

Implementation of
ISO 7772-3:1996

Assessment of industrial laundry machinery by its effect on textiles —

Part 3: Flatwork-ironing machines

ICS 97.060

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The preparation of this British Standard was entrusted to Technical Committee TCI/25, Chemical properties, upon which the following bodies were represented:

- Association of Consulting Scientists
- Association of Suppliers to the British Clothing Industry
- British Apparel and Textile Confederation
- British Clothing Industry Association
- British Measurement and Testing Association
- British Retail Consortium
- Chemical Industries Association
- Consumer Policy Committee of BSI
- Fabric Care Research Association Ltd.
- Home Laundering Consultative Council
- International Wool Secretariat
- Mail Order Traders' Association
- Ministry of Defence
- National Wool Textile Export Corporation
- SATRA Footwear Technology Centre
- Soap and Detergent Industry Association
- Society of Dyers and Colourists
- Textile Finishers' Association

The following body was also represented in the drafting of the standard through subcommittees and panels:

- Society of Laundry Engineers and Allied Trades Limited

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National foreword

This British Standard reproduces verbatim ISO 7772-3:1996 and implements it as the UK national standard.

This British Standard is published under the direction of the Sector Board for Materials and Chemicals whose Technical Committee TCI/25 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE International and European Standards, as well as overseas standards, are available from Customer Services, BSI, 389 Chiswick High Road, London W4 4AL.

This standard supersedes BS 6246-3:1985, which is withdrawn.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, page ii, pages 1 to 16 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

INTERNATIONAL
STANDARD

ISO
7772-3

First edition
1996-09-01

**Assessment of industrial laundry
machinery by its effect on textiles —**

Part 3:
Flatwork-ironing machines

*Évaluation des machines à laver industrielles par leurs effets sur les
textiles —*

Partie 3: Sécheuses-repasseuses



Reference number
ISO 7772-3:1996(E)

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 7772-3 was prepared jointly by Technical Committees ISO/TC 38, *Textiles*, and ISO/TC 72, *Textile machinery and allied machinery and accessories*.

ISO 7772 consists of the following parts, under the general title *Assessment of industrial laundry machinery by its effect on textiles*:

- *Part 1: Washing machines;*
- *Part 2: Extracting machines;*
- *Part 3: Flatwork-ironing machines;*
- *Part 4: Batch-drying tumblers.*

Annexes A to D form an integral part of this part of ISO 7772.

Introduction

The rapid technical development of laundry machinery and the changes in the pattern of purchasing have led to an urgent need for a standard means of assessment of the effect of machine performance on textiles.

Two different approaches to the provision of the necessary information were considered:

- a) definition of essential specifications for laundry machinery for use by agreement between manufacturer and customer (see for example ISO 9398);
- b) preparation of standard methods for rating and assessing the effect of the principal types of machine so that the results obtained on machines of a similar type could be compared directly wherever the machines were located and whenever they were tested.

This International Standard deals with the second approach, since the urgent need was for procedures that could be used on a range of machines to evaluate their effects under reproducible conditions, including specification of the loads to be used.

Thus it will be possible to compare the basic effects of one machine against another, and a machine against a specification quoted in a contract. No performance level is set. Another advantage in the approach adopted is that the tests can be conducted at any location where the necessary services are available.

It is planned to publish the following four parts to ISO 7772:

- *Part 1: Washing machines;*
- *Part 2: Extracting machines;*
- *Part 3: Flatwork-ironing machines;*
- *Part 4: Batch-drying tumblers.*

It is hoped that, with the advance of techniques, and widespread use of these parts of ISO 7772, updated methods can be incorporated.

1 Scope

This part of ISO 7772 specifies methods for the assessment of flatwork-ironing machines with rolls of surface area greater than 1,0 m² that are used in the industrial-laundering field. The types of flatwork-ironing machine covered by this part of ISO 7772 are described in annex A. This part of ISO 7772 applies to ironing machines heated by steam, thermal fluid, gas or electrical power. The standard does not apply to drying cylinders.

The tests can be conducted within an operating laundry and only require the use of equipment that is normally available, but this does not preclude use of the tests in other locations.

The test results do not establish an output rating, which is dependent upon the efficiency of the operators, but provide an indication of the performance of the ironing machine based on the following parameters:

- a) the rate at which the textile will give up moisture, expressed in kilograms per hour, from fabric of known bone-dry mass, when the machine is operated under the conditions and in the manner specified;
- b) the total energy consumption during processing as specified, expressed as kilojoules (or kilowatt hours) per kilogram of moisture removed;
- c) assessment of the finish of the test articles in terms of absence of creases or wrinkling on ironing.

The methods described in this part of ISO 7772 can be used separately, and therefore any combination of them can be agreed on between the interested parties.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7772. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 7772 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 3801:1977, *Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area.*

ISO 3932:1976, *Textiles — Woven fabrics — Measurement of width of pieces.*

ISO 5081:1977, *Textiles — Woven fabrics — Determination of breaking strength and elongation (Strip method).*

ISO 7211-2:1984, *Textiles — Woven fabrics — Construction — Methods of analysis — Part 2: Determination of number of threads per unit length.*

ISO 9398-1:1993, *Specifications for industrial laundry machines — Definitions and testing of capacity and consumption characteristics — Part 1: Flatwork ironing machines.*

ISO 9398-2:1993, *Specifications for industrial laundry machines — Definitions and testing of capacity and consumption characteristics — Part 2: Batch drying tumblers.*

ISO 9398-3:1993, *Specifications for industrial laundry machines — Definitions and testing of capacity and consumption characteristics — Part 3: Washing tunnels.*

ISO 9398-4:1993, *Specifications for industrial laundry machines — Definitions and testing of capacity and consumption characteristics — Part 4: Washer-extractors.*

3 Definitions

For the purposes of this part of ISO 7772, the following definitions apply.

NOTE 1 Definitions of the particular types of flatwork-ironing machine are given in annex A.

3.1

bed

a heated body shaped to correspond to the diameter of the clothed roll

3.2

bone-dry mass (BDM)

(moisture content between 0,5 % and 1,0 %): The mass of a clean textile article (or number of articles) after being dried in a specified manner, when successive determinations of mass after several drying procedures show no progressive change in mass of the textile greater than 0,5 %

NOTE 2 Specified drying procedures include repeated processing of the article or articles in a heated tumbler from which the exhaust air reaches a temperature of not less than 80 °C nor more than 120 °C, or by repeatedly passing the article or articles through a flatwork-ironing machine. These temperatures are appropriate to cotton fabrics which constitute the test loads and test pieces specified in this part of ISO 7772.

3.3

clothing

the roll covering which provides a resilient surface to allow for unevenness of articles being processed, the absorption of moisture, and the drive

3.4

accordian fold

the fold created when a textile article is folded backwards and forwards upon itself

3.5

drying capacity

the amount of water removed by the process in unit time

3.6

feed gap

the distance between the end of one article and the start of the next being fed into an ironing machine

3.7

finish

the appearance and feel of a fabric which has been smoothed by being subjected to the appropriate finishing process

3.8

flatwork

a textile article which can be satisfactorily dried and smoothed by being passed through a flatwork-ironing machine, e.g. large flatwork (typically a bed sheet)

3.9

flatwork-ironing machine

a machine for the mechanical smoothing and drying of damp washing, generally comprising one or more heated or non-heated rolls of ferrous or non-ferrous construction, wrapped with layers of resilient material

these rolls are power-driven and revolve in heated beds, of ferrous construction, which are arranged in a segment of a circle such that any material inserted between the roll and bed will pass between them in a continuous motion. A multi-roll machine feeds the material through a succession of rolls and beds (see annex A)

3.10

heating fluid

any fluid used as a heat-transfer medium

3.11

hem (as on a sheet)

the transverse borders formed by turning in the cut edge and sewing it down

3.12

roll

a cylindrical body driven and rotating about a generally horizontal centreline in the bed

3.13

selvedges (as on a sheet)

the woven longitudinal edges, so constructed that there are no loose ends and the weft will not unravel

3.14

working surface

the contact surface useable for the ironing operation

3.15

working width

the useable width of the working surface

3.16

wrinkle

a type of fold deformation of the plane surface of the fabric. It is random in nature and typically shallow in form