Masinate ohutus. Inimkeha mõõtmed. Osa 2: Juurdepääsuavade nõutavate mõõtmete määramise põhialused KONSOLIDEERITUD TEKST

Safety of machinery - Human body measurements - Part 2: Principles for determining the dimensions required for access openings CONSOLIDATED TEXT



#### **EESTI STANDARDI EESSÕNA**

#### **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 547-2:1999+A1:2008 sisaldab Euroopa standardi EN 547-2:1996+A1:2008 ingliskeelset teksti.

This Estonian standard EVS-EN 547-2:1999+A1:2008 consists of the English text of the European standard EN 547-2:1996+A1:2008.

Standard on kinnitatud Eesti Standardikeskuse 27.10.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

This standard is ratified with the order of Estonian Centre for Standardisation dated 27.10.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 24.09.2008.

Date of Availability of the European standard text 24.09.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

The standard is available from Estonian standardisation organisation.

ICS 13.110, 13.180

**Võtmesõnad:** avad, avaused, ergonoomiline masinaehitus, inimkeha, pordid, seadmeohutus, töötajad, õnnetuste vältimine

#### Standardite reprodutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

## EUROPEAN STANDARD

## NORME EUROPÉENNE

### **EUROPÄISCHE NORM**

September 2008

EN 547-2:1996+A1

ICS 13.110; 13.180

Supersedes EN 547-2:1996

#### **English Version**

# Safety of machinery - Human body measurements - Part 2: Principles for determining the dimensions required for access openings

Sécurité des machines - Mesures du corps humain - Partie 2: Principes de détermination des dimensions requises pour les orifices d'accès Sicherheit von Maschinen - Körpermaße des Menschen -Teil 2: Grundlagen für die Bemessung von Zugangsöffnungen

This European Standard was approved by CEN on 15 November 1996 and includes Amendment 1 approved by CEN on 14 August 2008.

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

CEN members are the national standards bodies of 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.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

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Cont		Page
Foroug	ord	•
	uction	
	Scope	
1		
2	Normative references	
3	General requirements	
4	Access openings	5
	A (normative) Application of the measurements in practice	11
A.0	Introduction	11
A.1	Principles for determining additional space	11
A.2	Additional space requirements for access openings	
A.2.1 A.2.2	Access opening for the upper body and arms (see 4.1)	
A.2.2 A.2.3	Access opening for the head up to the shoulders for inspection tasks (see 4.2)	
A.2.3 A.2.4	Access opening for both lower arms up to elbow (see 4.4)	
A.2.4 A.2.5	Access opening to the side for one arm up to shoulder joint (see 4.5)	
A.2.6	Access opening for a lower arm up to the elbow (see 4.6)	
A.2.7	Access opening for fist (see 4.7)	13
A.2.8	Access opening for flat hand to wrist, including thumb (see 4.8)	13
A.2.9	Access opening for flat hand (four fingers) to base of thumb (see 4.9)	13
	Access opening for index finger, restricted by the other fingers (see 4.10)	
	Access opening for one foot to ankle bone (see 4.11)	
	Access opening for forefoot operated controls (see 4.12)	
	B (informative) Position of access openings	
		15
B.1	This Annex gives information on the position of access openings to facilitate access for the intended user population.	4 6
B.2	Provision for adjustability	
в.2 В.3	Conditions to be met with in location of access openings	
в.з В.3.1	Access opening for the upper body and arms (see 4.1)	13 16
B.3.1	Access opening for the head as far as the shoulders for inspection tasks (see 4.2)	10
B.3.2	Access opening for both arms (either forward or downward) (see 4.3)	17 18
B.3.4	Access opening for both lower arms up to the elbow, either forward or downward (see	10
D.U	4.4)	19
B.3.5	Opening for access to the side for one arm up to the shoulder joint (see 4.5)	
B.3.6	Access opening for one lower arm up to the elbow (see 4.6)	
B.3.7	Access opening for fist (see 4.7)	22
B.3.8	Access opening for flat hand to wrist, including thumb (see 4.8)	22
B.3.9	Access opening for flat hand (four fingers) to base of thumb (see 4.9)	
B.3.10		
B.3.11		
B.3.12	Access opening for forefoot operated controls (see 4.12)	22
Annex	C (informative) Notations for dimensions and anthropometric body measurements	23
Annex	ZA (informative) A Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC, amended by 98/79/EC 4	25
Annex	ZB (informative)    Relationship between this European Standard and the Essential	
	Requirements of EU Directive 2006/42/EC 例	
Diblica	uranhy.	27

#### **Foreword**

This document (EN 547-2:1996+A1:2008) 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 March 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-08-14.

This document supersedes EN 547-2:1996.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A].

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 Annexes ZA and ZB, which are integral parts of this document. (4)

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

This European Standard is one of several ergonomics standards for the safety of machinery. EN 614-1 "Safety of machinery – Ergonomic design principles – Part 1: Terminology and general principles" describes the principles designers should adopt in order to take account of ergonomic factors.

This European Standard describes how these principles should be applied to the design of access openings.

This standard has been prepared to be a harmonized standard in the sense of the Machinery Directive and associated EFTA regulations.

#### 1 Scope

This European Standard specifies the dimensions of openings for access as applied to machinery as defined in EN 292-1. It provides the dimensions to which the values given in EN 547-3 are applicable. Values for additional space requirements are given in annex A. This European Standard has been prepared primarily for non-mobile machinery, there may be additional specific requirements for mobile machinery.

Dimensions for access openings are based on the values for the 95<sup>th</sup> percentile, whereas reach distances are based on the values for the 5<sup>th</sup> percentile, in each case the least favourable body dimension of the expected user population being used as a basis. The same considerations apply to the location of access openings.

The anthropometric data given in EN 547-3 originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions.

This European Standard shows how to combine the anthropometric data with suitable allowances to take these factors into account.

Situations where people are to be prevented from reaching a hazard are dealt with in EN 294.

#### 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, Safety of Machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology.

EN 294, Safety of Machinery - Safety distances to prevent danger zones being reached by the upper limbs.

EN 547-3, Safety of Machinery – Human body measurements – Part 3: Anthropometric data.

EN 614-1, Safety of Machinery - Ergonomic design principles – Part 1: Terminology and general principles.