

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 408

SAFETY COLOURS  
**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO/R 408:1964

<https://standards.iteh.ai/catalog/standards/sist/43c39642-218e-41a7-96d6-de4da9dec5ff/iso-r-408-1964>

1st EDITION

December 1964

COPYRIGHT RESERVED

The copyright of ISO Recommendations and ISO Standards belongs to ISO Member Bodies. Reproduction of these documents, in any country, may be authorized therefore only by the national standards organization of that country, being a member of ISO.

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

## BRIEF HISTORY

The ISO Recommendation R 408, *Safety Colours*, was drawn up by Technical Committee ISO/TC 80, *Safety Colors*, the Secretariat of which is held by the Stichting Nederlands Normalisatie-instituut (NNI).

Work on this question by the Technical Committee began in 1952 and led, in 1961, to the adoption of a Draft ISO Recommendation.

In June 1962, this Draft ISO Recommendation (No. 507) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Belgium	Hungary	Republic of South Africa
Brazil	Ireland	Romania
Canada	Israel	Spain
Chile	Italy	Sweden
Colombia	Japan	Switzerland
Czechoslovakia	Mexico	U.A.R.
Denmark	New Zealand	United Kingdom
France	Norway	U.S.S.R.
Germany	Pakistan	Yugoslavia
Greece	Portugal	

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1964, to accept it as an ISO RECOMMENDATION.

## SAFETY COLOURS

### 1. PURPOSE

This ISO Recommendation defines the meaning and application of a limited number of safety colours and geometrical forms which should be used for the purpose of preventing accidents and meeting certain emergencies.

### 2. SCOPE

Safety colours should attract attention so as to afford a rapid indication of dangers, and to facilitate their identification. They may also be used to indicate the location of devices and equipment of special importance from the point of view of safety.

Safety colours do not by themselves eliminate any danger, and coloured safety instructions cannot be substituted for proper accident prevention measures.

### 3. SAFETY AND AUXILIARY COLOUR

#### 3.1 General meaning assigned to safety colours

Colour	Meaning	Examples of application
<b>Red</b>	Stop harmful activity	Stop signals Fire-fighting equipment and its location Emergency stop devices
<b>Yellow</b>	Attention Danger	Warning of danger Caution signs Inside of machinery guards
<b>Green</b>	Safety	Escape routes and refuges Clear or go signals for persons and vehicles First aid and rescue stations and equipment and their location.*

#### 3.2 General meaning assigned to auxiliary colour blue

Blue may be used as a signalling colour, auxiliary to the safety colours, for purposes of organization, instruction or information.

#### 3.3 Physical definition of the colours

The three safety colours and the auxiliary colour are defined by the standard colorimetric system \*\* of the International Commission on Illumination (CIE).

The specifications are expressed in CIE chromaticity co-ordinates  $x$  and  $y$  and luminance factor  $\beta$  determined under CIE conditions, i.e. source C, direction of illumination normal, direction of viewing  $45^\circ$ .

\* Except when they have been authorized by the national Red Cross society, in which case they are already sufficiently distinguished by the emblem of the society.

\*\* As accepted at the eighth session of the International Commission on Illumination, Cambridge, 1931.

The four colours are defined as follows:

Colour name	CIE chromaticity co-ordinates $x$ and $y$ , luminance factor $\beta$
Safety red	$y < 0.290 + 0.080 x$ $y > 0.920 - x$ $y > 0.559 - 0.394 x$ $y > 0.316$ $0.07 < \beta < 0.15$
Safety yellow *	$x > 0.048 + 0.827 y$ $y > 0.887 - x$ $y > 0.120 + 0.632 x$ $\beta > 0.45$
Safety green	$x > 0.526 - 0.683 y$ $x < 0.410 - 0.317 y$ $y > 0.282 + 0.396 x$ $y < 0.547 - 0.394 x$ $0.15 < \beta < 0.30$
Auxiliary blue	$x < 0.433 - 0.95 y$ $y < 0.64 x + 0.12$ $x > 0.342 - 0.95 y$ $y > 1.26 x - 0.074$ $0.08 < \beta < 0.16$

\* "Safety yellow" is a yellow colour with an orange cast.

### 3.4 Contrasts

The use of white or black is recommended to improve visibility of safety colours by contrast.

### 3.5 Materials used and their application ISO/R 408:1964

The colours should be prepared with materials having an appropriate colour stability under the expected conditions of use.

Safety colours and the auxiliary colour should be applied so as to be clearly visible in all circumstances, and generally on a limited scale, so as not to interfere with colour schemes in which colours are applied to relatively large surfaces.

Safety colours and the auxiliary colour, with or without white or black as contrasts, can be directly applied on objects or on safety signs.

## 4. SAFETY SIGNS

### 4.1 Geometrical forms

If safety colours are used in signs or in certain geometrical forms, the notions "prohibition", "warning" and "instruction and information" should be represented as follows:

Form	Meaning
Circle	Prohibition
Triangle (equilateral, base downward)	Warning
Rectangle	Information

Notices not concerning safety, if coloured, should not show a safety colour.

### 4.2 Symbols and text for safety signs

In order to complete safety signs, certain symbols may be used within the geometrical forms.

If necessary, a written text may be used either within or outside the geometrical forms.