
**Safety requirements for industrial laundry
machinery —**

Part 5:
Flatwork ironers, feeders and folders

*Exigences de sécurité pour les machines de blanchisserie industrielle —
Partie 5: Sécheuses-repasseuses, engageuses et plieuses*



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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 10472-5 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*

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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.

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Safety requirements for industrial laundry machinery —

Part 5:

Flatwork ironers, feeders and folders

1 Scope

This part of ISO 10472 covers, together with ISO 10472-1, most significant hazards associated with flatwork ironers, feeders and folders, such as:

- cylinder and bed ironers for flatwork finishing having a contact area (for bed ironers under pressure) > 0,25 m²;
- flatwork feeding machines for the automatic feeding of flatwork into bed or cylinder ironers, or directly to folders;
- flatwork folding machines for the automatic folding of flatwork in association with cylinder and bed ironers;
- folding machines for the automatic folding of small pieces (excluding endless towels);
- multi-function machines.

This part of ISO 10472 complements the basic requirements as laid down in ISO/TR 12100-1 and ISO/TR 12100-2. It also gives guidance to the designer on assessing the risks associated with the hazards (see EN 1050) and on selecting measures for attaining the required safety level.

This part of ISO 10472 does not apply to ancillary equipment, e. g. chemical supply pumps, steam valves and supply pipe work, vent systems, work feed systems and discharge systems and ducting to the atmosphere.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10472. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this part of ISO 10472 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 10472-1:1997, *Safety requirements for industrial laundry machinery — Part 1: Common requirements.*

ISO 11111:1995, *Safety requirements for textile machinery.*

ISO/TR 12100-1:1992, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology.*

ISO/TR 12100-2:1992, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications.*

ISO 13849-1:—¹⁾, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design.*

1) To be published.

ISO 13852:1996, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs.*

ISO 14120-1:1998, *Safety of machinery — Interlocking devices associated with guards —*

IEC 335-1:1991, *Safety of household and similar electrical appliances — Part 1: General requirements.*

IEC 335-2-44:1987, *Safety of household and similar electrical appliances — Part 2: Particular requirements for electric ironers.*

EN 953:1997, *Safety of machinery — General requirements for the design and construction of guards (fixed, movable).*

EN 1050:1996, *Safety of machinery — Risk assessment.*

EN 60204-1:1992, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements.* [IEC 204-1:1992, modified]

3 Definitions

For the purposes of this part of ISO 10472, the following definitions apply:

3.1

flatwork

Textile article (e.g. a bed sheet) which can be satisfactorily dried and smoothed by being passed through a flatwork ironing machine.

3.2

bed ironer

Machine for the ironing of flatwork generally providing a heated bed against which the work is pressed by one or several fabric-covered roller(s).

3.3

cylinder ironer

Machine for the ironing of flatwork in which the work to be treated is drawn against one or more heated cylinder(s) where it is held by means of an appropriate system, for example by bands.

3.4

flatwork feeding machine

Machine, into which operator(s) load damp unfinished flatwork items, that presents the items, tensioned and spread to the feed-bands of an ironer or to a folding machine.

NOTE — This machine is also used for feeding blankets, polyester sheets and similar items to folding machines.

3.5

spreader carrier

Mechanism consisting of clamp(s) for take-up and spreading of flatwork to prepare it for the feeding operation.

3.6

flatwork folding machine

Machine generally fitted in conjunction with an ironer which will automatically fold flatwork items.

NOTE — This machine is also used for folding blankets, polyester sheets and similar items.

1) To be published.