

**COMMISSION DELEGATED REGULATION (EU) No 1061/2010****of 28 September 2010****supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household washing machines****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products <sup>(1)</sup>, and in particular Article 10 thereof,

Whereas:

- (1) Directive 2010/30/EU requires the Commission to adopt delegated acts as regards the labelling of energy-related products representing significant potential for energy savings and having a wide disparity in performance levels with equivalent functionality.
- (2) Provisions on the energy labelling of household washing machines were established by Commission Directive 95/12/EC of 23 May 1995 implementing Council Directive 92/75/EEC with regard to energy labelling of household electric washing machines <sup>(2)</sup>.
- (3) The electricity used by household washing machines accounts for a significant share of total household electricity demand in the Union. In addition to the energy efficiency improvements already achieved, the scope for further reducing the energy consumption of household washing machines is substantial.
- (4) Directive 95/12/EC should be repealed and new provisions should be laid down by this Regulation in order to ensure that the energy label provides dynamic incentives for suppliers to further improve the energy efficiency of household washing machines and to accelerate the market transformation towards energy-efficient technologies.

- (5) Household combined washer-driers fall within the scope of Commission Directive 96/60/EC of 19 September 1996 implementing Council Directive 92/75/EEC with regard to energy labelling of household combined washer-driers <sup>(3)</sup> and should therefore be excluded from the scope of this Regulation. However, considering that they offer similar functionalities to household washing machines, a revision of Directive 96/60/EC should take place as soon as possible.
- (6) The information provided on the label should be obtained through reliable, accurate and reproducible measurement procedures, which take into account the recognised state-of-the-art measurement methods including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services <sup>(4)</sup>.
- (7) This Regulation should specify a uniform design and content for the label for household washing machines.
- (8) In addition, this Regulation should specify requirements as to the technical documentation and the fiche for household washing machines.
- (9) Moreover, this Regulation should specify requirements as to the information to be provided for any form of distance selling, advertisements and technical promotional materials for household washing machines.
- (10) It is appropriate to provide for a review of the provisions of this Regulation taking into account technological progress.
- (11) In order to facilitate the transition from Directive 95/12/EC to this Regulation, provisions should be made that household washing machines labelled in accordance with this Regulation should be considered as compliant with Directive 95/12/EC.

<sup>(1)</sup> OJ L 153, 18.6.2010, p. 1.

<sup>(2)</sup> OJ L 47, 24.2.1996, p. 35.

<sup>(3)</sup> OJ L 266, 18.10.1996, p. 1.

<sup>(4)</sup> OJ L 204, 21.7.1998, p. 37.

(12) Directive 95/12/EC should therefore be repealed,

HAS ADOPTED THIS REGULATION:

#### Article 1

##### Subject matter and scope

1. This Regulation establishes requirements for the labelling of and the provision of supplementary product information on electric mains-operated household washing machines and electric mains-operated household washing machines that can also be powered by batteries, including those sold for non-household use and built-in household washing machines.

2. This Regulation shall not apply to household combined washer-driers.

#### Article 2

##### Definitions

In addition to the definitions laid down in Article 2 of Directive 2010/30/EU, the following definitions shall apply for the purposes of this Regulation:

- (1) 'household washing machine' means an automatic washing machine which cleans and rinses textiles using water, which also has a spin extraction function and which is designed to be used principally for non-professional purposes;
- (2) 'built-in household washing machine' means a household washing machine intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing;
- (3) 'automatic washing machine' means a washing machine where the load is fully treated by the machine without the need for user intervention at any point during the programme;
- (4) 'household combined washer-drier' means a household washing machine which includes both a spin extraction function and also a means for drying the textiles, usually by heating and tumbling;
- (5) 'programme' means a series of operations that are pre-defined and which are declared by the supplier as suitable for washing certain types of textile;
- (6) 'cycle' means a complete washing, rinsing and spinning process, as defined for the selected programme;
- (7) 'programme time' means the time that elapses from the initiation of the programme until the completion of the programme excluding any end-user programmed delay;
- (8) 'rated capacity' means the maximum mass in kilograms stated by the supplier at 0,5 kg intervals of dry textiles of a particular type, which can be treated in a household washing machine on the selected programme, when loaded in accordance with the supplier's instructions;
- (9) 'partial load' means half of the rated capacity of a household washing machine for a given programme;
- (10) 'remaining moisture content' means the amount of moisture contained in the load at the end of the spinning phase;
- (11) 'off-mode' means a condition where the household washing machine is switched off using appliance controls or switches accessible to and intended for operation by the end-user during normal use to attain the lowest power consumption that may persist for an indefinite time while the household washing machine is connected to a power source and used in accordance with the supplier's instructions; where there is no control or switch accessible to the end-user, 'off-mode' means the condition reached after the household washing machine reverts to a steady-state power consumption on its own;
- (12) 'left-on mode' means the lowest power consumption mode that may persist for an indefinite time after completion of the programme without any further intervention by the end-user besides unloading of the household washing machine;
- (13) 'equivalent household washing machine' means a model of household washing machine placed on the market with the same rated capacity, technical and performance characteristics, energy and water consumption and airborne acoustical noise emissions during washing and spinning as another model of household washing machine placed on the market under a different commercial code number by the same supplier;
- (14) 'end-user' means a consumer buying or expected to buy a household washing machine;
- (15) 'point of sale' means a location where household washing machines are displayed or offered for sale, hire or hire-purchase.

*Article 3***Responsibilities of suppliers**

Suppliers shall ensure that:

- (a) each household washing machine, is supplied with a printed label in the format and containing information as set out in Annex I;
- (b) a product fiche, as set out in Annex II, is made available;
- (c) the technical documentation as set out in Annex III is made available on request to the authorities of the Member States and to the Commission;
- (d) any advertisement for a specific model of household washing machine contains the energy efficiency class, if the advertisement discloses energy-related or price information;
- (e) any technical promotional material concerning a specific model of household washing machine which describes its specific technical parameters includes the energy efficiency class of that model.

*Article 4***Responsibilities of dealers**

Dealers shall ensure that:

- (a) each household washing machine, at the point of sale, bears the label provided by suppliers in accordance with Article 3(a) on the outside of the front or top of the household washing machine, in such a way as to be clearly visible;
- (b) household washing machines offered for sale, hire or hire-purchase where the end-user cannot be expected to see the product displayed are marketed with the information to be provided by suppliers in accordance with Annex IV;
- (c) any advertisement for a specific model of household washing machine contains a reference to its energy efficiency class, if the advertisement discloses energy-related or price information;
- (d) any technical promotional material concerning a specific model of household washing machine, which describes its specific technical parameters includes a reference to the energy efficiency class of that model.

*Article 5***Measurement methods**

The information to be provided pursuant to Articles 3 and 4 shall be obtained by reliable, accurate and reproducible

measurement procedures, which take into account the recognised state-of-the-art measurement methods.

*Article 6***Verification procedure for market surveillance purposes**

Member States shall apply the procedure laid down in Annex V when assessing the conformity of the declared energy efficiency class, the annual energy consumption, annual water consumption, spin-drying efficiency class, power consumption in off-mode and left-on mode, duration of the left-on mode, remaining moisture content, spin speed and airborne acoustical noise emissions.

*Article 7***Revision**

The Commission shall review this Regulation in the light of technological progress no later than four years after its entry into force. The review shall in particular assess the verification tolerances set out in Annex V.

*Article 8***Repeal**

Directive 95/12/EC shall be repealed from 20 December 2011.

*Article 9***Transitional provisions**

1. Articles 3(d), (e), 4(b), (c) and (d) shall not apply to printed advertisements and printed technical promotional material published before 20 April 2012.
2. Household washing machines placed on the market before 20 December 2011 shall comply with the provisions set out in Directive 95/12/EC.
3. If an implementing measure for Directive 2009/125/EC of the European Parliament and of the Council<sup>(1)</sup> with regards to ecodesign requirements for household washing machines was adopted, household washing machines, which comply with the provisions of this implementing measure with respect to the washing efficiency requirements and with the provisions of this Regulation, and which are placed on the market or offered for sale, hire or hire-purchase before 20 December 2011 shall be regarded as complying with the requirements of Directive 95/12/EC.

<sup>(1)</sup> OJ L 285, 31.10.2009, p. 10.

*Article 10***Entry into force and application**

1. This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.
2. It shall apply from 20 December 2011. However, Articles 3(d), (e), 4(b), (c) and (d) shall apply from 20 April 2012.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 28 September 2010.

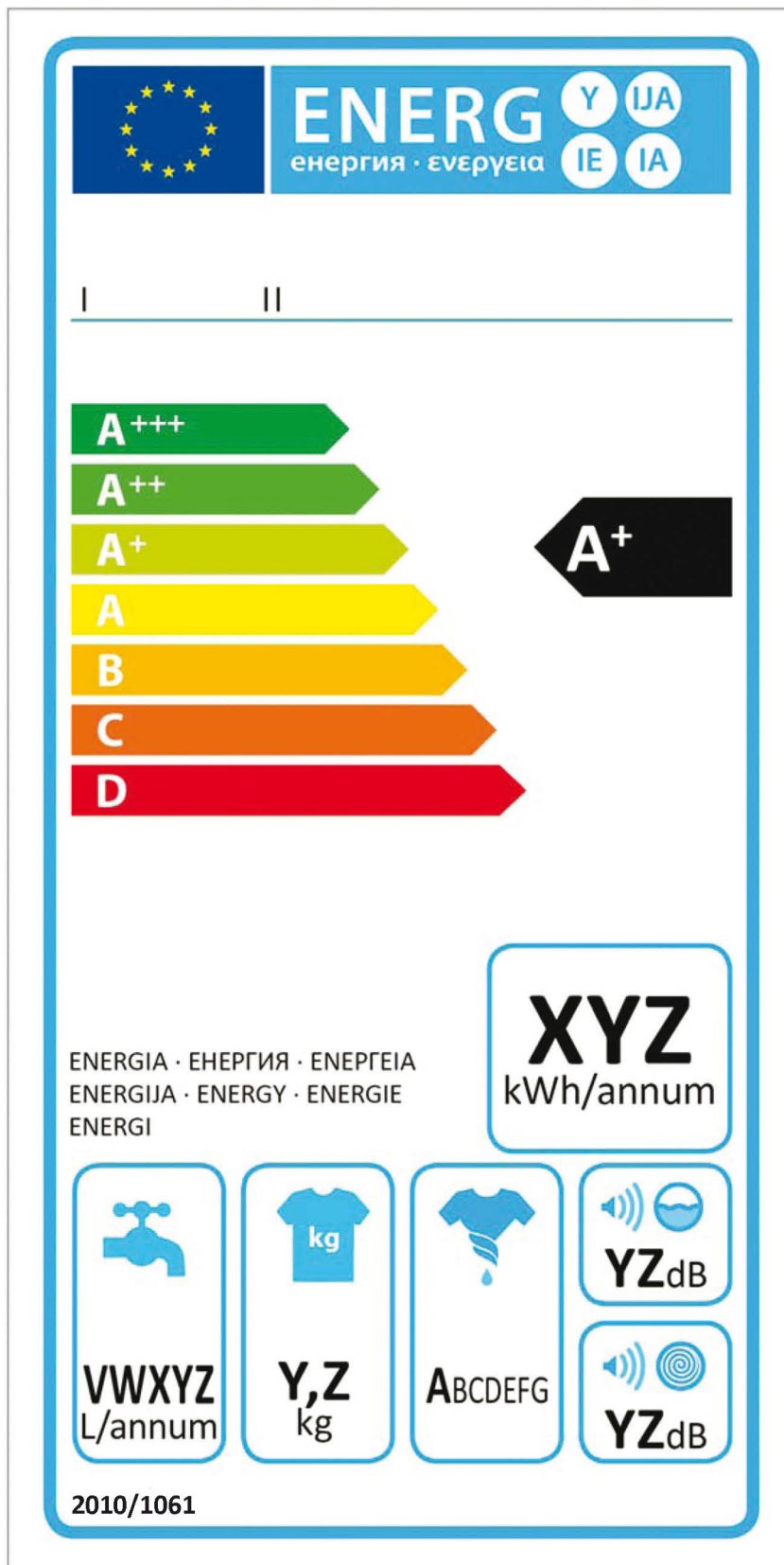
*For the Commission*  
*The President*  
José Manuel BARROSO

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ANNEX I

Label

1. LABEL



I  
II

III

IV

V  
VI  
VII  
VIII

(1) The following information shall be included in the label:

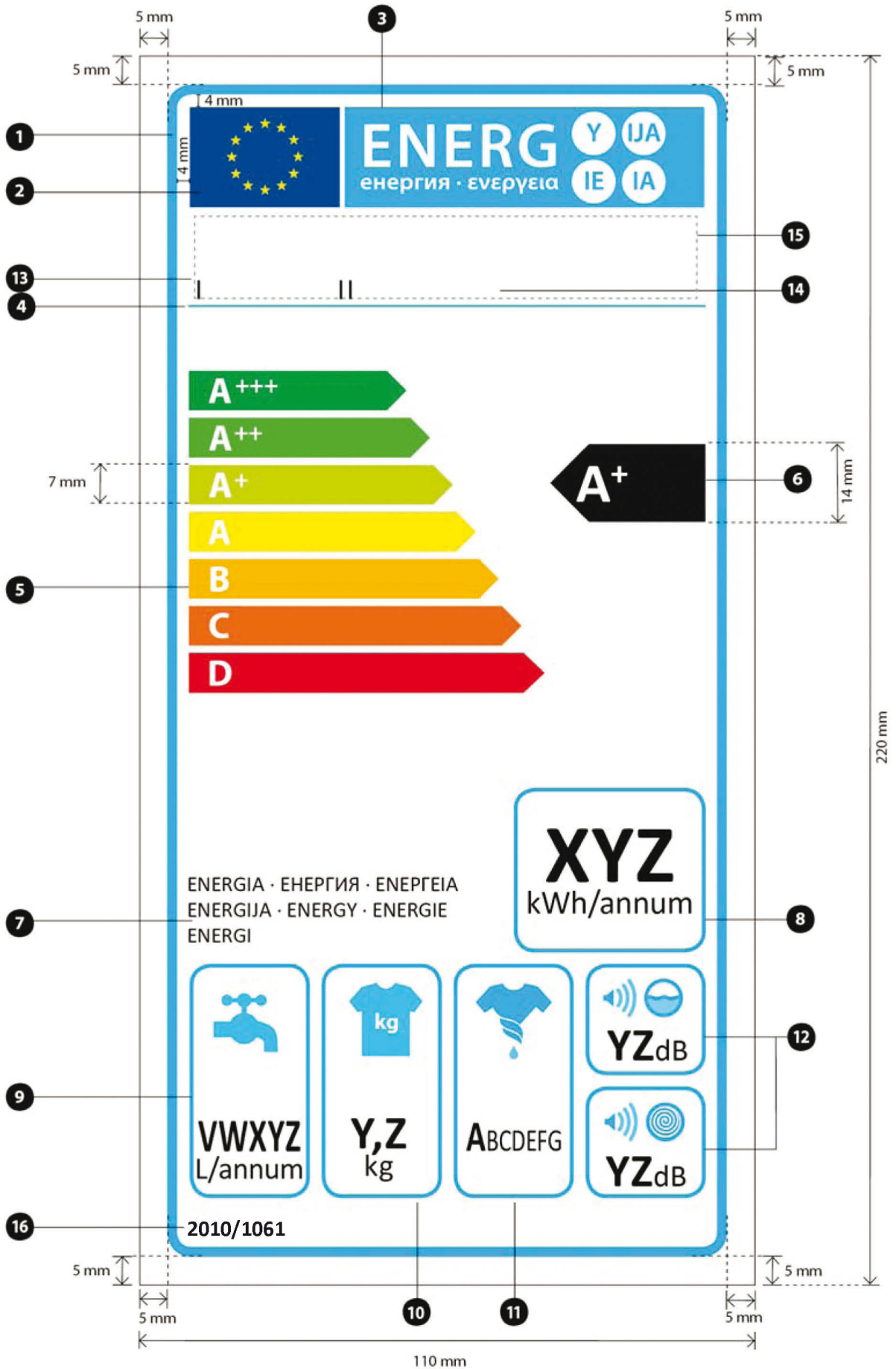
- I. supplier's name or trade mark;
- II. supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine model from other models with the same trade mark or supplier's name;
- III. the energy efficiency class determined in accordance with point 1 of Annex VI; the head of the arrow containing the energy efficiency class of the household washing machine shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;
- IV. weighted annual energy consumption ( $AE_C$ ) in kWh per year, rounded up to the nearest integer in accordance with Annex VII;
- V. weighted annual water consumption ( $AW_C$ ), in litres per year, rounded up to the nearest integer in accordance with Annex VII;
- VI. rated capacity, in kg, for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at full load, whichever is the lower;
- VII. the spin-drying efficiency class as set out in point 2 of Annex VI;
- VIII. airborne acoustical noise emissions, during the washing and spinning phases, for the standard 60 °C cotton programme at full load, expressed in dB(A) re 1 pW, rounded to the nearest integer.

(2) The design of the label shall be in accordance with point 2. By way of derogation, where a model has been awarded an 'EU Ecolabel' under Regulation (EC) No 66/2010 of the European Parliament and of the Council <sup>(1)</sup>, a copy of the EU Ecolabel may be added.

## 2. LABEL DESIGN

The design of the label shall be as in the figure below.

<sup>(1)</sup> OJ L 27, 30.1.2010, p. 1.



Whereby:

- (a) The label must be at least 110 mm wide and 220 mm high. Where the label is printed in a larger format, its content must nevertheless remain proportionate to the specifications above.
- (b) The background shall be white.
- (c) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall fulfil all of the following requirements (numbers refer to the figure above):

❶ **Border stroke:** 5 pt — colour: Cyan 100 % — round corners: 3,5 mm.

❷ **EU logo** — colours: X-80-00-00 and 00-00-X-00.

❸ **Energy logo:** colour: X-00-00-00.

Pictogram as depicted: EU logo and energy logo (combined); width: 92 mm, height: 17 mm.

❹ **Sub-logos border:** 1 pt — colour: Cyan 100 % — length: 92,5 mm.

❺ **A-G scale**

— **Arrow:** height: 7 mm, gap: 0,75 mm — colours:

— Highest class: X-00-X-00,

— Second class: 70-00-X-00,

— Third class: 30-00-X-00,

— Fourth class: 00-00-X-00,

— Fifth class: 00-30-X-00,

— Sixth class: 00-70-X-00,

— Last class: 00-X-X-00.

— **Text:** Calibri bold 18 pt, capitals and white; '+' symbols: Calibri bold 12 pt, capitals, white, aligned on a single row.

❻ **Energy efficiency class**

— **Arrow:** width: 26 mm, height: 14 mm, 100 % black.

— **Text:** Calibri bold 29 pt, capitals and white; '+' symbols: Calibri bold 18 pt, capitals, white, aligned on a single row.



- 7 **Energy:** text: Calibri regular 11 pt, capitals, 100 % black.
- 8 **Weighted annual energy consumption**
- **Border:** 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
  - **Value:** Calibri bold 42 pt, 100 % black; and Calibri regular 17 pt, 100 % black.
- 9 **Weighted annual water consumption**
- **Pictogram as depicted**
  - **Border:** 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
  - **Value:** Calibri bold 24 pt, 100 % black; and Calibri regular 16 pt, 100 % black.
- 10 **Rated capacity**
- **Pictogram as depicted**
  - **Border:** 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
  - **Value:** Calibri bold 24 pt, 100 % black; and Calibri regular 16 pt, 100 % black.
- 11 **Spin-drying efficiency class**
- **Pictogram as depicted**
  - **Border:** 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
  - **Value:** Calibri regular 16 pt, horizontal scale 75 %, 100 % black and Calibri Bold 22 pt, horizontal scale 75 %, 100 % black.
- 12 **Airborne acoustical noise emissions**
- **Pictograms as depicted**
  - **Border:** 2 pt — colour: Cyan 100 % — round corners: 3,5 mm.
  - **Value:** Calibri bold 24 pt, 100 % black; and Calibri regular 16 pt, 100 % black.
- 13 **Supplier's name or trade mark**
- 14 **Supplier's model identifier**
- 15 The supplier's name or trademark and model identifier should fit in a space of 92 × 15 mm.
- 16 **Numbering of the Regulation:** Calibri bold 12 pt, 100 % black.
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## ANNEX II

**Product Fiche**

1. The information in the product fiche of the household washing machine shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:
    - (a) supplier's name or trade mark;
    - (b) supplier's model identifier, meaning the code, usually alphanumeric, which distinguishes a specific household washing machine model from other models with the same trade mark or supplier's name;
    - (c) rated capacity in kg of cotton for the standard 60 °C cotton programme at full load or the 40 °C cotton programme at full load, whichever is the lower;
    - (d) energy efficiency class in accordance with point 1 of Annex VI;
    - (e) where the household washing machine has been awarded an 'EU Ecolabel award' under Regulation (EC) No 66/2010, this information may be included;
    - (f) weighted annual energy consumption ( $AE_C$ ) in kWh per year, rounded up to the nearest integer; it shall be described as: 'Energy consumption "X" kWh per year, based on 220 standard washing cycles for cotton programmes at 60 °C and 40 °C at full and partial load, and the consumption of the low-power modes. Actual energy consumption will depend on how the appliance is used.';
    - (g) the energy consumption ( $E_{t,60}$ ,  $E_{t,60\frac{1}{2}}$ ,  $E_{t,40\frac{1}{2}}$ ) of the standard 60 °C cotton programme at full load and partial load and of the standard 40 °C cotton programme at partial load;
    - (h) weighted power consumption of the off-mode and of the left-on mode;
      - (i) weighted annual water consumption ( $AW_C$ ) in litres per year, rounded up to the nearest integer; it shall be described as: 'Water consumption "X" litres per year, based on 220 standard washing cycles for cotton programmes at 60 °C and 40 °C at full and partial load. Actual water consumption will depend on how the appliance is used.';
      - (j) spin-drying efficiency class determined in accordance with point 2 of Annex VI, expressed as 'spin-drying efficiency class "X" on a scale from G (least efficient) to A (most efficient)'; this may be expressed by other means provided it is clear that the scale is from G (least efficient) to A (most efficient);
    - (k) maximum spin speed attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the lower, and remaining moisture content attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the greater;
    - (l) indication that the 'standard 60 °C cotton programme' and the 'standard 40 °C cotton programme' are the standard washing programmes to which the information in the label and the fiche relates, that these programmes are suitable to clean normally soiled cotton laundry and that they are the most efficient programmes in terms of combined energy and water consumption;
    - (m) the programme time of the 'standard 60 °C cotton programme' at full and partial load and of the 'standard 40 °C cotton programme' at partial load in minutes and rounded to the nearest minute;
    - (n) the duration of the left-on mode ( $T$ ) if the household washing machine is equipped with a power management system;
    - (o) airborne acoustical noise emissions expressed in dB(A) re 1 pW and rounded to the nearest integer during the washing and spinning phases for the standard 60 °C cotton programme at full load;
    - (p) if the household washing machine is intended to be built-in, an indication to this effect.
  2. One fiche may cover a number of household washing machine models supplied by the same supplier.
  3. The information contained in the fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in point 1 not already displayed on the label shall also be provided.
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## ANNEX III

**Technical documentation**

1. The technical documentation referred to in Article 3(c) shall include:
    - (a) the name and address of the supplier;
    - (b) a general description of the washing machine model, sufficient for it to be unequivocally and easily identified;
    - (c) where appropriate, the references of the harmonised standards applied;
    - (d) where appropriate, the other technical standards and specifications used;
    - (e) identification and signature of the person empowered to bind the supplier;
    - (f) an indication stating whether the household washing machine model releases or not silver ions during the washing cycle as follows: 'This product releases/does not release silver ions during the washing cycle.';
    - (g) technical parameters for measurements as follows:
      - (i) energy consumption;
      - (ii) programme time;
      - (iii) water consumption;
      - (iv) power consumption in 'off-mode';
      - (v) power consumption in 'left-on mode';
      - (vi) 'left-on mode' duration;
      - (vii) remaining moisture content;
      - (viii) airborne acoustical noise emissions;
      - (ix) maximum spin speed;
    - (h) the results of calculations performed in accordance with Annex VII.
  2. Where the information included in the technical documentation file for a particular household washing machine model has been obtained by calculation on the basis of design, or extrapolation from other equivalent household washing machines or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken. The information shall also include a list of all other equivalent household washing machine models where the information was obtained on the same basis.
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## ANNEX IV

**Information to be provided in the cases where end-users cannot be expected to see the product displayed**

1. The information referred to in Article 4(b) shall be provided in the following order:
    - (a) the rated capacity in kg of cotton, for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at full load, whichever is the lower;
    - (b) the energy efficiency class as defined in point 1 of Annex VI;
    - (c) the weighted annual energy consumption in kWh per year, rounded up to the nearest integer and calculated in accordance with point 1(c) of Annex VII;
    - (d) the weighted annual water consumption in litres per year, rounded up to the nearest integer and calculated in accordance with point 2(a) of Annex VII;
    - (e) the spin-drying efficiency class in accordance with point 2 of Annex VI;
    - (f) the maximum spin speed attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the lower, and the remaining moisture content attained for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at partial load, whichever is the greater;
    - (g) airborne acoustical noise emissions during the washing and spinning phases, for the standard 60 °C cotton programme at full load, expressed in dB(A) re 1 pW and rounded to the nearest integer;
    - (h) if the household washing machine is produced in order to be built-in, an indication to this effect.
  2. Where other information contained in the product fiche is also provided, it shall be in the form and order specified in Annex II.
  3. The size and font, in which all the information referred in this Annex is printed or shown, shall be legible.
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## ANNEX V

**Verification procedure for market surveillance purposes**

For the purposes of checking conformity with the requirements laid down in Articles 3 and 4, Member State authorities shall test a single household washing machine. If the measured parameters do not meet the values declared by the supplier within the ranges set out in Table 1, the measurements shall be carried out on three more household washing machines. The arithmetic mean of the measured values of these three household washing machines shall meet the values declared by the supplier within the range defined in Table 1, except for the energy consumption, where the measured value shall not be greater than the rated value of  $E_t$  by more than 6 %.

Otherwise, the model and all other equivalent household washing machines models shall be considered not to comply with the requirements laid down in Articles 3 and 4.

Member State authorities shall use reliable, accurate and reproducible measurement procedures, which take into account the generally recognised state-of-the-art measurement methods, including methods set out in documents the reference numbers of which have been published for that purpose in the *Official Journal of the European Union*.

Table 1

Measured parameter	Verification tolerances
Annual energy consumption	The measured value shall not be greater than the rated value (*) of $AE_C$ by more than 10 %.
Energy consumption	The measured value shall not be greater than the rated value of $E_t$ by more than 10 %.
Programme time	The measured value shall not be longer than the rated values $T_t$ by more than 10 %.
Water consumption	The measured value shall not be greater than the rated value of $W_t$ by more than 10 %.
Remaining moisture content	The measured value shall not be greater than the rated value of $D$ by more than 10 %.
Spin speed	The measured value shall not be less than the rated value by more than 10 %.
Power consumption in off-mode and left-on mode	The measured value of power consumption $P_o$ and $P_l$ of more than 1,00 W shall not be greater than the rated value by more than 10 %. The measured value of power consumption $P_o$ and $P_l$ of less than or equal to 1,00 W shall not be greater than the rated value by more than 0,10 W.
Duration of the left-on mode	The measured value shall not be longer than the rated value of $T_l$ by more than 10 %.
Airborne acoustical noise emissions	The measured value shall meet the rated value.

(\*) 'Rated value' means a value that is declared by the supplier.

## ANNEX VI

**Energy efficiency classes and spin-drying efficiency classes**

## 1. ENERGY EFFICIENCY CLASSES

The energy efficiency class of a household washing machine shall be determined on the basis of its Energy Efficiency Index (*EEI*) as set out in Table 1.

The Energy Efficiency Index (*EEI*) of a household washing machine shall be determined in accordance with point 1 of Annex VII.

Table 1  
**Energy efficiency classes**

Energy efficiency class	Energy Efficiency Index
A+++ (most efficient)	$EEI < 46$
A++	$46 \leq EEI < 52$
A+	$52 \leq EEI < 59$
A	$59 \leq EEI < 68$
B	$68 \leq EEI < 77$
C	$77 \leq EEI < 87$
D (least efficient)	$EEI \geq 87$

## 2. SPIN-DRYING EFFICIENCY CLASSES

The spin-drying efficiency class of a household washing machine shall be determined on the basis of the remaining moisture content (*D*) as set out in Table 2.

The remaining moisture content (*D*) of a household washing machine shall be determined in accordance with point 3 of Annex VII.

Table 2  
**Spin-drying efficiency classes**

Spin-drying efficiency class	Remaining moisture content (%)
A (most efficient)	$D < 45$
B	$45 \leq D < 54$
C	$54 \leq D < 63$
D	$63 \leq D < 72$
E	$72 \leq D < 81$
F	$81 \leq D < 90$
G (least efficient)	$D \geq 90$

## ANNEX VII

**Method for calculating the Energy Efficiency Index, annual water consumption and remaining moisture content**

## 1. CALCULATION OF THE ENERGY EFFICIENCY INDEX

For the calculation of the Energy Efficiency Index (*EEl*) of a household washing machine model, the weighted annual energy consumption of a household washing machine for the standard 60 °C cotton programme at full and partial load and for the standard 40 °C cotton programme at partial load is compared to its standard annual energy consumption.

(a) The Energy Efficiency Index (*EEl*) is calculated as follows and rounded to one decimal place:

$$EEI = \frac{AE_C}{SAE_C} \times 100$$

where:

$AE_C$  = annual energy consumption of the household washing machine;

$SAE_C$  = standard annual energy consumption of the household washing machine.

(b) The standard annual energy consumption ( $SAE_C$ ) is calculated in kWh/year as follows and rounded to two decimal places:

$$SAE_C = 47,0 \times c + 51,7$$

where:

$c$  = rated capacity of the household washing machine for the standard 60 °C cotton programme at full load or the standard 40 °C cotton programme at full load, whichever is the lower.

(c) The weighted annual energy consumption ( $AE_C$ ) is calculated in kWh/year as follows and is rounded to two decimal places:

$$(i) \quad AE_C = E_t \times 220 + \frac{\left[ P_o \times \frac{525\,600 - (T_t \times 200)}{2} + P_l \times \frac{525\,600 - (T_t \times 200)}{2} \right]}{60 \times 1\,000}$$

where:

$E_t$  = weighted energy consumption;

$P_o$  = weighted power in 'off-mode';

$P_l$  = weighted power in the 'left-on mode';

$T_t$  = weighted programme time;

220 = total number of standard washing cycles per year.

- (ii) Where the household washing machine is equipped with a power management system, with the household washing machine reverting automatically to 'off-mode' after the end of the programme, the weighted annual energy consumption ( $AE_C$ ) is calculated taking into consideration the effective duration of 'left-on mode', according to the following formula:

$$AE_C = E_t \times 220 + \frac{\{(P_l \times T_l \times 220) + P_o \times [525\,600 - (T_l \times 200) - (T_l \times 200)]\}}{60 \times 1\,000}$$

where:

$T_l$  = time in 'left-on mode'.

- (d) The weighted energy consumption ( $E_t$ ) is calculated in kWh as follows and rounded to three decimal places:

$$E_t = [3 \times E_{t,60} + 2 \times E_{t,60\frac{1}{2}} + 2 \times E_{t,40\frac{1}{2}}]/7$$

where:

$E_{t,60}$  = energy consumption of the standard 60 °C cotton programme at full load;

$E_{t,60\frac{1}{2}}$  = energy consumption of the standard 60 °C cotton programme at partial load;

$E_{t,40\frac{1}{2}}$  = energy consumption of the standard 40 °C cotton programme at partial load.

- (e) The weighted power in 'off-mode' ( $P_o$ ) is calculated in W as follows and rounded to two decimal places:

$$P_o = (3 \times P_{o,60} + 2 \times P_{o,60\frac{1}{2}} + 2 \times P_{o,40\frac{1}{2}})/7$$

where:

$P_{o,60}$  = power in 'off-mode' of the standard 60 °C cotton programme at full load;

$P_{o,60\frac{1}{2}}$  = power in 'off-mode' of the standard 60 °C cotton programme at partial load;

$P_{o,40\frac{1}{2}}$  = power in 'off-mode' of the standard 40 °C cotton programme at partial load.

- (f) The weighted power in the 'left-on mode' ( $P_l$ ) is calculated in W as follows and rounded to two decimal places:

$$P_l = (3 \times P_{l,60} + 2 \times P_{l,60\frac{1}{2}} + 2 \times P_{l,40\frac{1}{2}})/7$$

where:

$P_{l,60}$  = power in 'left-on mode' of the standard 60 °C cotton programme at full load;

$P_{l,60\frac{1}{2}}$  = power in 'left-on mode' of the standard 60 °C cotton programme at partial load;

$P_{l,40\frac{1}{2}}$  = power in 'left-on mode' of the standard 40 °C cotton programme at partial load.

- (g) The weighted programme time ( $T_l$ ) is calculated in minutes as follows and rounded to the nearest minute:

$$T_l = (3 \times T_{l,60} + 2 \times T_{l,60\frac{1}{2}} + 2 \times T_{l,40\frac{1}{2}})/7$$

where:

$T_{l,60}$  = programme time of the standard 60 °C cotton programme at full load;

$T_{l,60\frac{1}{2}}$  = programme time of the standard 60 °C cotton programme at partial load;

$T_{l,40\frac{1}{2}}$  = programme time of the standard 40 °C cotton programme at partial load.



- (h) The weighted time in 'left-on mode' ( $T_l$ ) is calculated in minutes as follows and rounded to the nearest minute:

$$T_l = (3 \times T_{l,60} + 2 \times T_{l,60\frac{1}{2}} + 2 \times T_{l,40\frac{1}{2}})/7$$

where:

$T_{l,60}$  = time in 'left-on mode' of the standard 60 °C cotton programme at full load;

$T_{l,60\frac{1}{2}}$  = time in 'left-on mode' of the standard 60 °C cotton programme at partial load;

$T_{l,40\frac{1}{2}}$  = time in 'left-on mode' of the standard 40 °C cotton programme at partial load.

## 2. CALCULATION OF THE WEIGHTED ANNUAL WATER CONSUMPTION

- (a) The weighted annual water consumption ( $AW_c$ ) of a household washing machine is calculated in litres as follows and rounded up to the integer:

$$AW_c = W_t \times 220$$

where:

$W_t$  = weighted water consumption;

220 = total number of standard washing cycles per year.

- (b) The weighted water consumption ( $W_t$ ) is calculated in litres as follows and rounded up to the integer

$$W_t = (3 \times W_{t,60} + 2 \times W_{t,60\frac{1}{2}} + 2 \times W_{t,40\frac{1}{2}})/7$$

where:

$W_{t,60}$  = water consumption of the standard 60 °C cotton programme at full load;

$W_{t,60\frac{1}{2}}$  = water consumption of the standard 60 °C cotton programme at partial load;

$W_{t,40\frac{1}{2}}$  = water consumption of the standard 40 °C cotton programme at partial load.

## 3. CALCULATION OF THE WEIGHTED REMAINING MOISTURE CONTENT

The weighted remaining moisture content ( $D$ ) of a household washing machine is calculated in percentage as follows and rounded to the nearest whole percent:

$$D = (3 \times D_{60} + 2 \times D_{60\frac{1}{2}} + 2 \times D_{40\frac{1}{2}})/7$$

where:

$D_{60}$  is the residual moisture content for the standard 60 °C cotton programme at full load, in percentage and rounded to the nearest whole per cent;

$D_{60\frac{1}{2}}$  is the residual moisture content for the standard 60 °C cotton programme at partial load, in percentage and rounded to the nearest whole per cent;

$D_{40\frac{1}{2}}$  is the residual moisture content for the standard 40 °C cotton programme at partial load, in percentage and rounded to the nearest whole per cent.

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