

**Kaitserõivad. Hoiatusrõivad
mitteprofessionaalseks kasutamiseks.
Katsemeetodid ja nõuded**

Protective clothing - High-visibility clothing for non
professional use - Test methods and requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1150:1999 sisaldab Euroopa standardi EN 1150:1999 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 1150:1999 consists of the English text of the European standard EN 1150:1999.</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>This European Standard specifies the optical performance requirements for high-visibility warning clothing to be worn by adults and by juveniles, and designed for non-professional use. High-visibility clothing for non-professional use is intended to signal the user's presence visually in any daylight condition and, when illuminated by vehicle headlights or search lights in the dark as well as lit up in urban roads.</p>	<p>Scope:</p> <p>This European Standard specifies the optical performance requirements for high-visibility warning clothing to be worn by adults and by juveniles, and designed for non-professional use. High-visibility clothing for non-professional use is intended to signal the user's presence visually in any daylight condition and, when illuminated by vehicle headlights or search lights in the dark as well as lit up in urban roads.</p>
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Võtmesõnad: accident prevention, characteristics, colour, colour fastness, design, garments, grap, labelling, maintenance, marking, personal protective equipment, photometric properties, physical properties, protective clothing, reflecting materials, signalling, tests, visibility

ICS 13.340.10

Descriptors: Protective clothing, visibility clothing, requirements, testing.

English version

Protective clothing

Visibility clothing for non-professional use

Test methods and requirements

Vêtements de protection – Vêtements
de visualisation à utilisation non
professionnelle – Méthode d'essai et
exigences

Schutzbekleidung – Warnbekleidung für
den nicht professionellen Gebrauch –
Prüfverfahren und Anforderungen

This European Standard was approved by CEN on 1998-12-20.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets", 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 July 1999, and conflicting national standards shall be withdrawn at the latest by July 1999.

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.

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

Introduction

This European Standard provides details on the performance of high visibility warning clothing for non-professional use together with minimum areas and placement of material to achieve enhanced conspicuity against most background conditions found in urban and rural situations both day and night.

The area of material is dependant on the size of the wearer and conspicuity is enhanced by high contrast between the garment and the ambient background.

This Standard is not intended to comply with the requirements of clothing used by professionals, attention should be drawn to EN 471 "High-visibility warning clothing", which specifies characteristics and properties for high-visibility warning clothing intended for the work-area, that is for professional use.

A European Standard for requirements and test methods for high-visibility accessories for non-professional use is under preparation.

1 Scope

This Standard specifies the optical performance requirements for high-visibility clothing to be worn by adults and by juveniles, and designed for non-professional use. High-visibility clothing for non-professional use is intended to signal the user's presence visually in any daylight condition and, when illuminated by vehicle headlights or search lights in the dark as well as lit up in urban roads.

This standard is not applicable to accessories to be carried by persons or attached to garments.

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 340

Protective clothing - General requirements

EN 471 : 1994

High-visibility warning clothing

EN 530 : 1994

Abrasion resistance of protective clothing material - Test methods

EN 20105-B02

Textiles - Tests for colour fastness - Part B02: Colourfastness to artificial light (Xenon arc fading lamp test) (ISO 105-B02:1988)

EN 23758

Textiles - Care labelling code using symbols (ISO 3758:1991)

EN ISO 105-C06 : 1997

Textiles - Tests for colour fastness - Part C06: Colour fastness to domestic and commercial laundering (ISO 105-C06:1994)

EN ISO 105-D01

Textiles - Tests for colour fastness - Part D01: Colour fastness to dry cleaning (ISO 105-D01:1993)

EN ISO 105-X11

Textiles - Tests for colour fastness - Part X11: Colour fastness to hot pressing (ISO 105-X11:1994)

EN ISO 3175 : 1995

Textiles - Evaluation of stability to machine dry-cleaning (ISO 3175:1995)

prEN ISO 6330 : 1997

Textiles - Domestic washing and drying procedures for textile testing (ISO/DIS 6330:1997)

ISO 4675

Rubber - or plastics-coated fabrics - Low - temperature bend test

ISO 7854 : 1995

Rubbers - or plastics-coated fabrics - Determination of resistance to damage by flexing

CIE 15.2 : 1986

Colorimetry

CIE 17.4 : 1987

International lighting vocabulary

CIE 54 : 1982

Retroreflection - Definition and measurement

3 Definitions

For the purposes of this standard the definitions for photometric terms according to CIE 17.4 : 1987 and CIE 54 : 1982 and the following definitions apply.

3.1 high-visibility garment

high-visibility garment, worn on the body, arms and the legs, intended to provide conspicuity at all times.

NOTE: Coats, jackets, suits and waistcoats are typically examples for high-visibility garment.

3.2 fluorescent material

material that absorbs optical radiation at shorter wavelengths and emits optical radiation at longer wavelengths.

3.3 background material

coloured fluorescent material intended to be highly conspicuous, but not intended to comply with the requirements of this standard for retroreflective material.

3.4 retroreflective material

material from which the reflected rays are preferentially returned in direction close to the opposite of the direction of the incident rays.

3.5 separate-performance material

material intended to be used as either background or retroreflective material.

3.6 combined-performance material

material intended to exhibit both background and retroreflective properties.

3.7 orientation sensitive material

material having coefficients of retroreflection that differ by more than 15 % when measured at the two rotation angles $\varepsilon_1 = 0^\circ$ and $\varepsilon_2 = 90^\circ$.