



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS C 9335-2-11 : 2004
(JEMA)

**Household and similar electrical
appliances—Safety—
Part 2-11 : Particular requirements
for tumble dryers**

ICS 13.120; 97.060

Reference number : JIS C 9335-2-11 : 2004 (E)

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Document 148 Spring Hub

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Electrical Manufacturer's Association (JEMA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS C 9335-2-11 : 1999** is replaced with this Standard.

This revision has been made based on **IEC 60335-2-11 : 2002** *Household and similar electrical appliances—Safety—Part 2-11 : Particular requirements for tumble dryers* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Date of Establishment: 1999-03-20

Date of Revision: 2004-02-20

Date of Public Notice in Official Gazette: 2004-02-20

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Electricity Technology

JIS C 9335-2-11 : 2004, First English edition published in 2004-10

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Printed in Japan

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Household and similar electrical appliances—Safety— Part 2-11 : Particular requirements for tumble dryers

Introduction This Japanese Industrial Standard has been prepared based on **IEC 60335-2-11** *Household and similar electrical appliances—Safety—Part 2-11 : Particular requirements for tumble dryers* published in 2002 as the sixth edition with some modifications in the technical contents. This is to be read in conjunction with **JIS C 9335-1** : 2003 *Household and similar electrical appliances—Safety—Part 1 : General requirements*.

In this Standard, the portions underlined with dots are the matters modified from the original International Standard. The list of modifications is given in annex 1 (informative) with the explanation being attached.

1 Scope This Standard deals with the safety of electric tumble dryers intended for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 101 This Standard applies to the drying function of washing machines having a drying cycle.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms are within the scope of this Standard.

NOTE 102 Examples of such appliances are tumble dryers for communal use in blocks of flats or in launderettes.

As far as is practicable, this Standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.

NOTE 103 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 104 This Standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas).

NOTE : The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

IEC 60335-2-11 : 2002 *Household and similar electrical appliances—Safety—Part 2-11 : Particular requirements for tumble dryers* (MOD)

2 Normative references Normative references shall be as stated in clause 2 of **JIS C 9335-1** except as follows.

Addition:

JIS C 9812 *Tumble dryers for household use—Methods for measuring the performance*

IEC 60584-1 *Thermocouples—Part 1 : Reference tables*

3 Definitions For the purpose of this Standard principal definitions in clause 3 of **JIS C 9335-1** is applicable except as follows.

3.1.9 Replacement:

normal operation operation of the appliance under the following conditions

The appliance is operated filled with textile material having a mass in the dry condition equal to the maximum load stated in the instructions.

The textile material consists of pre-washed double-hemmed cotton sheets having dimensions approximately 70 cm × 70 cm and a specific mass between 140 g/m² and 175 g/m² in the dry condition. The textile material is soaked with water having a temperature of 25 °C ± 5 °C and a mass equal to that of the textile material.

If the drying function can automatically follow the washing function in a washing machine, the appliance is not separately loaded. The appliance is operated with the maximum quantity of textile material stated in the instructions for the combined washing-drying cycle.

NOTE 101 Cotton having a water content not exceeding 10 % is considered to be in the dry condition. Cotton conditioned for 24 h in still air, having a temperature of 20 °C ± 2 °C, a relative humidity between 60 % and 70 % and a pressure between 860 hPa and 1 060 hPa, will contain approximately 7 % water.

NOTE 102 The textile material having dimensions approximately 91 cm × 91 cm and a specific mass of 100 g/m² ± 10 g/m² in the dry condition which is specified in **JIS C 9812** may be used.

3.101 tumble dryer appliance in which textile material is dried by tumbling in a rotating drum through which heated air is blown

3.102 condensation-type tumble dryer tumble dryer in which the air used for the drying process is dehumidified by cooling

NOTE : In tumble dryers and condensation-type tumble dryers, dryers having a drum rotating around vertical axis are included, in addition to those having a drum rotating around horizontal axis.

4 General requirement General requirement shall be as stated in clause 4 of JIS C 9335-1.

5 General conditions for the tests General conditions for the tests shall be as stated in clause 5 of JIS C 9335-1.

6 Classification Classification shall be as stated in clause 6 of JIS C 9335-1 except as follows.

6.1 Addition:

Appliances shall be class 0I, class I, class II or class III as for protection against electric shock.

6.2 Appliances shall be at least IPX4.

7 Marking and instructions Marking and instructions shall be as stated in clause 7 of JIS C 9335-1 except as follows.

7.6 Addition to 7.6 of JIS C 9335-1:

 [symbol 5036 of IEC 60417-1] dangerous voltage

 [symbol 5041 of IEC 60417-1] caution, hot surface

7.10 Addition to 7.10 of JIS C 9335-1:

If the off position is only indicated by letters, the word “off” or the Japanese Kanji character denoting “off” shall be used.

7.12 Addition to 7.12 of JIS C 9335-1:

The instructions for use shall state

- the maximum mass of dry textile material in kilograms to be used in the appliance;
- that the tumble dryer is not to be used if industrial chemicals have been used for cleaning;
- that the lint trap has to be cleaned frequently, if applicable;
- that lint must not to be allowed to accumulate around the tumble dryer (not applicable for appliances intended to be vented to the exterior of the building);
- that adequate ventilation has to be provided of avoid the back flow of gases into the room from appliances burning other fuels, including open fires.

NOTE 101 This instruction is not required if the tumble dryer discharges the air into the room.

If symbols 5036 or 5041 of **IEC 60417-1** are used, their meaning shall be explained.

7.12.1 Addition to 7.12.1 of JIS C 9335-1:

The installation instructions shall state

- for condensation-type tumble dryers intended to be connected to the water mains
 - that the appliance is to be connected of the water mains using a new hose-set and old hose-sets should not be reused;

NOTE 101 This instruction is not required if the hose is permanently attached to the appliance.

- the maximum permissible inlet water pressure, in megapascals;
 - the minimum permissible inlet water pressure, in megapascals, if this is necessary for correct operation of the appliance;
- for appliances with ventilation openings in the base, that a carpet must not obstruct the openings;
- that exhaust air must not be discharged into a flue which is used for exhausting fumes from appliances burning as or other fuels.

NOTE 102 This instruction is not required if the tumble dryer discharges the air into the room.

If the installation instructions state that the tumble dryer can be placed on top of a washing machine, they shall state which washing machines are suitable. Instructions shall be given for the assembly of the tumble dryer and washing machine. The instructions shall state how to obtain any fixing attachments required, unless they are supplied with the appliance.

7.14 Addition to 7.14 of JIS C 9335-1:

The height of symbol 5036 of **IEC 60417-1** shall be at least 5 mm and the height of symbol 5041 shall be at least 15 mm.

Compliance is checked by measurement.

7.101 The enclosure of magnetic valves, and similar components incorporated in external hoses for direct connection to the water mains, shall be marked with symbol 5036 of **IEC 60417** if their working voltage exceeds extra-low voltage.

NOTE : This symbol is a warning sign and the rules of **ISO 3864** apply.

Compliance is checked by inspection.

7.102 The rear surface, other than that of fixed appliances, shall be marked with symbol 5041 of **IEC 60417-1** if its temperature rise exceeds the limits specified in **11.8** for accessible front surfaces.

NOTE : This symbol is a warning sign and the rules of **ISO 3864** apply.

Compliance is checked by inspection.