



CABINET OF MINISTERS OF UKRAINE
RESOLUTION

No. 736 of 14 August 2019
Kyiv

**On Approval of the Technical Regulation on Ecodesign
Requirements for Household Dishwashers**

In accordance with [Article 5](#) of the Law of Ukraine ‘On Technical Regulations and Conformity Assessment’, the Cabinet of Ministers of Ukraine hereby **resolves**:

1. To approve the [Technical Regulation on Ecodesign Requirements for Household Dishwashers](#), as attached to the original.
2. The State Agency on Energy Efficiency and Energy Saving shall ensure the implementation of the Technical Regulation approved by this Resolution.
3. To introduce to the [list of types of products subject to state market surveillance by state market surveillance bodies](#), approved by the Resolution of the Cabinet of Ministers of Ukraine No. 1069 of 28 December 2016 (Official Journal of Ukraine, 2017, No. 50, p. 1550), amendment, as attached.
4. This Resolution shall enter into force after six months following its publication.

Prime Minister of Ukraine

VOLODYMYR GROYSMAN

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APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 736 of 14 August 2019

AMENDMENT
to be introduced to the list of types of products subject to state
market surveillance by state market surveillance authorities

Point 24 shall be replaced by the following:

‘24. Household dishwashers	Resolution of the Cabinet of Ministers of Ukraine No. 514 of 17 July 2015 ‘On Approval of the Technical Regulation on Energy Labelling of Household Dishwashers’	State Service of Ukraine on Food Safety and Consumer Protection’.
	Resolution of the Cabinet of Ministers of Ukraine No. 736 of 14 August 2019 ‘On Approval of the Technical Regulation on Ecodesign Requirements for Household Dishwashers’	

{The text of the Technical Regulation was taken from the official website of the Cabinet of Ministers of Ukraine}

TECHNICAL REGULATION

on Ecodesign Requirements for Household Dishwashers

General part

1. This Technical Regulation establishes ecodesign requirements for household dishwashers, in particular:

electric mains-operated household dishwashers;

electric mains-operated dishwashers, intended for professional use, that can also be powered by batteries;

built-in household dishwashers.

This Technical Regulation is based on the Commission Regulation (EU) No 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers.

2. For the purposes of this Technical Regulation, the terms used herein shall have the following meanings:

‘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;

‘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 manufacturer;

‘rated capacity’ means the maximum number of place settings together with the serving pieces, as stated by the manufacturer, which can be treated in a household dishwasher on the programme selected when loaded in accordance with the manufacturer’s instructions;

‘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;

‘programme’ means operations that are pre-defined and are declared as suitable by the manufacturer for specified levels of soil and/or types of load, and together form a complete cycle;

‘off-mode’ means a condition where the household dishwasher is switched off using appliance controls or switches that may persist for an indefinite time while the household dishwasher is connected to a power source; 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;

‘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 of the end-user;

‘place settings’ means a defined set of crockery, glass and cutlery for use by one person;

‘cycle’ means a complete cleaning, rinsing, and drying process, as defined for the selected programme;

‘programme time’ means the time that elapses from the initiation of the programme until the completion of the programme, excluding any user-programmed delay;

Other terms used herein shall have meanings set out in the Laws of Ukraine ‘On Technical Regulations and Conformity Assessment’, ‘On State Market Surveillance and Control of Non-Food Products’, ‘On Standardization’, ‘On General Safety of Non-Food Products’ and in the Technical Regulation Establishing a Framework for the Setting of Ecodesign Requirements for Energy-Related Products, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 804 of 3 October 2018 (Official Journal of Ukraine, 2018, No. 80, p. 2678).

Ecodesign requirements

3. The generic ecodesign requirements for household dishwashers are set out in point 1 of Annex 1.

4. The specific ecodesign requirements for household dishwashers are set out in point 2 of Annex 1.

Conformity assessment

5. Conformity of household dishwashers with the requirements of this Technical Regulation shall be assessed by applying the internal design control procedure or the management system conformity assessment procedure set out, respectively, in Annexes 3 and 4 to the Technical Regulation Establishing a Framework for the Setting of Ecodesign Requirements for Energy-Related Products, approved by the Resolution of the Cabinet of Ministers of Ukraine No 804 of 3 October 2018.

For the purposes of conformity assessment of household dishwashers with the requirements of this Technical Regulation, the technical documentation file shall contain the results of the calculation set out in Annex 2.

Where the information included in the technical documentation for a particular household dishwasher model has been obtained by calculation on the basis of design and/or extrapolation from other equivalent household dishwashers, the technical documentation shall include details of such calculations and tests undertaken to verify their accuracy and the performance and characteristics of the household dishwasher. The technical documentation shall also include a list of all other equivalent household dishwasher models where the information was obtained on the same basis.

State market surveillance

6. Verification of conformity of household dishwashers with the requirements of this Technical Regulation in the course of state market surveillance shall be made in accordance with the requirements laid down in Annex 3.

Indicative Benchmarks

7. The indicative benchmarks for best-performing household dishwashers available on the market are set out in Annex 4.

Correlation table

8. The correlation table of the provisions of Commission Regulation (EU) No 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers and the provisions of this Technical Regulation is set out in Annex 5.

Annex 1
to the Technical Regulation

ECODESIGN REQUIREMENTS
for household dishwashers

Generic ecodesign requirements

1. For the calculation of the energy consumption and other parameters for household dishwashers, the cycle which cleans normally soiled tableware (hereafter standard cleaning cycle) shall be used. The standard cleaning cycle shall be clearly identifiable on the programme selection device of the household dishwasher or the household dishwasher display (if any), or both, and named 'standard programme' and shall be set as the default cycle for household dishwashers equipped with automatic programme selection or any function for automatically selecting a cleaning programme or maintaining the selection of a programme.

2. The booklet of instructions provided by the manufacturer shall provide:

the standard cleaning cycle ('standard programme') shall specify that it is suitable to clean normally soiled tableware and that it is the most efficient programme in terms of its combined energy and water consumption to clean normally soiled tableware;

the power consumption of the off-mode and of the left-on mode;

the programme time, energy and water consumption for the main cleaning programmes.

Specific ecodesign requirements

3. One year after the Technical Regulation on Ecodesign Requirements for Household Dishwashers (hereinafter referred to as 'Technical Regulation') has come into force:

1) for all household dishwashers, except household dishwashers with a rated capacity of 10 place settings and a width equal to or less than 45 cm, the Energy Efficiency Index (EEI) shall be less than 71;

2) for household dishwashers with a rated capacity of 10 place settings and a width equal to or less than 45 cm, the Energy Efficiency Index (EEI) shall be less than 80;

3) for all household dishwashers, the Cleaning Efficiency Index (I_c) shall be greater than 1,12.

4. Three years after this Technical Regulation has come into force:

1) for household dishwashers with a rated capacity equal to or higher than 11 place settings and household dishwashers with a rated capacity of 10 place settings and a width higher than 45 cm, the Energy Efficiency Index (EEI) shall be less than 63;

2) for household dishwashers with a rated capacity of 10 place settings and a width equal to or less than 45 cm, the Energy Efficiency Index (EEI) shall be less than 71;

3) for household dishwashers with a rated capacity equal to or higher than 8 place settings, the Drying Efficiency Index (I_D) shall be greater than 1,08;

4) for household dishwashers with a rated capacity equal to or less than 7 place settings, the Drying Efficiency Index (I_D) shall be greater than 0,86.

5. Six years after this Technical Regulation has come into force, for household dishwashers with a rated capacity of 8 and 9 place settings and household dishwashers with a rated capacity of 10 place settings and a width equal to or less than 45 cm, the Energy Efficiency Index (EEI) shall be less than 63.

The Energy Efficiency Index (EEI), the Cleaning Efficiency Index (I_c) and the Drying Efficiency Index (I_D) of household dishwashers are calculated in accordance with Annex 2 to the Technical Regulation.

Annex 2
to the Technical Regulation

METHOD

for calculating the Energy Efficiency Index, the Cleaning Efficiency Index and the
Drying Efficiency Index of household dishwashers

Calculation of the Energy Efficiency Index

1. The Energy Efficiency Index (EEI) shall be calculated as a ratio between the Annual Energy Consumption of the household dishwasher and the Standard Energy Consumption of the household dishwasher.

2. 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 is the Annual Energy Consumption of the household dishwasher;

SAE_c is the Standard Annual Energy consumption of the household dishwasher.

3. The Annual Energy Consumption of the household dishwasher (AE_c) is calculated in kWh/year as follows and rounded to two decimal places:

$$AE_c = E_t \times 280 + \frac{\left[P_o \times \frac{525600 - (T_t \times 280)}{2} + P_1 \times \frac{525600 - (T_t \times 280)}{2} \right]}{60 \times 1000},$$

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

P_1 is the power in 'left-on mode' for the standard cleaning cycle, in W and rounded to two decimal places;

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

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

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, the Annual Energy Consumption of the household dishwasher (AE_c) is calculated taking into consideration the effective duration of 'left-on mode', according to the following formula:

$$AE_c = E_t \times 280 + \frac{\{(P_1 \times T_t \times 280) + P_o \times [525600 - (T_t \times 280) - (T_t \times 280)]\}}{60 \times 1000},$$

where T_1 is the time in 'left-on mode', in minutes and rounded to the nearest minute;
280 is the total number of standard cleaning cycles per year.

4. The Standard Annual Energy Consumption (SAE_c) is calculated according to the formulae below in kWh/year and rounded to two decimal places.

For household dishwashers with rated capacity $ps \geq 10$ and width > 50 cm:

$$SAE_c = 7 \times ps + 378,$$

where ps is the number of place settings.

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

$$SAE_c = 25,2 \times ps + 126.$$

Calculation of the Cleaning Efficiency Index

5. The Cleaning Efficiency Index (I_c) of a household dishwasher model shall be calculated as a ratio between the cleaning efficiency of the household dishwasher and the cleaning efficiency of a reference dishwasher, where the reference dishwasher shall have the characteristics indicated in the generally recognised state-of-the-art measurement methods.

6. The Cleaning Efficiency Index (I_c) of the household dishwasher is calculated as follows and rounded to two decimal places:

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

$$I_c = \exp(\ln I_c),$$

where $C_{T,i}$ is the cleaning efficiency of the household dishwasher under test for one test cycle (i);

$C_{R,i}$ is the cleaning efficiency of the reference dishwasher for one test cycle (i);

n is the number of test cycles, $n \geq 5$.

7. The cleaning efficiency (C) is the average of the soil score of each load item after completion of a standard cleaning cycle. The soil score is calculated as shown in Table 1.

Table 1

Number of small dot-shaped soil particles (n)	Total soiled area (A_s) in mm^2	Soil score
$n = 0$	$A_s = 0$	5 (most efficient)
$0 < n \leq 4$	$0 < A_s \leq 4$	4
$4 < n \leq 10$	$0 < A_s \leq 4$	3
$10 < n$	$4 < A_s \leq 50$	2
Not applicable	$50 < A_s \leq 200$	1
Not applicable	$200 < A_s$	0 (least efficient)

Calculation of the Drying Efficiency Index

8. The Drying Efficiency Index (I_D) of a household dishwasher model shall be calculated as a ratio between the drying efficiency of the household dishwasher and 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.

9. The Drying Efficiency Index (I_D) of a household dishwasher 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 $D_{T,i}$ is the drying efficiency of the household dishwasher under test for one test cycle (i);

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

n is the number of test cycles, $n \geq 5$.

10. 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 2.

Table 2

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 $W_S = 1$	$A_w < 50$	1
$2 < W_T$ or $W_S = 2$ or $W_S = 1$ and $W_T = 1$	$A_w > 50$	0 (least efficient)

Annex 3
to the Technical Regulation

REQUIREMENTS

for verifying conformity of household dishwashers with the requirements of the
Technical Regulation on Ecodesign Requirements for Household Dishwashers during
state market surveillance

1. The verification tolerances referred to in this Annex are to be applied by state market surveillance bodies and shall not be used by the manufacturer or importer to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

2. The verification of conformity of household dishwashers with the requirements of the Technical Regulation on Ecodesign Requirements for Household Dishwashers (hereinafter referred to as ‘Technical Regulation’) shall be carried out by state market surveillance authorities taking into account the following requirements:

1) one single household dishwasher per model shall be tested;

2) a household dishwasher model shall be considered to comply with the requirements of the Technical Regulation, where:

performance indicators given in the technical documentation and the values used to calculate these indicators are not more favourable for the manufacturer or importer than the results of the corresponding measurements carried out pursuant to subpoint 7 of point 3 of Annex 3 to the Technical Regulation Establishing a Framework for the Setting of Ecodesign Requirements for Energy-Related Products, approved by the Resolution of the Cabinet of Ministers of Ukraine No 804 of 3 October 2018;

the declared values meet the requirements laid down in the Technical Regulation, and the necessary product information provided by the manufacturer or importer does not contain indicators that are more favourable for the manufacturer or importer;

when the state market surveillance authorities test the household dishwasher, the determined parameters and the values comply with the respective verification tolerances as given in the Table;

3) if the results referred to in the second or third indent of subpoint 2 are not achieved, the model, along with the other models listed as equivalent models in the technical documentation, shall be considered not to comply with the requirements of the Technical Regulation;

4) if the result referred to in the fourth indent of subpoint 2 of this point is not achieved, the state market surveillance authorities shall select three additional household dishwashers of the same model for testing; As an alternative, the three additional household dishwashers selected may be of one or more different models listed as equivalent models in the technical documentation;

5) the model shall be considered to comply with the requirements of the Technical Regulation if, for these three household dishwashers, the arithmetical mean of the determined values complies with the respective verification tolerances given in the Table;

6) if the result referred to in subpoint 5 of this point is not achieved, the household dishwasher model, along with the other models listed as equivalent models in the technical documentation, shall be considered not to comply with the requirements of the Technical Regulation.

3. The state market surveillance authorities shall use the calculation methods set out in Annex 2 to the Technical Regulation.

The state market surveillance authorities shall only apply the verification tolerances that are set out in the Table, taking into account the requirements set out in subpoints 1 to 6 of point 2 of this Annex. No other tolerances, such as those set out in the national standards that are identical to the European harmonised standards or in any other measurement method, shall be applied.

Table

Verification tolerances	
Parameters to be checked	Verification tolerances
Annual energy consumption (AE _c)	the measured value shall not be greater than the rated value by more than 10 %
Cleaning efficiency index (I _c)	the measured value shall not be less than the rated value by more than 10 %
Drying efficiency index (I _D)	the measured value shall not be less than the rated value by more than 19 %
Energy consumption (E _t)	the measured value shall not be greater than the rated value by more than 10 % the arithmetic mean of the measured value of three additional models shall not be greater than the rated value by more than 6 %
Programme time (T _t)	the measured value shall not be greater than the rated value by more than 10 %
Power consumption in off-mode and left-on mode (P _o та P _l)	the measured value of power consumption of more than 1 W shall not be greater than the rated value by more than 10 % the measured value of power consumption of less than or equal to 1 W shall not be greater than the rated value by more than 0,1 W
Duration of left-on mode (T _l)	the measured value shall not be greater than the rated value by more than 10 %

INDICATIVE BENCHMARKS

At the time of entry into force of the Technical Regulation on Ecodesign Requirements for Household Dishwashers, the indicative benchmarks for the best-performing household dishwashers available on the market in terms of their energy efficiency, energy and water consumption, cleaning and drying efficiency and airborne acoustical noise emissions are identified as follows:

1. For built-in household dishwashers with 15 place settings:

energy consumption: 0,88 kWh/cycle, corresponding to an overall annual energy consumption of 268,9 kWh/year, of which 246,4 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 10 litres/cycle, corresponding to 2800 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $I_D > 1,08$;

airborne acoustical noise emissions: 45 dB(A) re 1 pW;

2. For household dishwashers with 14 place settings:

energy consumption: 0,83 kWh/cycle, corresponding to an overall annual energy consumption of 244,9 kWh/year, of which 232,4 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 10 litres/cycle, corresponding to 2800 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $I_D > 1,08$;

airborne acoustical noise emissions: 41 dB(A) re 1 pW;

3. For household dishwashers with 13 place settings:

energy consumption: 0,83 kWh/cycle, corresponding to an overall annual energy consumption of 244,9 kWh/year, of which 232,4 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 10 litres/cycle, corresponding to 2800 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $I_D > 1,08$;

airborne acoustical noise emissions: 42 dB(A) re 1 pW;

4. For household dishwashers with 12 place settings:

energy consumption: 0,950 kWh/cycle, corresponding to an overall annual energy consumption of 278,5 kWh/year, of which 266,4 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 9 litres/cycle, corresponding to 2520 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $I_D > 1,08$;

airborne acoustical noise emissions: 41 dB(A) re 1 pW;

5. For built-in household dishwashers with 9 place settings:

energy consumption: 0,800 kWh/cycle, corresponding to an overall annual energy consumption of 236,5 kWh/year, of which 224 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 9 litres/cycle, corresponding to 2520 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $I_D > 1,08$;

airborne acoustical noise emissions: 44 dB(A) re 1 pW;

6. For built-in household dishwashers with 6 place settings:

energy consumption: 0,63 kWh/cycle, corresponding to an overall annual energy consumption of 208,5 kWh/year, of which 196 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 7 litres/cycle, corresponding to 1960 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $1,08 \geq I_D > 0,86$;

airborne acoustical noise emissions: 45 dB(A) re 1 pW;

7. For household dishwashers with 4 place settings:

energy consumption: 0,51 kWh/cycle, corresponding to an overall annual energy consumption of 155,3 kWh/year, of which 142,8 kWh/year for 280 washing cycles and 12,5 kWh/year due to the low power modes;

water consumption: 9,5 litres/cycle, corresponding to 2660 litres/year for 280 cycles;

cleaning efficiency index: $I_c > 1,12$;

drying efficiency index: $1,08 \geq I_D > 0,86$;

airborne acoustical noise emissions: 53 dB(A) re 1 pW.

Annex 5
to the Technical Regulation

CORRELATION TABLE

of the provisions of Commission Regulation (EU) No 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers and the provisions of the Technical Regulation on Ecodesign Requirements for Household Dishwashers

Provisions of the Commission Regulation (EU)	Provisions of the Technical Regulation
Article 1	point 1
First indent of Article 2	first indent of point 2
Article 2(1)	fifth indent of point 2
Article 2(2)	second indent of point 2
Article 2(3)	ninth indent of point 2
Article 2(4)	fourth indent of point 2
Article 2(5)	sixth indent of point 2
Article 2(6)	eleventh indent of point 2
Article 2(7)	tenth indent of point 2
Article 2(8)	seventh indent of point 2
Article 2(9)	eighth indent of point 2
Article 2(10)	third indent of point 2
Article 3	points 3 and 4
Article 4	point 5
Article 5	point 6
Article 6	point 7
Article 7	
Article 8	
Annex I	annex 1
Annex II	annex 2
Annex III	annex 3
Annex IV	annex 4