

## **Kaitserõivad mootorsae kasutajatele. Osa 3: Katsemeetodid jalatsitele**

Protective clothing for users of hand-held chain saws  
- Part 3: Test methods for footwear

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 381-3:1999 sisaldab Euroopa standardi EN 381-3:1996+AC:1995 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 381-3:1999 consists of the English text of the European standard EN 381-3:1996+AC:1995.</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><b>Käsitlusala:</b></p> <p>Selle standardi osas 3 on määratud kindlaks katsetusmeetodid, millega hinnatakse jalatsite vastupidavust käsikettsaagide sisselõigetele. Muude jalalaba- ja säärekaitsevormide, näiteks käsikettsaagide eest kaitsvate kedride katsetusmeetodeid käsitletakse teistes standardites. Standard hõlmab üksnes jalatseid, millel kaitseelemendid on konstruktsiooni osa.</p>	<p><b>Scope:</b></p>
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**ICS** 13.340.50

**Võtmesõnad:** isiklik kaitsevarustus, kaitserõivad, katsetused, kettsaad, labajalg, löögikindlus, saapad, tehnilised andmed, tööriivad, õnnetuste vältimine

ICS 13.340.10

Descriptors: Personal protective equipment, protective clothing, footwear, chain saws, testing.

**English version**

**Protective clothing for users of hand-held chain saws**

**Part 3: Test methods for footwear**

Vêtements de protection pour utilisateurs  
de scies à chaîne tenues à la main.  
Partie 3: Méthodes d'essai des  
chaussures

Schutzkleidung für die Benutzer von  
handgeführten Kettensägen. Teil 3:  
Prüfverfahren für Schuhwerk

This European Standard was approved by CEN on 1995-11-02.

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

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

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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 August 1996, and conflicting national standards shall be withdrawn at the latest by August 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).

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.

## 0 Introduction

This Standard forms part of a series concerned with personal protective equipment designed to protect against the risks arising from the use of hand-held chain saws. No personal protective equipment can ensure a 100% protection against cutting from a hand-held chain saw.

Nevertheless, experience has shown that it is possible to design personal protective equipment which offers a certain degree of protection.

Different functional principles can be applied in order to give protection.

These include:

- chain slipping: on contact, the chain does not cut the material
- clogging: fibres are drawn with the chain into the drive sprocket and block chain movement
- chain braking: fibres have a high resistance to cutting and absorb rotational energy, thereby reducing the chain speed

Often more than one principle is applied.

## 1 Scope

This Standard, Part 3, specifies test methods to be used to assess the resistance of footwear to cutting by hand-held chain saws.

Methods for other forms of foot and leg protection e.g. gaiters against hand-held chain saws will be covered in other standards.

This standard only covers footwear with integral protection.

## 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.

prEN 190<sup>1)</sup> Additional requirements and test methods for safety, protective and occupational footwear for professional use

prEN 191<sup>1)</sup> Additional specifications for safety footwear for professional use

EN 344:1992<sup>1)</sup> Requirements and test methods for safety, protective and occupational footwear for professional use

EN 381-1:1993 Protective clothing for users of hand held chainsaws - Part 1: Test rig for testing resistance to cutting by a chainsaw

<sup>1)</sup> prEN 190 and prEN 191 were submitted to Formal Vote respectively as prEN 344-2 and prEN 345-2. EN 344 will be renumbered into EN 344-1 further to their publication.

ISO 3386-1:1986 Polymeric materials, cellular flexible - Determination of stress-strain characteristic in compression - Part 1: Low-density materials

### 3 Definitions

For the purposes of this standard the following definition apply:

#### 3.1 Footwear with integral protection

Footwear in which the chain saw protective material either comprises the material of the footwear or is permanently attached to the footwear.

### 4 Test specimen

For footwear with metallic toe-caps : Three pairs, size 42 (Paris points), size 8 (UK).

For footwear with non-metallic toe-caps : Four pairs, size 42 (Paris points), size 8 (UK).

### 5 Checking of protective coverage

#### 5.1 Apparatus

Sizing body for laced footwear : A cylindrical - conical - cylindrical body with total height minimum 500 mm and

Ankle cylinder : height  $(76 \pm 1)$  mm : diameter  $(84 \pm 1)$  mm.

Conical section : height  $(274 \pm 1)$  mm.

Upper cylinder : height minimum 150 mm : diameter  $(110 \pm 1)$  mm.

(see figure 1)

#### 5.2 Procedure

Insert the sizing body for laced footwear into the leg of the footwear and tighten any fastenings (e.g. laces or straps) about it. Check that the coverage requirements given in prEN 190 and prEN 191 are fulfilled.

### 6 Testing of resistance to cutting

#### 6.1 Apparatus

##### 6.1.1 Test rig

The test rig is described in EN 381-1 with additional elements to fulfill clause 6.2.

##### 6.1.2 Footwear mounting devices

###### 6.1.2.1 Base

A base for mounting the footwear, capable of holding the footwear in the required positions.

The base may have holes (for bolts) or devices for fixing the footwear. Such devices shall not interfere with the chain saw protective material of the footwear.