# Kaitserõivad. Elektrostaatilised omadused. Osa 1: Pindtakistus (katsemeetodid ja nõuded)

Protective clothing - Electrostatic properties - Part 1: Surface resistivity (test methods and requirements)



## **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1149-
1:1999 sisaldab Euroopa standardi EN
1149-1:1995 ingliskeelset teksti.

Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1149-1:1999 consists of the English text of the European standard EN 1149-1:1995.

This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

#### Käsitlusala:

Käesolev Euroopa standard määrab kindlaks elektrostaatilised nõuded ja testimismeetodid elektrostaatilist elektrit hajutavale kaitseriietusele, et vältida süütelaenguid. Nõuded ei pruugi olla hapnikurikaste süttivate keskkondade korral piisavad ning testimismeetod pole kohaldatav tekstiilmaterjalidele, mille põhiosaks on (voolu)juhtivad kiud. Käesolev standard ei ole kohaldatav vooluvõrgu pingete eest kaitsmise korral.

# Scope:

**ICS** 13.340.10

**Võtmesõnad:** arvutamine, elektrostaatiline kaitse, graafilised sümbolid, individuaalne kaitsevarustus, info, kaitseriietus, konstruktsioon, märgistamine, rõivad, tehnilised andmed, testid, tulekaitse, õnnetuse vältimine

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

FN 1149-1

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ICS 13.340.10

Descriptors: Protective clothing, resistivity, electrostatic properties, testing.

#### **English version**

# Protective clothing

Electrostatic properties

Part 1: Surface resistivity (test methods and requirements)

Vêtements de protection; propriétés électrostatiques. Partie 1: Résistivité de surface (méthodes d'essai et exigences)

Schutzkleidung; elektrostatische Eigenschaften. Teil 1: Oberflächenwiderstand (Prüfverfahren und Anforderungen)

This European Standard was approved by CEN on 1995-09-09.

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.



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

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#### **Foreword**

This European Standard has been prepared by the Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets" of which the secretariat 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 June 1996, and conflicting national standards shall be withdrawn at the latest by June 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.

According to the CEN/CENELEC Internal Regulations, 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 United Kingdom.

#### 0 Introduction

This standard is part of a series of test methods and requirements for electrostatic properties of protective clothing. Different parts are necessary, because of the various fields of application and materials.

#### 1 Scope

This European Standard specifies electrostatic requirements and test methods for electrostatic dissipative protective clothing to avoid incendiary discharges. The requirements may not be sufficient in oxygen enriched flammable atmospheres and the test method is not applicable for fabrics with core conducting fibres. This standard is not applicable for protection against main voltages.

NOTE: Further information is given in the informative annex A.

#### 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: 1993

Protective clothing - General requirements

FN 344

Requirements and test methods for safety, protective and occupational footwear for professional use

ISO 7000: 1989

Graphical symbols for use on equipment - Index and synopsis

#### 3 Definitions

For the purposes of this standard the following definitions apply.

#### 3.1 Homogeneous material

Material, where the electrical properties of the components (threads, layers) do not differ substantially from each other, or a material which contains an intimate blend of conductive fibres.

NOTE: This leads to electrostatic properties independent of the direction of the measurement.

#### 3.2 Inhomogeneous material

Material that contains small quantities of conducting threads, which are distributed discretely in a grid pattern throughout the material; or material that is coated or laminated with polymeric or metallic materials where the electrical properties of the material components differ substantially (e.g. more than a factor of 10) from each other.

#### 3.3 Surface resistance

The resistance in ohms as determined by using specified electrodes placed on the surface of the material.

#### 3.4 Surface resistivity

The resistance in ohms between opposite edges of a square of the material along the surface of the material.

NOTE: The surface resistivity is independent of the electrode dimensions and is calculated by multiplying the measured surface resistance with the appropriate factor.

### 3.5 Protective clothing

Clothing which covers or replaces personal clothing and which is designed to provide protection against one or more hazards (see EN 340).