

Masinate ohutus. Visuaalsed ohusignaalid. Üldnõuded, kujundus ja katsetamine

Safety of machinery - Visual danger signals -
General requirements, design and testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 842:1999 sisaldab Euroopa standardi EN 842:1996 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 842:1999 consists of the English text of the European standard EN 842:1996.</p> <p>This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>See Euroopa standard kirjeldab visuaalsete ohusignaalide tajumiskriteeriume rakendamiseks piirkondades, kus inimesed peavad sellist signaali tajuma ja sellele reageerima. Standard määrab kindlaks ohutus- ja ergonoomianõuded ja vastavad füüsilised mõõtmed ning subjektiivse visuaalse kontrollimise korra. Ühtlasi esitab standard suunised signaali kujunduse kohta vastavalt standardi EN 292-2:1991 jaotises 5.3 toodud kirjeldusele, mille kohaselt peavad signaalid olema selgesti tajutavad ja eristatavad.</p>	<p>Scope:</p>
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ICS 13.110

Võtmesõnad:

ICS 13.110

Descriptors: Danger signals, visual signals.

English version

Safety of machinery

Visual danger signals

General requirements, design and testing

Sécurité des machines; signaux visuels de danger; exigences générales, conception et essais

Sicherheit von Maschinen; optische Gefahrensignale; allgemeine Anforderungen, Gestaltung und Prüfung

This European Standard was approved by CEN on 1995-11-30.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Contents

	Page
Foreword	3
1 Scope	3
2 Normative references	4
3 Definitions	4
4 Safety and ergonomic requirements	4
4.1 General	4
4.2 Detectability	5
4.3 Discriminability	7
4.4 Glare	8
4.5 Distance	8
4.6 Duration	8
5 Physical measurements	8
6 Subjective visual check	8
Annex A (informative) Bibliography	9
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU directives	9

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 122 "Ergonomics", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 1996, and conflicting national standards shall be withdrawn at the latest by December 1996.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this standard.

On the international level the International Standard ISO 11428 "Ergonomics - Visual danger signals - General requirements, design and testing" has been prepared by WG 3 "Danger signals and speech communication in noisy environments" of ISO/TC 159/SC 5 "Ergonomics of the physical environment". The technical content of both the European Standard EN 842 and the International Standard ISO 11428 is identical, however the limits of applicability of the standards to other technical fields are different.

Due to the different limits of applicability still existing on the European and international level direct transformation of the International Standard into a European Standard is not possible. The reason is that EN 842 has been prepared in order to fulfil the essential safety and health requirements of annex I of the Council Directive 89/392/EEC of 14 June 1989 on the approximation of the laws of the Member States relating to machinery: Essential health and safety requirements relating to the design and construction of machinery (see annex A of EN 292-2:1991/A1: 1995) and that therefore the limits of applicability of the European Standard is restricted to this Directive.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard describes criteria for the perception of visual danger signals in the area that people are intended to perceive and to react to such a signal. It specifies the safety and ergonomic requirements and the corresponding physical measurements and subjective visual check. It also provides guidance for the design of the signals to be clearly perceived and differentiated as described in 5.3 of EN 292-2 : 1991.

This European Standard does not apply to danger indicators:

- presented in either written or pictorial form;
- transmitted by data display units.

This European Standard does not apply to special regulations such as those for public disaster and public transport.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-2 : 1991/A1 : 1995	Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles and specifications
EN 60073	Coding of indicating devices and actuators by colours and supplementary means (IEC 73:1991)
EN 61310-1	Safety of machinery – Indication, marking and actuation – Part 1: Requirements for visual, auditory and tactile signals (IEC 1310-1 : 1995)
ISO 3864	Safety colours and safety signs

3 Definitions

For the purposes of this standard the following definitions apply:

3.1 visual danger signal: Visual signal indicating imminent onset, or actual occurrence of a dangerous situation, involving risk of personal injury or equipment disaster, and requiring some human response to eliminate or control the danger or requiring other immediate action.

A distinction is made between two types of visual danger signals: visual warning signal and visual emergency signal.

3.1.1 visual warning signal: Visual signal indicating the imminent onset of a dangerous situation requiring appropriate measures for the elimination or control of the danger.

3.1.2 visual emergency signal: Visual signal indicating the beginning or the actual occurrence of a dangerous situation requiring immediate action.

3.2 signal reception area: Area in which the signal is intended to be perceived and reacted upon.

3.3 field of vision (visual field): Physical space visible to an eye in a given position (see also 3.1.10 of ISO 8995 : 1989).

3.4 danger signal light: Light source intended to convey information about the existence of a dangerous situation by means of one or several characteristics, such as luminance¹⁾, colour, shape, location and temporal pattern.

4 Safety and ergonomic requirements

4.1 General

The characteristics of the visual danger signal shall ensure that any person in the signal reception area can detect, discriminate and react to the signal as intended. Visual danger signals shall be:

- clearly seen under all possible lighting conditions;
- clearly discriminated from general lighting and other visual signals;
- allocated a specific meaning within the signal reception area.

Visual danger signals shall take precedence over all other visual signals.

Visual emergency signals shall take precedence over all visual warning signals.

Care shall be taken to review the effectiveness of the visual danger signals at regular intervals and whenever a new signal (whether a danger signal or not) is introduced in the signal reception area.

NOTE 1: A visual danger signal should, if not contradicted by special reasons, be associated with an auditory danger signal. When the danger signal is an emergency signal, auditory and visual signals should be presented together (see EN 981).

¹⁾ As defined in ISO 8995