Normative and Bibliographic references to current versions.

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

The colour of an object can be uniquely characterized by means of a triplet of colour coordinates such as the CIE tristimulus values or the CIELAB 1976 L^* , a^* , b^* coordinates for a specified CIE illuminant and CIE standard observer.

Apart from the optical properties of the sample, the values of such coordinates depend upon the conditions of measurement, particularly the spectral and geometric characteristics of the instrument used. This document should therefore be read in conjunction with ISO 2469.

This document describes the measurement and description of colour in terms of the CIE illuminant C and the CIE 1931 (2°) standard observer. The other parts of the ISO 5631 series describe measurements and calculations carried out in an analogous manner using either the CIE standard illuminant D65 and the CIE 1964 (10°) standard observer or the CIE illuminant D50 and the CIE 1931 (2°) standard observer.

The choice of illuminant conditions is important when determining the colour coordinates of white papers containing a fluorescent whitening agent. In ISO 5631-2, the UV content of the illumination is much higher, approximating UV levels encountered in outdoor viewing conditions.

ISO 5631-3 describes the measurement and description of colour in terms of the CIE illuminant D50 and the CIE 1931 (2°) standard observer. This method is especially applicable to graphic arts situations since these illuminant/observer conditions are used within the graphic arts industry.