INTERNATIONAL STANDARD

ISO 11978

Third edition
2017-08

AMENDMENT 1
2020-10

Ophthalmic optics — Contact lenses and contact lens care products — Labelling

AMENDMENT 1

Optique ophtalmique — Lentilles de contact et produits d'entretien des lentilles de contact — Étiquetage

AMENDEMENT 1

Reference number
ISO 11978:2017/Amd.1:2020(E)

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

Published in Switzerland

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.

This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

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.

Ophthalmic optics — Contact lenses and contact lens care products — Labelling

AMENDMENT 1

4.1, third paragraph

Replace the third paragraph with the following:

"All written information and symbols intended for the user shall be designed to have a minimum height of 0,7 mm for black text or black symbol on a white background. All other colour combinations shall be designed with a minimum height of 0,7 mm and a contrast of at least 3:1 between the colour of the text or symbol and the colour of the background as computed using the colours' red, green, and blue (RGB) values.

Convert cyan, magenta, yellow and black (CMYK) printed colour values to RGB values using a conversion tool.

NOTE See Annex A for information on and examples for the calculation of contrast between text or symbol and background. Online calculators exist to compute contrast based on RGB values."

Annex A

Add a new Annex A as follows:

Annex A
(informative)

Calculation of contrast between text or symbol and background

A.1 General

This annex provides guidance on calculating contrast between text or symbol and background based on the colour of both the text or symbol and the background.

A.2 Principle

A.2.1 RGB colour space model

The RGB colour space basis is the three colours red, green, and blue. The colour space model utilizes intensity values for each colour to describe a gamut of colours. The gamut is created by adding varying amounts of red, green, and blue. The amounts vary from 0, black, to a set value for the maximum intensity and fully saturated colour. A common scheme is to use 8 bits, the integer values from 0 to 255, to specify the amount of red, green, and blue.

A.2.2 sRGB colour space model

The standard RGB (sRGB) colour space is a device-independent model. The model uses the same colourimetric RGB definitions as the RGB colour space, but further specifies display and reference conditions.

A.3 Computing contrast

A.3.1 General

In the sRGB colour space model with 8-bit values for each colour ranging from 0 to 255, the transformation from RGB 8-bit to sRGB is nonlinear:

$$R'_{sRGB} = R_{8bit}/255$$
$$G'_{sRGB} = G_{8bit}/255 \quad \text{(A.1)}$$
$$B'_{sRGB} = B_{8bit}/255$$

$$\begin{aligned}
&\text{If } R'_{sRGB} \leq 0{,}040\,45 \text{ then } R_{sRGB} = R'_{sRGB}/12{,}92\\
&\text{else } R_{sRGB} = [(R'_{sRGB} + 0{,}055)/1{,}055]\text{^}2{,}4\\
&\text{If } G'_{sRGB} \leq 0{,}040\,45 \text{ then } G_{sRGB} = G'_{sRGB}/12{,}92\\
&\text{else } G_{sRGB} = [(G'_{sRGB} + 0{,}055)/1{,}055]\text{^}2{,}4\\
&\text{If } B'_{sRGB} \leq 0{,}040\,45 \text{ then } B_{sRGB} = B'_{sRGB}/12{,}92\\
&\text{else } B_{sRGB} = [(B'_{sRGB} + 0{,}055)/1{,}055]\text{^}2{,}4
\end{aligned} \quad \text{(A.2)}$$