

Delegated Regulation (EU) 1059/2010 of 28 September 2010 supplementing Directive 2010/30/EU with regard to energy labelling of household dishwashers

Incorporated and adapted by Ministerial Council Decision 2011/03/MC-EnC of 6 October 2011 on adopting certain Delegated Regulations on energy related products.

*The adaptations made by Ministerial Council Decision 2011/03/MC-EnC are highlighted in **bold and blue**.*

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 dishwashers were established by Commission Directive 97/17/EC of 16 April 1997 implementing Council Directive 92/75/EEC with regard to energy labelling of household dishwashers.

(3) The electricity used by household dishwashers 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 dishwashers is substantial.

(4) Directive 97/17/EC should be repealed and new provisions should be laid down by this Regulation in order to ensure that the energy label provides dynamic incentives for suppliers to further improve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 dishwashers and to accelerate the market transformation towards energy-efficient technologies.

(5) 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.

(6) This Regulation should specify a uniform design and content for the label for household dishwashers.

(7) In addition, this Regulation should specify requirements as to the technical documentation and the fiche for household dishwashers.

(8) 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 dishwashers.

(9) It is appropriate to provide for a review of the provisions of this Regulation taking into account technological progress.

(10) In order to facilitate the transition from Directive 97/17/EC to this Regulation, it is appropriate to provide that household dishwashers labelled in accordance with this Regulation are to be considered compliant with Directive 97/17/EC.

(11) Directive 97/17/EC should therefore be repealed,

Article 1

Subject matter and scope

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

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 purpose of this Regulation:

- (1) "household dishwasher" means a machine which cleans, rinses, and dries dishware, glassware, cutlery and cooking utensils by chemical, mechanical, thermal, and electric means and which is designed to be used principally for non-professional purposes;
- (2) "built-in household dishwasher" means a household dishwasher intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing;
- (3) "place settings" means a defined set of crockery, glass and cutlery for use by one person;
- (4) "rated capacity" means the maximum number of place settings together with the serving pieces, as stated by the supplier, which can be treated in a household dishwasher on the programme selected, when loaded in accordance with the supplier's instructions;
- (5) "programme" means a series of operations that are pre-defined and are declared as suitable by the supplier for specified levels of soil or type of load, or both, and together form a complete cycle;
- (6) "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;
- (7) "cycle" means a complete cleaning, rinsing, and drying process, as defined for the selected programme;
- (8) "off-mode" means a condition where the household dishwasher 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 dishwasher 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 dishwasher reverts to a steady-state power consumption on its own;
- (9) "left-on mode" means the lowest power consumption mode that may persist for an indefinite time after completion of the programme and unloading of the household dishwasher without any further intervention by the end-user;
- (10) "equivalent household dishwasher" means a model of household dishwasher placed on the market with the same rated capacity, technical and performance characteristics, energy and water consumption and airborne acoustical noise emissions as another model of household dishwasher placed on the market under a different commercial code number by the same supplier;
- (11) "end-user" means a consumer buying or expected to buy a household dishwasher;

(12) "point of sale" means a location where household dishwashers are displayed or offered for sale, hire or hire-purchase.

Article 3

Responsibilities of suppliers

Suppliers shall ensure that:

- (a) each household dishwasher 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 **Contracting Parties** and to the **Secretariat**;
- (d) any advertisement for a specific model of household dishwasher 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 dishwasher 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 dishwasher, 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 dishwasher, in such a way as to be clearly visible;
- (b) household dishwashers offered for sale, hire or hire-purchase where the end-user cannot be expected to see the household dishwasher displayed, are marketed with the information provided by suppliers in accordance with Annex IV;
- (c) any advertisement for a specific model of household dishwasher 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 dishwasher 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 methods, which take into account the recognised state-of-the-art measurement methods.

Article 6

Verification procedure for market surveillance purposes

Contracting Parties 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, drying efficiency index, programme time, power consumption in off-mode and left-on mode, duration of the left-on mode and airborne acoustical noise emissions.

Article 7

Revision

...

Article 8

Repeal

...

Article 9

Transitional provisions

1. Articles 3(d), (e), 4(b), (c) and (d) shall not apply to printed advertisement and printed technical promotional material published before **30 April 2013**.
2. Household dishwashers placed on the market before **31 December 2012** shall comply with the provisions set out in Directive 97/17/EC.
3. ...

Article 10

Entry into force and application

This Decision [2011/03/MC-EnC] enters into force upon its adoption¹

It shall apply from **31 December 2012**. However, Articles 3(d), (e), 4(b), (c) and (d) shall apply from 30 April 2013.

This Regulation shall be binding in its entirety and directly applicable in all **Contracting Parties**.

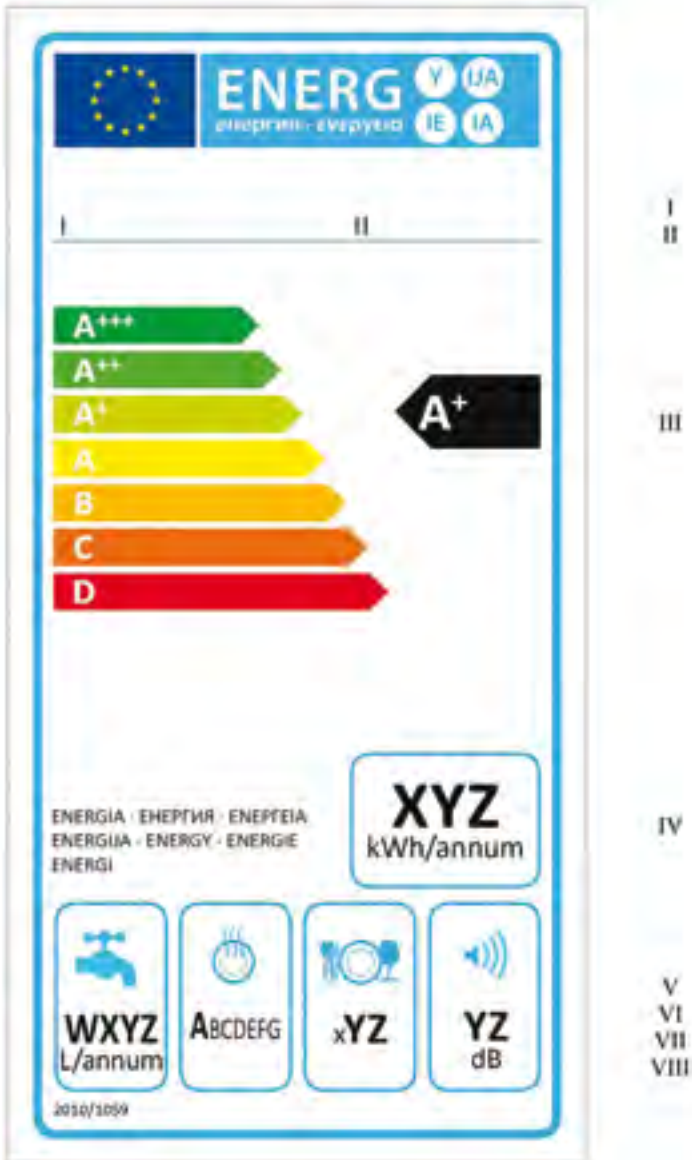
Article 2(5) of Decision 2011/03/MC-EnC

The Secretariat shall monitor and review the implementation of [this] Delegated Regulation ... and shall submit a progress report to the Permanent High Level Group by 1 October 2013.

¹ The text displayed here corresponds to Article 3(1) of Decision 2011/03/MC-EnC.

ANNEX I Label

1. LABEL



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

I. supplier's name or trade mark;

II. supplier's model identifier, where 'model identifier' means the code, usually alphanumeric, which distinguishes a specific household dishwasher 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 dishwasher shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

IV. annual energy consumption (AE_c) in kWh per year, rounded up to the nearest integer and calculated in accordance with point 1(b) of Annex VII;

V. annual water consumption (AW_c) in litres per year, rounded up to the nearest integer and calculated in accordance with point 3 of Annex VII;

VI. the drying efficiency class determined in accordance with point 2 of Annex VI;

VII. rated capacity in standard place settings, for the standard cleaning cycle;

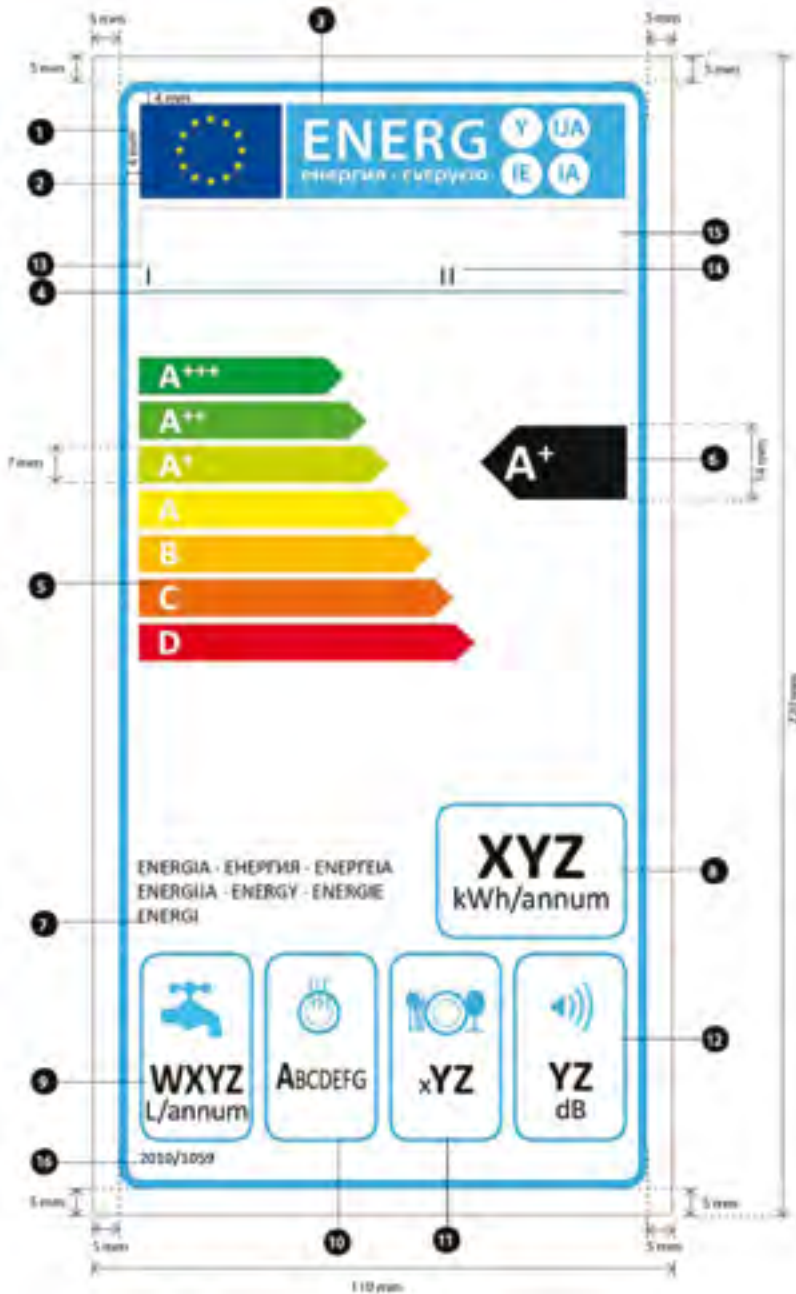
VIII. airborne acoustical noise emissions expressed in dB(A) re 1 pW and rounded to the nearest integer.

(2) The design of the label shall be in accordance with point 2. By way of derogation, where a model has been granted an 'EU Ecolabel' under Regulation (EC) No 66/2010 of the European Parliament and of the Council², a copy of the EU Ecolabel may be added.

² OJ L 27, 30.1.2010, p. 1.

2. LABEL DESIGN

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



Whereby

(a) The label shall 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):

① Border stroke: 5 pt - colour: Cyan 100% - round corners: 3,5 mm.

② EU logo - colours: X-80-00-00 and 00-00-X-00.

③ Energy logo: colour: X-00-00-00. Pictogram as depicted; EU logo and energy logo (combined): width: 92 mm, height: 17 mm.

④ Sub-logos border: 1 pt - colour: Cyan 100% - length: 92,5 mm.

⑤ 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.

⑥ 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 Annual energy consumption

- Border: 2 pt - colour: Cyan 100% - round corners: 3,5 mm.

- Value: Calibri bold 37 pt, 100% black.

- Second line: Calibri regular 17 pt, 100% black.

- 9 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 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.
- 11 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.
- 12 Noise emissions:
- 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.
- 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 9 pt, 100% black.

ANNEX II

Product fiche

1. The information in the product fiche of the household dishwasher 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 dishwasher model from other models with the same trade mark or supplier's name;
- (c) rated capacity, in standard place settings, for the standard cleaning cycle;
- (d) energy efficiency class, in accordance with point 1 of Annex VI;
- (e) where the household dishwasher has been awarded an 'EU Ecolabel' under Regulation (EC) No 66/2010, this information may be included;
- (f) annual energy consumption (AE_c) in kWh per year, rounded up to the nearest integer and calculated in accordance with point 1(b) of Annex VII. It shall be described as 'Energy consumption "X" kWh per year, based on 280 standard cleaning cycles using cold water fill and the consumption of the low power modes. Actual energy consumption will depend on how the appliance is used.';
- (g) the energy consumption (E_d) of the standard cleaning cycle;
- (h) the power consumption in off-mode and left-on mode (P_o and P_l);
- (i) annual water consumption (AW_c), in litres per year, rounded up to the nearest integer and calculated in accordance with point 3 of Annex VII; it shall be described as: 'Water consumption "X" litres per year, based on 280 standard cleaning cycles. Actual water consumption will depend on how the appliance is used.';
- (j) drying efficiency class determined in accordance with point 2 of Annex VI expressed as 'Drying efficiency class "X" on a scale from G (least efficient) to A (most efficient)'. Where this information is provided in a table, this may be expressed by other means provided it is clear that the scale is from G (least efficient) to A (most efficient);
- (k) indication that the 'standard programme' is the standard cleaning cycle to which the information in the label and the fiche relates, that this programme is suitable to clean normally soiled tableware, and that it is the most efficient programme in terms of combined energy and water consumption;
- (l) programme time for the standard cleaning cycle, in minutes and rounded to the nearest integer;
- (m) the duration of the left-on mode (T_l) if the household dishwasher is equipped with a power management system;
- (n) airborne acoustical noise emissions expressed in dB(A) re 1 pW and rounded to the nearest integer;
- (o) if the household dishwasher is intended to be built-in, an indication to this effect.

2. One fiche may cover a number of household dishwasher 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.

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 dishwasher 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) technical parameters for measurements as follows:
 - (i) energy consumption;
 - (ii) water consumption;
 - (iii) programme time;
 - (iv) drying efficiency;
 - (v) power consumption in 'off-mode';
 - (vi) power consumption in 'left-on mode';
 - (vii) 'left-on mode' duration;
 - (viii) airborne acoustical noise emissions;
- (g) the results of calculations performed in accordance with Annex VII.

2. Where the information included in the technical documentation file for a particular household dishwasher model has been obtained by calculation on the basis of design, or extrapolation from other equivalent household dishwashers, 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 dishwasher models where the information was obtained on the same basis.

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 energy efficiency class, as defined in point 1 of Annex VI;
 - (b) the rated capacity in standard place settings for the standard cleaning cycle;
 - (c) the annual energy consumption (AE_c) in kWh per year, rounded up to the nearest integer and calculated in accordance with point 1(b) of Annex VII;
 - (d) the annual water consumption (AW_c) in litres per year, rounded up to the nearest integer and calculated in accordance with point 3 of Annex VII;
 - (e) the drying efficiency class in accordance with point 2 of Annex VI;
 - (f) airborne acoustical noise emissions in dB(A) re 1 pW and rounded to the nearest integer;
 - (g) if the model is intended 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.

ANNEX V

Verification procedure for market surveillance purposes

For the purposes of checking conformity with the requirements laid down in Articles 3 and 4, **Contracting Party** authorities shall test a single household dishwasher. 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 made on three more household dishwashers. The arithmetic mean of the measured values of these three household dishwashers 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 dishwasher models shall be considered not to comply with the requirements laid down in Articles 3 and 4.

Contracting Party 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%.
Water consumption	The measured value shall not be greater than the rated value of W_t by more than 10%.
Drying efficiency index	The measured value shall not be less than the rated value of I_D by more than 19%.
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%.
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 left-on mode	The value measured 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 declared by the supplier.

ANNEX VI

Energy efficiency classes and drying efficiency classes

1. ENERGY EFFICIENCY CLASSES

The energy efficiency class of a household dishwasher 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 dishwasher shall be calculated in accordance with point 1 of Annex VII.

Table 1

Energy efficiency classes

Energy efficiency class	Energy Efficiency Index
A+++ (most efficient)	$EEI < 50$
A++	$50 \leq EEI < 56$
A+	$56 \leq EEI < 63$
A	$63 \leq EEI < 71$
B	$71 \leq EEI < 80$
C	$80 \leq EEI < 90$
D (least efficient)	$EEI \geq 90$

2. DRYING EFFICIENCY CLASSES

The drying efficiency class of a household dishwasher shall be determined on the basis of its Drying Efficiency Index (I_D) as set out in Table 2.

The Drying Efficiency Index (I_D) shall be calculated in accordance with point 2 of Annex VII.

Table 2

Drying efficiency classes

Drying efficiency class	Drying Efficiency Index
A	$I_D > 1.08$
B	$1.08 \geq I_D > 0.86$
C	$0.86 \geq I_D > 0.69$
D	$0.69 \geq I_D > 0.55$
E	$0.55 \geq I_D > 0.44$
F	$0.44 \geq I_D > 0.33$
G (least efficient)	$0.33 \geq I_D$

ANNEX VII

Method for calculating the energy efficiency index, the drying efficiency index and water consumption

1. CALCULATION OF THE ENERGY EFFICIENCY INDEX

For the calculation of the Energy Efficiency Index (EEI) of a household dishwasher model, the annual energy consumption of the household dishwasher is compared to its standard annual energy consumption.

(a) The Energy Efficiency Index (EEI) 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 dishwasher;

SAE_C = standard annual energy consumption of the household dishwasher.

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

(i)

$$AE_C = E_t \times 280 + \frac{\left[P_o \times \frac{525\,600 - (T_t \times 280)}{2} + P_l \times \frac{525\,600 - (T_t \times 280)}{2} \right]}{60 \times 1\,000}$$

where:

E_t = energy consumption for the standard cycle, in kWh and rounded to three decimal places;

P_l = power in 'left-on mode' for the standard cleaning cycle, in W and rounded to two decimal places;

P_o = power in 'off-mode' for the standard cleaning cycle, in W and rounded to two decimal places;

T_t = programme time for the standard cleaning cycle, in minutes and rounded to the nearest minute;

280 = total number of standard cleaning cycles per year;

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

$$AE_C = E_t \times 280 + \frac{\{(P_l \times T_t \times 280) + P_o \times [525\,600 - (T_t \times 280) - (T_t \times 280)]\}}{60 \times 1\,000}$$

where:

T_I = measured time in 'left-on mode' for the standard cleaning cycle, in minutes and rounded to the nearest minute;

280 = total number of standard cleaning cycles per year.

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

(i) for household dishwashers with rated capacity $ps \geq 10$ and width > 50 cm:

$$SAE_C = 7,0 \times ps + 378$$

(ii) for household dishwashers with rated capacity $ps \leq 9$ and household dishwashers with rated capacity $9 < ps \leq 11$ and width ≤ 50 cm:

hold dishwashers with rated capacity $ps \leq 9$ and household dishwashers with width ≤ 50 cm:

$$SAE_C = 25,2 \times ps + 126$$

where:

ps = number of place settings.

2. CALCULATION OF THE DRYING EFFICIENCY INDEX

For the calculation of the Drying Efficiency Index (I_D) of a household dishwasher model, the drying efficiency of the household dishwasher is compared to the drying efficiency of a reference dishwasher, where the reference dishwasher shall have the characteristics indicated in 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.

(a) The Drying Efficiency Index (I_D) is calculated as follows and rounded to two decimal places:

$$\ln I_D = \frac{1}{n} \times \sum_{i=1}^n \ln \left(\frac{D_{T,i}}{D_{R,i}} \right)$$

$$I_D = \exp(\ln I_D)$$

where:

$D_{T,i}$ = drying efficiency of the household dishwasher under test for one test cycle (i);

$D_{R,i}$ = drying efficiency of the reference dishwasher for one test cycle (i);

n = number of test cycles, $n \geq 5$.

(b) The drying efficiency (D) is the average of the wet score of each load item after completion of a standard cleaning cycle. The wet score is calculated as shown in Table 1:

Table 1

Number of water traces (W_T) or wet streak (W_S)	Total wet area (A_w) in mm ²	Wet score
$W_T = 0$ and $W_S = 0$	Not applicable	2 (most efficient)
$1 < W_T \leq 2$ or $W_S = 1$	$A_w < 50$	0
$2 < W_T$ or $W_S = 2$ or $W_S = 1$ and $W_T = 1$	$A_w > 50$	0 (least efficient)

3. CALCULATION OF THE ANNUAL WATER CONSUMPTION

The annual water consumption (AW_C) of a household dishwasher is calculated, in litres and rounded up to the nearest integer, as:

$$AW_C = W_t \times 280$$

where:

W_t = water consumption for the standard cleaning cycle, in litres and rounded to one decimal place.