
Colour terminology for office colour equipment

Terminologie couleur pour équipement couleur de bureau

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEC 17823:2015](https://standards.iteh.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015)

<https://standards.iteh.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEC 17823:2015](https://standards.iteh.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015)

<https://standards.iteh.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2015, Published in Switzerland

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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Terms and definitions	1
Annex A (informative) Classification of terms according to definitions in previously published International Standards	9
Annex B (informative) Primary colours and typical input in various devices vs market segments	11
Annex C (informative) Alphabetical index	13
Bibliography	15

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO/IEC 17823:2015](https://standards.itih.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015)

<https://standards.itih.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015>

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC 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 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](http://www.iso.org/standards/foreword-supplementary-information)

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

<https://standards.iteh.ai/>

<https://standards.iteh.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015>

Introduction

Technical colour terms have been published in various fields of standards such as colour photography, graphic technology printing and computer graphics. However, no standard colour terms have been published for office equipment.

As a result, misunderstandings between users and colour office equipment providers can occur when terms are interpreted differently.

The purpose of this International Standard is to provide terminology for use by office equipment providers to help customers use their colour equipment effectively.

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO/IEC 17823:2015](https://standards.itih.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015)

<https://standards.itih.ai/catalog/standards/iso/d8b7b4d3-9d51-4a98-83b5-2bd0843916c2/iso-iec-17823-2015>

Colour terminology for office colour equipment

1 Scope

This International Standard provides definitions for colour terms used with office equipment, in particular for use with colour scanning and printing devices that have digital imaging capabilities, including multi-function devices.

This International Standard is not intended to replace terms and definitions published in documents or user interfaces issued or created by manufacturers.

2 Terms and definitions

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

2.1

colour balance

adjustment of colour channel gains or processing

2.1.1

grey balance

set of tone values for cyan, magenta and yellow that are expected to appear as an achromatic grey under specified viewing conditions when printed using the specified printing conditions

Note 1 to entry: The user can choose between the following two practical definitions and one theoretical definition of grey, depending upon the particular context.

a) practical definitions:

- 1) a colour having the same CIELAB a^* and b^* values as the print substrate;
- 2) a colour that has the same CIELAB a^* and b^* values as a half-tone tint of similar L^* value printed with black ink;

b) theoretical definition:

- 1) the colourimetric definition of grey is when the CIELAB a^* and b^* values are both equal to 0.

[SOURCE: ISO/TS 10128:2009, 3.3, modified]

2.2 black

2.2.1

composite black

printing black with multiple colourants

2.2.2

pure black

black generated only in black colourant in a printing device

2.2.3

rich black

black generated by a mixture of black colourant and other colourants in a printing device

2.3

calibration

set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards

[SOURCE: ISO 14807:2001, 3.11]

2.4

colour appearance

aspect of visual perception by which things are recognized by their colour

[SOURCE: CIE S17/E:2011 ILV, 17-199, modified — “2.” part has been removed.]

2.4.1

brightness

attribute of a visual perception according to which an area appears to emit, or reflect, more or less light

[SOURCE: CIE S17/E:2011 ILV, 17-111]

2.4.2

colourfulness

attribute of a visual sensation according to which the perceived colour of an area appears to be more or less chromatic

[SOURCE: ISO/IEC 8613-2:1995]

2.4.3

highlight colour

especially light and low chroma colour

2.4.4

metamerism

phenomenon characterized by the difference in colour observed when two specimens visually matching under a given light source are viewed under another light source with different spectral characteristics

[SOURCE: ISO 4618:2014, 2.157]

2.4.5

vividness

attribute of colour used to indicate the degree of departure of the colour from a neutral black colour

2.5

colour difference

perceived dissimilarity between two colour elements

[SOURCE: CIE S17/E:2011 ILV, 17-206]

2.6 colour encoding

2.6.1

colour palette

fixed set or range of available colours that can be selected

[SOURCE: ISO/TS 16071:2003, 3.8]

2.6.2

full colour

method of representing colours with 3-channel or more, and each channel has 8-bit or more information

Note 1 to entry: Each channel may have 12,16-bit. In “Commercial printing”, there are multi-channel colour reproduction such as “CMYKOG”.

2.6.3**indexed colour
palette colour**

colour selection scheme in which the colour index is used to retrieve colour values from a colour table

[SOURCE: ISO/IEC 8632-1:1999, 4.1.62]

2.6.4**named colour**

colour with associated colour expression specification

2.6.5**spot colour**

single colourant, identified by name, whose printing tone-values are specified independently from the colour values specified in a colour coordinate system

[SOURCE: ISO 12639:2004, 4.1.10]

2.7**colour management**

communication of the associated data required for unambiguous interpretation of colour content data, and application of colour data conversions, as required, to produce the intended reproductions

[SOURCE: ISO 15076-1:2010, 3.1.11]

2.7.1**characterization**

process of relating device-dependent colour values to device-independent colour values

[SOURCE: ISO 12637-2:2008, 2.7]

2.7.2**colour gamut**

volume, area, or solid in a colour space, consisting of all those colours that are either

- a) present in a specific scene, artwork, photograph, photomechanical, or other reproduction, or
- b) capable of being created using a particular output device and/or medium

Note 1 to entry: In reproduction and media applications, only the volume or solid in colour space is regarded as colour gamut. In applications such as signal lighting, the colour gamut is an area.

[SOURCE: CIE S17/E:2011 ILV, 17-211]

2.7.3**gamut mapping**

mapping of the colour space coordinates of the elements of a source image to colour space coordinates of the elements of a reproduction to compensate for differences in the source and output medium colour gamut capability

Note 1 to entry: The term “gamut mapping” is somewhat more restrictive than the term “colour rendering” because gamut mapping is performed on colourimetry that has already been adjusted to compensate for viewing condition differences and viewer preferences, although these processing operations are frequently combined in reproduction and preferred reproduction models.

[SOURCE: ISO 22028-1:2004, 3.22]

2.7.4**International Color Consortium****ICC**

industry association formed to develop standardized mechanisms for colour management

[SOURCE: ISO 15930-3:2002, 3.9]

ISO/IEC 17823:2015(E)

2.7.5

ICC profile

International Color Consortium's file format, used to store transforms from one colour encoding to another

[SOURCE: ISO 22028-1:2004, 3.24, modified — e.g. part has been removed.]

2.7.6

rendering intent

style of mapping colour values from one image description to another

[SOURCE: ISO 15076-1:2010, 3.1.27]

2.8

colour space

geometric representation of colours in space, usually of three dimensions

[SOURCE: ISO 22028-1:2004, 3.13]

2.8.1

colour space encoding

digital encoding of a colour space, including the specification of a digital encoding method, and a colour space value range

Note 1 to entry: Multiple colour space encodings may be defined based on a single colour space where the different colour space encodings have different digital encoding methods and/or colour space value ranges. (For example, 8-bit sRGB and 10-bit e-sRGB are different colour space encodings based on a particular additive RGB colour space.)

[SOURCE: ISO 22028-1:2004, 3.14]

2.8.2

device-dependent colour space

colour space defined by the characteristics of a real or idealized imaging device

Note 1 to entry: Device-dependent colour spaces having a simple functional relationship to CIE colourimetry can also be categorized as colourimetric colour spaces. For example, additive RGB colour spaces corresponding to real or idealized CRT displays can be treated as colourimetric colour spaces.

[SOURCE: ISO 22028-1:2004, 3.17]

2.8.3

device-independent colour space

colour coordinate system defined in terms of the amounts of visual stimuli colour capabilities independent of the specific device characteristics

[SOURCE: ISO 12637-2:2008, 2.47]

2.9

daylight illuminant

illuminant having the same or nearly the same relative spectral power distribution as a phase of daylight

[SOURCE: IEC 60050, 845-03-11]

2.10

dynamic range

difference between peak white and the black level

[SOURCE: ISO 22493:2014, 4.7.2]

2.11 environment