



SLOVENSKI STANDARD
SIST EN ISO 10472-2:2000

01-junij-2000

Varnostne zahteve za industrijske stroje za nego perila - 2. del: Pralniki in ožemalniki (ISO 10472-2:1997)

Safety requirements for industrial laundry machinery - Part 2: Washing machines and washer-extractors (ISO 10472-2:1997)

Sicherheitsanforderungen für industrielle Wäschereimaschinen - Teil 2: Wasch- und Waschsleudermaschinen (ISO 10472-2:1997)

Exigences de sécurité pour les machines de blanchisserie industrielle - Partie 2: Machines à laver et laveuses-essoreuses (ISO 10472-2:1997)

Ta slovenski standard je istoveten z: EN ISO 10472-2:1997

ICS:

97.060 Aparati za nego perila Laundry appliances

SIST EN ISO 10472-2:2000 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 10472-2:2000

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 10472-2

December 1997

ICS 97.060

Descriptors: see ISO document

English version

**Safety requirements for industrial laundry machinery - Part 2:
Washing machines and washer-extractors (ISO 10472-2:1997)**

Exigences de sécurité pour les machines de blanchisserie
industrielle - Partie 2: Machines à laver et laveuses-
essoreuses (ISO 10472-2:1997)

Sicherheitsanforderungen für industrielle
Wäschereimaschinen - Teil 2: Wasch- und
Waschschleudermaschinen (ISO 10472-2:1997)

This European Standard was approved by CEN on 21 December 1997.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 10472-2:2000

<https://standards.iteh.ai/catalog/standards/sist/cbf94bb1-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

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

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

Foreword

The text of the International Standard ISO 10472-2:1997 has been prepared by Technical Committee ISO/TC 72 "Textile machinery and machinery for dry-cleaning and industrial laundering" in collaboration with Technical Committee CEN/TC 214 "Textile machinery and machinery for dry-cleaning and industrial laundry", 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 June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10472-2:1997 was approved by CEN as a European Standard without any modification.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 10472-2:2000

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b86811111/iso-10472-2-2000>



Page 2
EN ISO 10472-2:1997

Foreword

CORRECTED 1998-04-09

The text of the International Standard ISO 10472-2:1997 has been prepared by Technical Committee ISO/TC 72 "Textile machinery and machinery for dry-cleaning and industrial laundering" in collaboration with Technical Committee CEN/TC 214 "Textile machinery and machinery for dry-cleaning and industrial laundry", the secretariat of which is held by SNV.

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 Annex ZB, which is an integral part of this standard.

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

Endorsement notice

The text of the International Standard ISO 10472-2:1997 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10472-2:2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

Annex ZA (normative)**Normative references to international publications
with their relevant European publications**

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 10472-1	1997	Safety requirements for industrial laundry machinery - Part 1: Common requirements	EN ISO 10472-1	1997

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10472-2:2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)
<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

Annex ZB (informative)

Relationship of this European Standard with EU Directives

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 Directives:

Machinery Directives 89/392/EEC,
its amendments 91/368/EEC and 93/44/EEC,
Low Voltage Directive 73/23/EEC

Compliance with this standard provide one means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[SIST EN ISO 10472-2:2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)
<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10472-2:2000](#)

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

**Safety requirements for industrial laundry
machinery —**

Part 2:
Washing machines and washer-extractors

*Exigences de sécurité pour les machines de blanchisserie industrielle —
Partie 2: Machines à laver et laveuses-essoreuses*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10472-2:2000
https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-
8f3b8682032c/sist-en-iso-10472-2-2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)



Contents

	Page	
1	Scope.....	1
2	Normative references.....	1
3	Definitions.....	2
4	Hazards.....	4
5	Safety requirements and/or measures for the hazards identified in clause 4.....	5
5.1	General.....	5
5.2	Mechanical hazards.....	6
5.2.1	Rotating cage.....	6
5.2.2	Manual drum doors.....	6
5.2.3	Doors (cage and drum).....	6
5.2.4	Cage doors.....	6
5.2.5	Power-operated drum doors.....	6
5.2.6	Loss of stability.....	7
5.2.7	Suspended washer-extractors.....	8
5.2.8	Falling load and loading devices.....	8
5.3	Electrical hazards.....	8
5.4	Thermal hazards.....	8
5.4.1	Hot liquor.....	8
5.4.2	Hot surfaces.....	9
5.4.3	Heat energy.....	9
5.4.4	Viewing panels.....	9
5.5	Hazards generated by noise.....	9
5.6	Hazards associated with materials and substances.....	9
5.6.1	Aggressive chemical action.....	9
5.6.2	Fire and explosion.....	9
5.6.3	Biological hazards.....	10
5.7	Hazards due to neglect of ergonomic principles in machines design.....	10
5.8	Failure of energy supply and control systems.....	10
5.8.1	Failure of energy supply.....	10
5.8.2	Failure of control systems.....	10
5.9	Hazards caused by unexpected ejection of machine parts.....	10
5.10	Particular hazards associated with barrier machines.....	11
5.11	Particular hazards associated with tilting machines.....	11
5.11.1	Tilting controlled manually.....	11
5.11.2	Automatic tilting.....	11
5.11.3	Loading and unloading.....	11
5.11.4	Overturning.....	12
5.11.5	Maintenance.....	12
6	Verification of safety requirements and/or measures.....	12
7	Information concerning machine use.....	19

ITeh STANDARD PREVIEW
 (standards.iteh.ai)
 SIST EN ISO 10472-2:2000
<https://standards.iteh.ai/catalog/standards/sist/cb194b61-71eb-4dc4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

© ISO 1997

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
 Case postale 56 • CH-1211 Genève 20 • Switzerland
 Internet central@iso.ch
 X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland



Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10472-2 was prepared by Technical Committee ISO/TC 72, *Textile machinery and machinery for dry-cleaning and industrial laundering*, Subcommittee SC 5, *Industrial laundry and dry-cleaning machinery*.

ISO 10472 consists of the following parts, under the general title *Safety requirements for industrial laundry machinery*:

- *Part 1: Common requirements*
- *Part 2: Washing machines and washer-extractors*
- *Part 3: Washing tunnel lines including component machines*
- *Part 4: Air dryers*
- *Part 5: Flatwork ironers, feeders and folders*
- *Part 6: Ironing and fusing presses*

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 10472-2:2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>

Introduction

This part of ISO 10472 is intended to instruct the designer of industrial laundry machinery in a systematic manner, focusing on his particular type of machine, regarding the relevant essential safety requirements, and to suggest possible state-of-the-art safety solutions.

The extent to which hazards are covered is indicated in the scope of this part of ISO 10472. In addition, machinery should comply as appropriate with ISO/TR 12100-1 and ISO/TR 12100-2 for hazards which are not specifically referred to in this part of ISO 10472.

All examples given in this part of ISO 10472 represent the state of the art. Equivalent solutions are acceptable, provided they attain at least the same safety level.

The designer is presumed to have taken into account all the provisions of ISO 10472-1 before considering this part of ISO 10472.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10472-2:2000](https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000)

<https://standards.iteh.ai/catalog/standards/sist/ebf94b61-71eb-4de4-801c-8f3b8682032c/sist-en-iso-10472-2-2000>