INTERNATIONAL STANDARD

ISO 11111-7

First edition
2005-02-15

AMENDMENT 1
2009-07-01

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Textile machinery — Safety requirements —

Part 7: Dyeing and finishing machinery

AMENDMENT 1

Matériel pour l'industrie textile — Exigences de sécurité —

Partie 7: Machines de teinture et de finissage

AMENDEMENT 1

Reference number
ISO 11111-7:2005/Amd.1:2009(E)

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 11111-7:2005 was prepared by Technical Committee ISO/TC 72, *Textile machinery and accessories*, Subcommittee SC 8, *Safety requirements for textile machinery*.

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AMENDMENT 1

Page vi, Introduction

Replace “ISO 14121” in the fifth paragraph with “ISO 14121-1”.

Page 1, Normative references

Replace the reference to ISO 11111-1:2005 with the following:

ISO 11111-1:2009, *Textile machinery — Safety requirements — Part 1: Common requirements*

Replace the reference to ISO 13849-1:1999 with the following:

ISO 13849-1:2006, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

Replace the reference to ISO 13852:1996 with the following:

ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

Delete“:2004” from the reference to IEC 60519.

Replace the reference to IEC 60519-9:1987 with the following:

IEC 60519-9:2005, *Safety in electroheat installations — Part 9: Particular requirements for high-frequency dielectric heating installations*

Add the following reference:

IEC 62061:2005, *Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems*, corrected by IEC 62061:2005 Corr.1:2005

Clauses 1 to 7

Throughout the text, replace all the dated references to “ISO 11111-1:2005” with “ISO 11111-1:2009”.

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Page 2, 5.1

Replace 5.1 with the following:

5.1 General

5.1.1 Machinery

Machinery shall conform to the safety requirements of ISO 11111-1:2009, Clauses 5 and 6, whenever referred to under the heading “General safety requirements” of Clause 5 and shall conform to the additional “Specific safety requirements” of Clause 5.

The safety requirements of ISO 11111-1:2009, 5.4.6.1, apply to steam pipes and their fittings. For external surfaces of equipment containing hot liquids, a warning is considered to be acceptable.

5.1.2 Rollers at special textile finishing machines

NOTE The term “roller” includes driven rollers (draw rollers), guide rollers, uncurling rollers and similar rollers, independently whether driven directly or by friction between the roller surface and moving process material. These rollers can present a risk to exposed persons unless the movement of the rollers can easily be stopped by hand. This is explicitly not intended for padding mangles, mangle bowls or calender rollers, which are actively pressed together.

5.1.2 is only applicable if referred to explicitly in Clauses 5 to 7.

Specific hazards

Mechanical, from rollers, in particular from entanglement, drawing-in or trapping, crushing and friction or abrasion.

Specific risks

Access during normal operation, particularly on start-up, smoothing process material, uncurling edges and access during special operation, particularly cleaning, removal of laps of yarn ends or cloth and threading-up, leading to high probability of minor to moderate injury.

Specific safety requirements

If a risk assessment in accordance with ISO 14121-1 shows as a maximum an average risk of minor to moderate injury, sensitive protective equipment (SPE) acting upon the complete width can be provided as an alternative to the measures described in ISO 11111-1:2009, 6.5 (Rollers).

If, for technical reasons, the SPE cannot be positioned in accordance with EN 999, the SPE shall be arranged in such a way that it is activated automatically by the operator approaching the drawing-in point and can be activated unintentionally or intentionally by the operator.

The residual risk and corresponding preventive measures shall be indicated in the instruction handbook, and there shall be a warning sign at the hazard zone.

NOTE On special textile finishing machines such as stenters, continuous dyeing range and shrinking range rotating rollers with on-running process material are often arranged closely to each other because a short guided path of the process material is required for technological reasons. Often, additional measuring sensors to determine, for instance, the humidity, weight or yarn density of the process material, are also fitted. In addition, sometimes different process material runs are carried out with only one roller arrangement for technological reasons. Therefore, it is not always possible to meet the safety requirements described in ISO 11111-1:2009, 6.5 (Rollers), without considerable prejudice to function and operability.

An example of the SPE arrangement at the exit of a stenter is shown in Figure 1.

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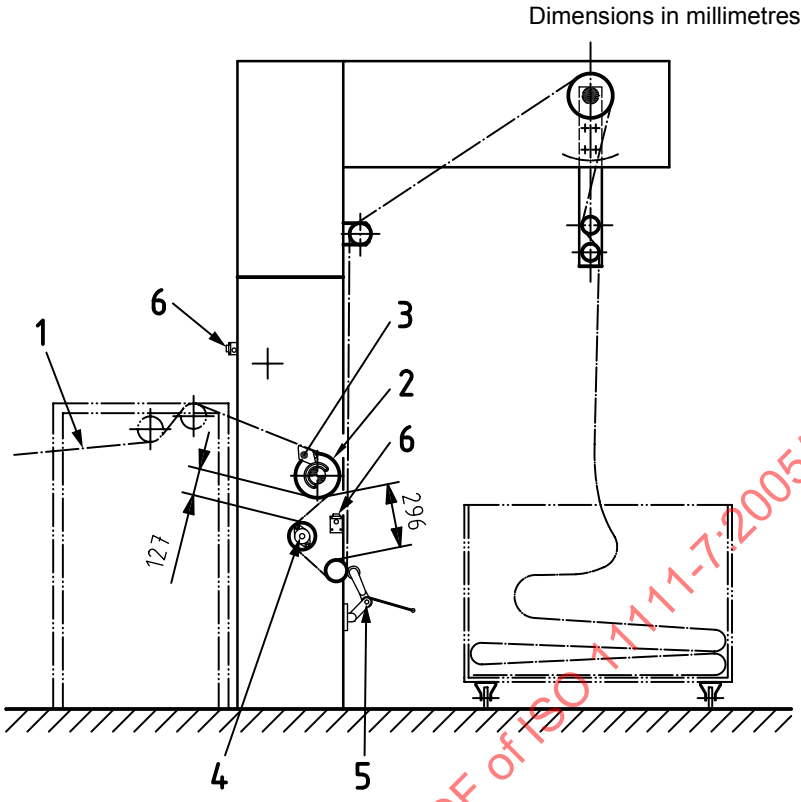

Key

1 fabric run with pin chain
2 draw-off roller
3 guard
4 piece length measuring roller
5 sensor for humidity measurement
6 release cord (SPE)

Figure 1 — Example of SPE arrangement at the exit of a stenter

Pages 6, 7, 8, 9, 11, 12, 13, 24, 25, 27, 31 and 33; Tables 6, 7, 8, 9, 10, 12, 14, 15, 17, 30, 31, 33, 36 and 38

Replace “5.1” with “5.1.1”.

Page 10, 5.2.12

Replace the reference to “ISO 13852:1996” in list item c) with “ISO 13857:2008”.

Page 17, 5.3.5

Replace the second paragraph with the following:

The safety-related part of the control system of particularly dangerous machine elements shall present a performance level of at least PL = d in accordance with ISO 13849-1:2006 or a safety integrity level SIL = 2 in accordance with IEC 62061:2005.

The adoption of a lower level than performance level PL = d or a safety integrity level SIL = 2 shall be based on a risk assessment in accordance with ISO 13849-1:2006, Annex A or IEC 62061:2005, Annex A.

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Page 19, Table 24

Add the following new last row to Table 24:

Rollers at special textile finishing machines	5.1.2

Page 24, Table 30

Add the following new last row to Table 30:

Rollers at special textile finishing machines	5.1.2

Page 25, Table 31

Add the following new last row to Table 31:

Rollers at special textile finishing machines	5.1.2

Page 26, 5.5.7

Replace the second paragraph with the following:

Risks caused by high frequency shall be in accordance with IEC 60519-1, IEC 60519-9:2005, Clause 4, and EN 12198-1:2000, Clauses 6 to 8.

Page 28, 5.6.2

Replace list item c) with the following:

c) The safety-related part of the control system of particularly dangerous machine elements shall present a performance level of at least PL = d in accordance with ISO 13849-1:2006 or a safety integrity level SIL = 2 in accordance with IEC 62061:2005.

The adoption of a lower level than performance level PL = d or a safety integrity level SIL = 2 shall be based on a risk assessment in accordance with ISO 13849-1:2006, Annex A or IEC 62061:2005, Annex A.

Page 30, 5.6.7

Replace the first paragraph with the following:

The safety requirements and/or measures shall be in accordance with 5.1.2 and 5.6.1 and ISO 11111-1:2009, 5.4.6.1 (hot surfaces).

Page 31, 5.6.8

Replace list item b) with the following:

b) The safety-related part of the control system of power interlocking shall present a performance level of at least PL = e in accordance with ISO 13849-1:2006 or a safety integrity level SIL = 3 in accordance with IEC 62061:2005.

The adoption of a lower level than performance level PL = e or a safety integrity level SIL = 3 shall be based on a risk assessment in accordance with ISO 13849-1:2006, Annex A or IEC 62061:2005, Annex A.

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