

**Masinate ohutus. Ootamatu käivitumise  
vältimine**

Safety of machinery - Prevention of unexpected  
start-up

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1037:2004 sisaldab Euroopa standardi EN 1037:1995 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 12.01.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1037:2004 consists of the English text of the European standard EN 1037:1995.

This standard is ratified with the order of Estonian Centre for Standardisation dated 12.01.2004 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 13.110

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Descriptors: Machinery, safety.

**English version**

**Safety of machinery**  
**Prevention of unexpected start-up**

Sécurité des machines; prévention de la  
mise en marche intempestive

Sicherheit von Maschinen; Vermeidung  
von unerwartetem Anlauf

This European Standard was approved by CEN on 1995-07-14.

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

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## Contents

	Page
<b>Foreword</b> .....	3
<b>0 Introduction</b> .....	3
<b>1 Scope</b> .....	4
<b>2 Normative references</b> .....	4
<b>3 Definitions</b> .....	4
3.1 start-up (machine start-up) .....	4
3.2 unexpected [unintended] start-up .....	5
3.3 isolation and energy dissipation .....	5
<b>4 General</b> .....	6
4.1 Isolation and energy dissipation .....	6
4.2 Other means to prevent unexpected [unintended] start-up .....	6
<b>5 Devices for isolation and energy dissipation</b> .....	6
5.1 Devices for isolation from power supplies .....	6
5.2 Locking [securing] devices .....	7
5.3 Devices for stored energy dissipation or restraint [containment] .....	7
5.4 Verification .....	8
<b>6 Measures – other than isolation and energy dissipation – intended to prevent unexpected start-up</b> .....	9
6.1 Design strategy .....	9
6.2 Measures intended to prevent accidental generation of start commands .....	9
6.3 Measures intended to prevent accidental start commands resulting in an unexpected start-up .....	11
6.4 Automatic monitoring of the category 2 stopped condition .....	13
<b>Annex A (informative) Examples of tasks which can require the presence of persons in danger zones</b> .....	14
<b>Annex B (informative) Signalling, warning</b> .....	14
<b>Annex C (informative) Bibliography</b> .....	15

## Foreword

This European standard has been prepared by CEN/TC 114 "Safety of machinery" (whose secretariat is held by DIN), in close cooperation with CENELEC/TC 44 X "Safety of machinery - Electrotechnical aspects".

The drafting was carried out by a working group of CEN/TC 114 (WG 9) with participation of experts from CENELEC/TC 44 X.

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 the European Commission and the European Free Trade Association, and supports essential requirements of the EU Machinery Directive.

It is in relationship with, in particular, the essential safety requirements expressed in following clauses of Annex A of EN 292-2:1991 : 1.2.3 "Starting", 1.2.6 "Failure of the power supply", 1.2.7 "Failure of the control circuit", 1.6.3 "Isolation of energy sources" and 1.6.4 "Operator intervention".

This standard is a type B1 standard in accordance with EN 414.

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 the United Kingdom.

## 0 Introduction

Keeping a machine in a stopped condition while persons are present in danger zones is one of the most important conditions of the safe use of machinery and hence one of the major aims of the machine designer and machine user.

In the past, the concepts of "operating machine" and "stopped machine" were generally unambiguous; a machine was :

- operating when its movable elements, or some of them, were moving;
- stopped when its movable elements were at rest.

Machine automation has made the relationship between "operating" and "moving" on the one hand, "stopped" and "at rest" on the other hand, more difficult to define. Automation has also increased the potential for unexpected start-up, and there are a significant number of accidents where machines, stopped for diagnostic work or corrective actions, started up unexpectedly.

Hazards other than mechanical hazards generated by movable elements (e.g. from a laser beam) also need to be taken into account.

The risk assessment relating to the presence of persons in a danger zone of a stopped machine needs to take into account the probability of an unexpected start-up of the hazard-generating machine elements.

This standard provides machine designers and technical committees in charge of preparing machinery safety standards with a survey of built-in measures intended to prevent unexpected start-up.

## 1 Scope

This standard specifies built-in safety measures aimed at preventing unexpected machine start-up (see 3.2) to allow safe human interventions in danger zones (see annex A).

This standard applies to unexpected start-up from all types of energy source, i.e. :

- power supply, e.g. electrical, hydraulic, pneumatic;
- stored energy due to, e.g., gravity, compressed springs;
- external influences, e.g. from wind;

## 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 292-2:1991	Safety of machinery – Basic concepts – General principles for design - Part 2 : Technical principles and specifications
prEN 1050 <sup>1)</sup>	Safety of machinery – Principles for risk assessment
ENV 1070	Safety of machinery – Terminology
EN 60204-1:1992	Safety of machinery – Electrical equipment of machines – Part 1 : General requirements

## 3 Definitions

For the purposes of this standard, the definitions given in ENV 1070 "Safety of machinery - Terminology" apply, together with the following.

### 3.1 start-up (machine start-up)

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<sup>1)</sup> Draft standard prepared by CEN/TC 114/WG 14