

**Masinate ohutus. Minimaalsed vahekaugused  
vältimaks inimese kehaosade muljumisohtu  
KONSOLIDEERITUD TEKST**

Safety of machinery - Minimum gaps to avoid crushing  
of parts of the human body CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 349:1998+A1:2008 sisaldab Euroopa standardi EN 349:1993+A1:2008 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 18.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 25.06.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 349:1998+A1:2008 consists of the English text of the European standard EN 349:1993+A1:2008.

This standard is ratified with the order of Estonian Centre for Standardisation dated 18.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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**Võtmesõnad:** inimese keha, masinate ohutus, minimaalne vahekaugus, riskid, õnnetuste vältimine

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English Version

## Safety of machinery - Minimum gaps to avoid crushing of parts of the human body

Sécurité des machines - Ecartements minimaux pour prévenir les risques d'écrasement de parties du corps humain

Sicherheit von Maschinen - Mindestabstände zur Vermeidung des Quetschens von Körperteilen

This European Standard was approved by CEN on 2 April 1993 and includes Amendment 1 approved by CEN on 18 May 2008.

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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 CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 349:1993+A1:2008) has been prepared by Technical Committee CEN/TC 114 "Safety of machinery", 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of an identical text or by endorsement, at the latest by December 2008, and conflicting national standards shall be withdrawn at the latest by December 2008.

This document includes Amendment 1, approved by CEN on 2008-05-18.

This document supersedes EN 349:1993.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A1**.

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

**A1** For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

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

## Introduction

According to EN 292-1, in general, machinery is said to be safe if it can perform its function, be transported, installed, adjusted, maintained, dismantled and disposed of under the conditions of its intended use without causing injury or damaging health.

One method of avoiding the hazard of crushing of parts of the human body is to make use of the minimum gaps in this standard.

In specifying minimum gaps a number of aspects have to be taken into consideration, such as

- accessibility of the crushing zones;
- anthropometric data, taking into account ethnic groups likely to be found in European countries;
- technical and practical aspects.

If these aspects are further developed, the current state of the art, reflected in this European Standard, could be improved.

## 1 Scope

The object of this European Standard is to enable the user (e.g. standard makers, designers of machinery) to avoid hazards from crushing zones. It specifies minimum gaps relative to parts of the human body and is applicable when adequate safety can be achieved by this method.

This European Standard is applicable to risks from crushing hazards only and is not applicable to other possible hazards, e.g. impact, shearing, drawing-in.

NOTE For e.g. impact, shearing, drawing-in hazards, additional or other measures need to be taken

## 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 292-1:1991, *Safety of machinery, basic concepts, general principles for design — Part 1: Basic terminology, methodology*

EN 292-2, *Safety of machinery, basic concepts, general principles for design — Part 2: Technical principles and specifications*

EN 294, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs*