Irish Standard
I.S. EN 12417:2001+A2:2009

Machine tools - Safety - Machining centres

I.S. EN 12417:2001+A2:2009

Incorporating amendments/corrigenda/National Annexes issued since publication:

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12417:2001+A2:2009/AC

March 2010
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English version
Version Française
Deutsche Fassung

Machine tools - Safety - Machining centres

Machines-outils - Sécurité - Centres d'usinage

Werkzeugmaschinen - Sicherheit - Bearbeitungszentren

This corrigendum becomes effective on 10 March 2010 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 10 mars 2010 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 10.März 2010 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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1 Modifications to Clause 2

Replace "EN ISO 4871:1997" *with* "EN ISO 4871:1996".

Replace "EN ISO 11204:1996" *with* "EN ISO 11204:1995".

2 Modification to 5.2

Table 2, 2nd column, row entitled "**2.1 Direct contact**", *4th line, replace* "see 5.3" *with* "see 6.2".

3 Modification to 7.3

2nd paragraph, 3rd line, replace "EN ISO 4871:1997" *with* "EN ISO 4871:1996".

4 Modification to Annex D

7th dash, 2nd line, replace "EN ISO 11204:1996" *with* "EN ISO 11204:1995".

I.S. EN 12417:2001

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Machine tools - Safety - Machining centres

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This European Standard was approved by CEN on 9 June 2001 and includes Amendment 1 approved by CEN on 3 February 2006 and Amendment 2 approved by CEN on 29 December 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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Contents

Page

Foreword

This document (EN 12417:2001+A2:2009) has been prepared by Technical Committee CEN/TC 143 "Machine tools - Safety", the secretariat of which is held by SNV.

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 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2006-02-03 and Amendment 2, approved by CEN on 2008-12-29.

This document supersedes EN 12417:2001.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟨A1⟩ ⟨A1⟩ and ⟨A2⟩ ⟨A2⟩.

Annex A is normative. Annexes B to D and ZA ⟨A2⟩ and ZB ⟨A2⟩ are informative.

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 EC Directive(s).

⟨A2⟩ For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. ⟨A2⟩

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 a type C standard as stated in EN 292–1.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence.

Machining centres present a wide range of hazards, not least from their wide application as rotating tool, 'stationary' workpiece machine tools, for general purpose cutting of cold metal work material.

Protection of operators and other persons from contact with moving cutting tools, especially when being rapidly rotated in the spindle, or being swung from a tool magazine to the spindle during power-operated tool changing, or from contact with fast–moving workpieces, is of great importance.

When power–operated mechanisms are provided for workpiece transfer, they can also create hazardous situations during loading/unloading and workpiece alignment or clamping.

Total enclosure of the work zone using guards during cutting is practicable for smaller machines. The requirements for access to the work zone of large machines used for the processing of a wide range of workpiece configurations can require that operators are safeguarded by other means (e.g. perimeter fencing, protective devices at the operating position).

Pendant controls enable operators to move around the machine, especially large machines, and to view the work zone, the load/aligning, clamping, cutting, or unloading operations, maneuvering the pendant control as they move.

The significant hazards covered by this standard are those listed in clause 4. The safety requirements and/or protective measures to prevent or minimize those hazards identified in Table 1 and procedures for verification of these requirements or measures are found in clause 5.

The figures in annex C are examples only and are not intended to illustrate the only interpretation of the text.

1 Scope

1.1 This standard specifies the technical safety requirements and protective measures to be adopted by persons undertaking the design, construction and supply (including installation and dismantling, with arrangements for transport and maintenance) of machining centres (see 3.1).

1.2 This standard takes account of intended use including reasonably foreseeable misuse, maintenance, cleaning, and setting operations. It presumes access to the machine from all directions. It describes means to reduce risks to operators and other exposed persons.

1.3 This standard also applies to the workpiece transfer devices when they form an integral part of the machine.

1.4 This standard deals with significant hazards relevant to machining centres when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4).

1.5 Hazards arising from other metal working processes (e.g. grinding, turning, forming, EDM, laser processing) are covered by other standards (see Bibliography).

1.6 This standard applies to machines which are manufactured after (its date of publication).

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 (including amendments).

EN 292-1:1991, *Safety of machinery - Basic concepts, general principles for design – Part 1: Basic terminology, methodology*

EN 292-2:1991 and EN 292-2/A1:1995, *Safety of machinery - Basic concepts, general principles for design – Part 2: Technical principles and specifications*

EN 294:1992, *Safety of machinery – Safety distances to prevent danger zones being reached by the upper limbs*

EN 349:1993, *Safety of machinery – Minimum gaps to avoid crushing of parts of the human body*

EN 547:1996, *Safety of machinery – Human body measurements –*
Part 1: Principles for determining the dimensions required for openings for whole body access into machinery
Part 2: Principles for determining the dimensions required for access openings
Part 3: Anthropometric data

EN 574:1996, *Safety of machinery - Two hand control devices – Functional aspects – Principles for design*

EN 614, *Safety of machinery - Ergonomic design principles –*
Part 1: Terminology and general principles
Part 2: Interaction between machinery design and work tasks

EN 626-1:1994, *Safety of machinery – Reduction of risks to health from hazardous substances emitted by machinery – Part 1: Principles and specifications for machinery manufacturers*