CABINET OF MINISTERS OF UKRAINE

RESOLUTION

No. 742 of 14 August 2019
Kyiv

On Approval of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods

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 Domestic Ovens, Hobs and Range Hoods, as attached to the original.

2. The State Agency on Energy Efficiency and Energy Saving shall provide for 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 authorities, 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**

Ind. 21

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 742 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

The list shall be supplemented with point 52[1] to read as follows:

'52[1]. Domestic ovens, hobs and range hoods	Resolution of the Cabinet of Ministers of Ukraine No. 742 of 14 August 2019 'On Approval of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods'	State Service of Ukraine on Food Safety and Consumer Protection'.

{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 Domestic Ovens, Hobs and Range Hoods

General part

1. This Technical Regulation establishes ecodesign requirements for the placing on the market of domestic ovens, including when incorporated in cookers, domestic hobs and domestic electric range hoods, including when sold for non-domestic purposes.

This Technical Regulation is based on the Commission Regulation (EU) No 66/2014 of 14 January 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for domestic ovens, hobs and range hoods.

2. This Technical Regulation shall not apply to:

appliances that use energy sources other than electricity or gas;

appliances which offer ‘microwave heating’ function;

small ovens;

portable ovens;

heat storage ovens;

ovens which are heated with steam as a primary heating function;

covered gas burners in hobs;

outdoor cooking appliances;

appliances designed for use only with gases of the ‘third family’ (propane and butane);

grills.

3. In this Technical Regulation, the terms below shall be used in the following meaning:

1) ‘automatic functioning mode during the cooking period’ means a condition in which the air flow of the range hood during the cooking period is automatically controlled through sensor(s), including as regards humidity, temperature, etc.;

2) ‘multi-cavity oven’ means an oven with two or more cavities, each of which is heated separately;

3) ‘hob’ means an ‘electric hob’, a ‘gas hob’ or a ‘mixed hob’;

4) ‘gas hob’ means an appliance or part of an appliance which incorporates one or more cooking zones including a control unit and which is heated by gas burners of a minimum power of 1,16 kW;

5) ‘heat source’ means the main energy form for heating an oven or hob;

6) ‘oven’ means an appliance or part of an appliance which incorporates one or more cavities using electricity and/or gas in which food is prepared by use of a conventional or fan-forced mode;

7) ‘equivalent model’ means a model placed on the market with the same technical parameters as another model placed on the market under a different commercial code number by the same manufacturer or importer;

8) ‘electric hob’ means an appliance or part of an appliance which incorporates one or more cooking zones and/or cooking areas including a control unit and which is heated by electricity;

9) ‘covered gas burners’ means closed or sealed gas range burners covered with a heavy-duty glass or ceramic cover, which forms a smooth, seamless cooking surface;

10) ‘conventional mode’ means the operation mode of an oven only using natural convection for circulation of heated air inside the cavity of the oven;

11) ‘cooking zone’ means a part, with a diameter of at least 100 mm, of a hob where cookware is placed and heated with not more than one piece of cookware heated at a time. The area of the cooking zone may be visibly marked on the surface of the hob;

12) ‘information or status display’ means a continuous function providing information or indicating the status of the equipment on a display, including clocks;

13) ‘cavity’ means the enclosed compartment in which the temperature can be controlled for preparation of food;

14) ‘end-user’ means a consumer buying or expected to buy an energy-related product;

15) ‘mixed hob’ means an appliance with one or more electrically heated cooking zones or areas and one or more cooking zones heated by gas burners;

16) ‘range hood’ means an appliance, operated by an electric motor which it controls, intended to collect contaminated air from above a hob, or which includes a downdraft system intended for installation adjacent to cooking ranges, hobs and similar cooking products, that draws vapour down into an internal exhaust duct;

17) ‘small oven’ means an oven where all cavities have a width and depth of less than 250 mm or a height less than 120 mm;

18) ‘microwave heating’ means heating of food using electromagnetic energy;

19) ‘cooker’ means an appliance consisting of an oven and a hob using gas or electricity;

20) ‘cooking area’ means a part of an area of an electric hob heated by an inducted magnetic field, where cookware is placed for heating without visible marking for the cookware and where more than one item of cookware can be used simultaneously;

21) ‘fully automatic range hood’ means a range hood in which the air flow and/or other functions are automatically controlled through sensor(s) during 24 hours including the cooking period;

22) ‘portable oven’ means an oven with a product mass of less than 18 kilograms not designed for built-in installations;

23) ‘off mode’ means a condition in which the equipment is connected to the mains power source but is not providing any function, or only provides an indication of off-mode condition, or only provides functionalities intended to ensure electromagnetic compatibility pursuant to the Technical Regulation on Electromagnetic Compatibility of Equipment, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 1077 of 16 December 2015;

24) ‘standby mode’ means a condition where the equipment is connected to the mains power source, depends on energy input from the mains power source to work as intended and provides only reactivation function with an indication of enabled reactivation function and/or information or status display, which may persist for an indefinite time;

25) ‘fan-forced mode’ means a mode when a built-in fan circulates heated air inside the cavity of the oven;

26) ‘operation mode’ means the status of the oven or hob during use;

27) ‘average illumination’ (E_{middle}) means the average illumination provided by the lighting system of the range hood on the cooking surface, measured in lux;

28) ‘best efficiency point’ (BEP) means the range hood operating point with maximum fluid dynamic efficiency (FDE_{hood});

29) ‘reactivation function’ means a function facilitating the activation of other modes, including the active mode, by remote switch including remote control, internal sensor, or timer to a mode providing additional functions, including the main function;

30) ‘cycle’ means the period of heating a standardised load in a cavity of an oven under defined conditions.

Other terms used in this Technical Regulation 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’ 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

4. The ecodesign requirements, including timing, for domestic ovens, hobs and range hoods are laid down in Annex 1.

5. Compliance with the ecodesign requirements shall be measured and calculated in accordance with the methods laid down in Annex 2.

Conformity assessment

6. Conformity of domestic ovens, hobs and range hoods with the requirements of this Technical Regulation shall be assessed by applying the internal design control procedure or the management system for assessing conformity 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 (Official Journal of Ukraine, 2018, No 80, p. 2678).

For the purposes of conformity assessment, the technical documentation shall contain a copy of the measurements and calculations as laid down in Annex 2.

Where the information included in the technical documentation for a particular domestic oven, hob or range hood model has been obtained by calculation with regard to other equivalent domestic ovens, hobs or range hoods, the technical documentation shall include details of such calculations and tests, undertaken by manufacturers to verify the accuracy of the calculations undertaken. In such cases, the technical documentation shall also include a list of all other equivalent domestic ovens, hobs and range hoods models where the information contained in the technical documentation was obtained on the same basis.

If the manufacturer or importer places on the market equivalent models, the manufacturer or importer shall include a list of all other equivalent models.

State market surveillance

7. Verification of conformity of the characteristics of domestic ovens, hobs and range hoods with the requirements of this Technical Regulation in the course of state market surveillance shall be carried out in accordance with the requirements laid down in Annex 3.

Indicative benchmarks

8. The indicative benchmarks for best-performing domestic ovens, hobs and range hoods available on the market are laid down in Annex 4.

Correlation table

9. The correlation table of the provisions of Commission Regulation (EU) No 66/2014 of 14 January 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for domestic ovens, hobs and range hoods and of this Technical Regulation is set out in Annex 5.

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Annex 1
to the Technical Regulation

ECODESIGN REQUIREMENTS

Energy efficiency, air flow and illumination requirements

Domestic ovens

1. Cavities of domestic ovens (including when incorporated in cookers) shall comply with maximum Energy Efficiency Index limits as indicated in Table 1.

Table 1

Energy Efficiency Index limits
for cavities of domestic ovens (EEI_{cavity})

	Domestic electric and gas ovens
One year after the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods has come into force (hereinafter referred to as the 'Technical Regulation')	EEI_{cavity} <146
Two years after the Technical Regulation has come into force	EEI_{cavity} <121
Five year after the Technical Regulation has come into force	EEI_{cavity} <96

2. Five years after the Technical Regulation has come into force, for multi-cavity ovens, including when incorporated in cookers, at least one cavity shall comply with the maximum Energy Efficiency Index as indicated in Table 1 as applicable from five years after the Technical Regulation has come into force whereas the other cavities shall comply with the maximum Energy Efficiency Index as indicated in Table 1 as applicable from two years after the Technical Regulation has come into force.

Hobs

3. The domestic hobs shall have the maximum energy consumption limits for electric hobs ($EC_{electric\ hob}$) and the minimum energy efficiency limits for gas-fired hobs ($EE_{gas\ hob}$) as indicated in Table 2.

Table 2

Energy efficiency performance limits for domestic hobs ($EC_{electric\ hob}$ and $EE_{gas\ hob}$)

	Electric hob ($EC_{electric\ hob}$, in Wh/kg)	Gas hob ($EE_{gas\ hob}$, in %)
One year after the Technical Regulation has come into force	$EC_{electric\ hob} < 210$	$EE_{gas\ hob} > 53$
After three years following the date the Technical Regulation enters into force	$EC_{electric\ hob} < 200$	$EE_{gas\ hob} > 54$
Five year after the Technical Regulation has come into force	$EC_{electric\ hob} < 195$	$EE_{gas\ hob} > 55$

Range hoods

Energy Efficiency Index (EEI_{hood}) and Fluid Dynamic Efficiency (FDE_{hood})

4. The domestic range hoods shall have the maximum limit values of EEI_{hood} and the minimum limit values of FDE_{hood} as indicated in Table 3.

Table 3

Energy Efficiency Index (EEI_{hood}) and Fluid Dynamic Efficiency (FDE_{hood}) for range hoods

	EEI_{hood}	FDE_{hood}
One year after the Technical Regulation has come into force	$EEI_{hood} < 120$	$FDE_{hood} > 3$
After three years following the date the Technical Regulation enters into force	$EEI_{hood} < 110$	$FDE_{hood} > 5$
Five year after the Technical Regulation has come into force	$EEI_{hood} < 100$	$FDE_{hood} > 8$

Air flow

5. One year after the Technical Regulation has come into force, the domestic range hoods with a maximum air flow in any of the available settings higher than 650 m^3/h shall automatically revert to an air flow lower than or equal to 650 m^3/h in a time t_{limit} as defined in Annex 2 to the Technical Regulation.

Low power modes for domestic range hoods

6. One year and six months after the Technical Regulation has come into force:

1) power consumption in ‘off mode’:

the power consumption of equipment in any off-mode condition shall not exceed 1 W;

2) power consumption in ‘standby mode(s)’:

the power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1 W;

the power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2 W;

3) availability of ‘off mode’ and/or ‘standby mode’:

equipment shall provide ‘off mode’ and/or ‘standby mode’, and/or another condition which does not exceed the applicable power consumption requirements for ‘off mode’ and/or ‘standby mode’ when the equipment is connected to the mains power source;

7. Three years and six months after the Technical Regulation has come into force:

1) power consumption in ‘off mode’:

power consumption of equipment in any off mode condition shall not exceed 0,5 W;

2) power consumption in ‘standby mode(s)’:

the power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,5 W;

the power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 1 W;

3) power management:

when domestic range hoods are not providing the main function, or when other energy-using products are not dependent on its functions, equipment shall offer a power management function, or a similar function, that switches equipment after the shortest possible period of time automatically into: ‘standby mode’, or ‘off mode’, or another condition which complies with the applicable power consumption requirements for ‘off mode’ and/or ‘standby mode’ when the equipment is connected to the mains power source;

4) the power management function shall be activated before delivery of the appliance;

5) for range hoods with automatic functioning mode during the cooking period and fully automatic range hoods, the delay time after which the product switches automatically into the modes and conditions as referred to in subpoint 3 of this point shall be one minute after the motor and lighting have both been switched off either automatically or manually;

Illumination of the lighting

8. One year after the Technical Regulation has come into force, for range hoods which provide for lighting of the cooking surface, the average illumination of the lighting system on the cooking surface (E_{middle}) shall be higher than 40 lux when measured under standard conditions.

Product information requirements

9. One year after the Technical Regulation has come into force, the following product information shall be provided in the technical documentation of the product, the booklet of instructions and on the free access websites of manufacturers of domestic ovens, hobs and range hoods, their authorised representatives, or importers:

short title or reference to the measurement and calculation methods used to establish compliance with the above requirements;

information relevant to users in order to reduce total environmental impact (e.g. energy consumption) of the cooking process.

10. One year after the Technical Regulation has come into force, the technical documentation and the free access websites of manufacturers, their authorised representatives, or importers shall contain information relevant for non-destructive disassembly for maintenance purposes and information relevant for dismantling, in particular in relation to the motor, if applicable, and any batteries, recycling, recovery and disposal at end-of-life.

For domestic ovens

Table 4

Information for domestic ovens

	Symbol	Value	Unit
Model identification			
Type of oven			
Mass of the appliance	M	X,X	kg
Number of cavities		X	
Heat source per cavity (electricity or gas)			

	Symbol	Value	Unit
Volume per cavity	V	X	l
Energy consumption (electricity) required to heat a standardised load in a cavity of an electric heated oven during a cycle in conventional mode per cavity (electric final energy)	$EC_{electric\ cavity}$	X,XX	kWh/cycle
Energy consumption required to heat a standardised load in a cavity of an electric heated oven during a cycle in fan-forced mode per cavity (electric final energy)	$EC_{electric\ cavity}$	X,XX	kWh/cycle
Energy consumption required to heat a standardised load in a gas-fired cavity of an oven during a cycle in conventional mode per cavity (gas final energy)	$EC_{gas\ cavity}$	X,XX X,XX	MJ/cycle or kWh/cycle[(1)]
Energy consumption required to heat a standardised load in a gas-fired cavity of an oven during a cycle in fan-forced mode per cavity (gas final energy)	$EC_{gas\ cavity}$	X,XX X,XX	MJ/cycle or kWh/cycle
Energy Efficiency Index per cavity	EEI_{cavity}	X,X	

[(1)] 1 kWh/cycle = 3,6 MJ/cycle

For domestic hobs

Domestic electric hobs

Table 5

Information for domestic electric hobs

	Symbol	Value	Unit
Model identification			
Type of hob			
Number of cooking zones and/or areas		X	

Heating technology (induction cooking zones and cooking areas, radiant cooking zones, solid plates)			
For circular cooking zones or area: diameter of useful surface area per electric heated cooking zone, rounded to the nearest 5 mm	Ø	X,X	cm
For non-circular cooking zones or areas: length and width of useful surface area per electric heated cooking zone or area, rounded to the nearest 5 mm	L W	X,X X,X	cm
Energy consumption per cooking zone or area calculated per kg	$EC_{electric\ cooking}$	X,X	Wh/kg
Energy consumption for the hob calculated per kg	$EC_{electric\ hob}$	X,X	Wh/kg

Domestic gas-fired hobs

Table 6

Information for domestic gas-fired hobs

	Symbol	Value	Unit
Model identification			
Type of hob			
Number of gas burners		X	
Energy efficiency per gas burner	$EE_{gas\ burner}$	X,X	
Energy efficiency for the gas hob	$EE_{gas\ hob}$	X,X	

Domestic mixed gas and electric hobs

Table 7

Information for domestic mixed gas and electric hobs

	Symbol	Value	Unit

Model identification			
Type of hob			
Number of cooking zones and/or areas		X	
Heating technology (induction cooking zones and cooking areas, radiant cooking zones, solid plates) per electric cooking zone and/or area			
For circular electric cooking zones: diameter of useful surface area per electric heated cooking zone, rounded to the nearest 5 mm	Ø	X,X	cm
For non-circular electric cooking zones or areas: length and width of useful surface area per electric heated cooking zone or area, rounded to the nearest 5 mm	L W	X,X X,X	cm
Energy consumption per cooking zone or area calculated per kg	$EC_{electric\ cooking}$	X	Wh/kg
Number of gas burners		X	
Energy efficiency per gas burner	$EE_{gas\ burner}$	X,X	

For domestic range hoods

Table 8

Information for domestic range hoods

	Symbol	Value	Unit
Model identification			
Annual Energy Consumption	AEC_{hood}	X,X	kWh/a
Time increase factor	f	X,X	
Fluid Dynamic Efficiency	FDE_{hood}	X,X	
Energy Efficiency Index	EEI_{hood}	X,X	
Measured air flow rate at best efficiency point	Q_{BER}	X,X	m^3/h
Measured air pressure at best efficiency point	P_{BER}	X	Pa
Maximum air flow	Q_{max}	X,X	m^3/h
Measured electric power input at best efficiency point	W_{BER}	X,X	W
Nominal power of the lighting system	W_L	X,X	W
Average illumination of the lighting system on the cooking surface	E_{middle}	X	lux

Measured power consumption in standby mode	P_S	X,XX	W
Measured power consumption in off mode	P_O	X,XX	W
Sound power level	L_{WA}	X	dB

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Annex 2
to the Technical Regulation

MEASUREMENTS AND CALCULATIONS

1. For the purposes of compliance and verification of compliance of domestic ovens, hobs and range hoods with the requirements of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods, measurements and calculations shall be made using standards from the list of the national standards, the conformity with which allows domestic ovens, hobs and range hoods to be presumed to be in conformity with the requirements of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods, using reliable, accurate and reproducible methods that take into account the generally recognised state of the art and produce results deemed to be of low uncertainty. They shall meet all the following technical parameters.

Domestic ovens

2. The energy consumption of a cavity of a domestic oven shall be measured for one standardised cycle, in a conventional mode and in a fan-forced mode (if available), by heating a standardised load soaked with water. It shall be verified that the temperature inside the oven cavity reaches the temperature setting of the thermostat and/or the oven control display within the duration of the test cycle. The energy consumption per cycle corresponding to the best performing mode (conventional mode or fan-forced mode) shall be used in the following calculations.

3. For each cavity of a domestic oven, the Energy Efficiency Index (EEI_{cavity}) shall be calculated according to the following formulas:

for domestic electric ovens:

$$EEI_{cavity} = \frac{EC_{electric\,cavity}}{SEC_{electric\,cavity}} \times 100,$$

$$SEC_{electric\,cavity} = 0{,}0042 \times V + 0{,}55 \text{ (in kWh)},$$

for domestic gas ovens:

$$EEI_{cavity} = \frac{EC_{gas\,cavity}}{SEC_{gas\,cavity}} \times 100,$$

$$SEC_{gas\,cavity} = 0{,}044 \times V + 3{,}53 \text{ (in MJ)}$$

where EEI_{cavity} is the Energy Efficiency Index for each cavity of a domestic oven, in %, rounded to the first decimal place;

$SEC_{electric\ cavity}$ is the Standard Energy Consumption (electricity consumption) required to heat a standardised load in a cavity of a domestic electric oven during a cycle, rounded to the second decimal place, in kWh;

$SEC_{gas\ cavity}$ is the Standard Energy Consumption (gas consumption) required to heat a standardised load in a cavity of a domestic gas oven during a cycle, rounded to the second decimal place, in MJ;

V is the volume of the cavity of the domestic oven, rounded to the nearest integer, in litres;

$EC_{electric\ cavity}$ is the Energy Consumption required to heat a standardised load in a cavity of a domestic electric oven during a cycle, rounded to the second decimal place, in kWh;

$EC_{gas\ cavity}$ is the Energy Consumption required to heat a standardised load in a cavity of a domestic gas oven during a cycle, rounded to the second decimal place, in MJ.

Domestic hobs

Domestic electric hobs

4. The energy consumption of a domestic electric hob ($EC_{electric\ hob}$) is measured in Wh per kg of water heated in a normalised measurement (Wh/kg) considering all cookware pieces under standardised test conditions and rounded to the first decimal place.

Domestic gas hobs

5. The energy efficiency of gas burners in a domestic hob is calculated according to the following formula:

$$EE_{gas\ burner} = \frac{E_{theoretic}}{E_{gas\ burner}} \times 100 ,$$

where $EE_{gas\ burner}$ is the energy efficiency of a gas burner in % and rounded to the first decimal place,

$E_{gas\ burner}$ is the energy content of the consumed gas for the prescribed heating cycle, rounded to the first decimal place, in MJ,

$E_{theoretic}$ is the theoretic minimum required energy for the corresponding prescribed heating cycle, rounded to the first decimal place, in MJ,

The energy efficiency of the gas hob ($EE_{gas\ hob}$) is calculated as the average of the energy efficiency of the different gas burners ($EE_{gas\ burner}$) of the hob.

Domestic mixed gas and electric hobs

6. Domestic mixed electric and gas hobs are treated in the measurements as two separate appliances. Electric cooking zones and cooking areas of the domestic mixed hobs shall comply with the provisions of point 4 of this Annex and cooking zones heated by gas burners shall comply with the provisions of point 5 of this Annex.

Domestic range hoods

Calculation of the Energy Efficiency Index (EEI_{hood})

7. The Energy Efficiency Index (EEI_{hood}) is calculated according to the following formula and rounded to one decimal place:

$$EEI_{hood} = \frac{AEC_{hood}}{SAEC_{hood}} \times 100 ,$$

where $SAEC_{hood}$ is the Standard Annual Energy consumption of the domestic range hood, rounded to the first decimal place, in kWh/a;

AEC_{hood} is the Annual Energy consumption of the domestic range hood, rounded to the first decimal place, in kWh/a.

The Standard Annual Energy Consumption ($SAEC_{hood}$) of a domestic range hood shall be calculated according to the following formula:

$$SAEC_{hood} = 0{,}55 \times (W_{BER} + W_L) + 15{,}3 ,$$

where W_{BER} is the electric power input of the domestic range hood at the best efficiency point, rounded to the first decimal place, in W;

W_L is the nominal electric power input of the lighting system of the domestic range hood on the cooking surface, rounded to the first decimal place, in W.

8. The Annual Energy Consumption (AEC_{hood}) of a domestic range hood is calculated according to the following formulas:

for the fully automatic domestic range hoods

$$AEC_{hood} = \left[\frac{(W_{BER} \times t_H \times f) + (W_L + t_L)}{60 \times 1000} + \frac{P_o \times (1440 - t_H \times f)}{2 \times 60 \times 1000} + \frac{P_S \times (1440 - t_H \times f)}{2 \times 60 \times 1000} \right] \times 365 ,$$

for all other domestic range hoods

$$AEC_{hood} = \frac{[W_{BER} \times (t_H \times f) + W_L \times t_L]}{60 \times 1000} \times 365 ,$$

where t_L is the average lighting time per day, in minutes (t_L=120);

t_H is the average running time per day for domestic range hoods, in minutes (t_H = 60);

P_o is the electric power input in off mode of the domestic range hood, rounded to the second decimal place, in W;

P_s is the electric power input in standby mode of the domestic range hood, rounded to the second decimal place, in W;

f is the time increase factor, rounded to the first decimal place and calculated according to the following formula:

$$f = 2 - (FDE_{hood} \times 3{,}6)/100 .$$

Calculation of the Fluid Dynamic Efficiency

The Fluid Dynamic Efficiency FDE_{hood} at the best efficiency point is calculated by the following formula, and is rounded to the first decimal place:

$$FDE_{hood} = \frac{Q_{BEP} \times P_{BEP}}{3600 \times W_{BEP}} \times 100$$,

where Q_{BEP} is the flow rate of the domestic range hood at best efficiency point, rounded to the first decimal place, in m^3/h;

P_{BEP} is the static pressure difference of the domestic range hood at best efficiency point, rounded to the nearest integer, in Pa;

W_{BEP} is the electric power input of the domestic range hood at the best efficiency point, rounded to the first decimal place, in W.

Calculation on the limitation of the exhaust air

9. Domestic range hoods with a maximum air flow in any of the available setting higher than 650 m^3/h shall automatically revert to an air flow lower than or equal to 650 m^3/h in a time t_{limit}. This is the time limit to extract a volume of air of 100 m^3 by the domestic range hood operating with an airflow higher than 650 m^3/h, before automatically switching to an airflow of 650 m^3/h or lower.

t_{limit} is calculated in minutes according to the following formula and rounded to the nearest integer:

$$t_{limit} = \frac{6000 \times m^3}{Q_{max}}$$,

Q_{max} is the maximum air flow of the domestic range hood, including intensive/boost mode if present, expressed in m^3/h and rounded to the first decimal place.

The volume of air extracted over the time limit t is calculated according to the following formula:

$V = \int_0^t \frac{Q_{max}}{60} \times dt$, which can be simplified to the following formula:

$t_{limit} = \frac{V_{max}}{Q_{max}} \times 60$,

where V_{max} is the maximum volume of air to be extracted, set at 100 m^3,

Q_{max} is the maximum air flow of the range hood, including intensive/boost mode,

t is the time expressed in minutes and rounded to the nearest integer,

dt is the total time required to extract the air volume of 100 m^3,

t_{limit} is the time limit required to extract the air volume of 100 m^3, rounded to the nearest integer, in minutes.

The mere presence of a manual switch or setting decreasing the air flow of the appliance to a value lower than or equal to 650 m^3/h is not considered fulfilling this requirement.

10. For domestic range hoods with automatic functioning mode during the cooking period:

the activation of the automatic functioning mode shall be possible only through a manual operation by the user, either on the hood or elsewhere;

the automatic functioning mode shall revert to manual control after no more than 10 minutes from the moment the automatic function switches off the motor.

Illumination of lighting system (E_{middle})

11. The average illumination of the lighting system on the cooking surface (E_{middle}) is measured under standard conditions in lux and rounded to the nearest integer.

Noise

12. The sound power level (in dB) is measured as the airborne acoustical A-weighted sound power emissions (weighted average value — L_{WA}) of a domestic range hood at the highest setting for normal use, intensive or boost excluded, and rounded to the nearest integer.

Annex 3
to the Technical Regulation

REQUIREMENTS
for verification during state market surveillance

1. The verification tolerances referred to in this Annex are to be applied by state market surveillance authorities in verification of the measured parameters and shall not be used by the manufacturer or importer as an allowed tolerance 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 domestic ovens, hobs and range hoods with the requirements of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods (hereinafter referred to as 'Technical Regulation') shall be carried out by state market surveillance authorities taking into account the following requirements:

1) one appliance per model shall be tested;

2) a model of the appliance shall be considered to comply with the requirements of the Technical Regulation if:

the values given in the technical documentation and the values used to calculate these values are not more favourable for the manufacturer or importer than the results of the corresponding measurements;

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 appliance, 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 of this point are not achieved, the appliance model and all other equivalent appliances referred to in the manufacturer's or importer's 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 appliances of the same model for testing. As an alternative, the three additional appliances selected may be of one or more different models that have been listed as equivalent appliances in the manufacturer's or importer's technical documentation;

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

6) if the result referred to in subpoint 5 of this Annex is not achieved, the appliance model and all other equivalent appliances referred to in the manufacturer's or importer's

technical documentation shall be considered not to comply with the requirements of the Technical Regulation.

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

4. 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	Verification tolerances
Mass of the domestic oven, M	the determined value shall not exceed the declared value of M by more than 5 %
Volume of the cavity of the domestic oven, V	the determined value shall not be lower than the declared value of V by more than 5 %
$EC_{electric\ cavity}$, $EC_{gas\ cavity}$	the determined values shall not exceed the declared value of $EC_{electric\ cavity}$ and $EC_{gas\ cavity}$ by more than 5 %
$EC_{electric\ hob}$	the determined value shall not exceed the declared value of $EC_{electric\ hob}$ by more than 5 %
$EC_{gas\ hob}$	the determined value shall not be lower than the declared value of $EC_{gas\ hob}$ by more than 5 %
W_{BEP}, W_L	the determined values shall not exceed the declared values of W_{BEP} and W_L by more than 5 %
Q_{BEP}, P_{BEP}	the determined values shall not be lower than the declared values of Q_{BEP} and P_{BEP} by more than 5 %
Q_{max}	the determined value shall not exceed the declared value of Q_{max} by more than 8 %
E_{middle}	the determined value shall not be lower than the declared value of E_{middle} by more than 5 %
Sound power level L_{WA}	the determined value shall not exceed the declared value of L_{WA}
P_o, P_s	the determined value of power consumption P_o and P_s shall not exceed the declared values by more than 10 %. The determined values of P_o and P_s of less than or equal to 1 W shall not exceed the declared values of P_o and P_s by more than 0,1 W

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Annex 4
to the Technical Regulation

INDICATIVE
benchmarks

At the time of entry into force of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods, the best-performing domestic ovens, hobs and range hoods available on the market in terms of their energy performance were identified as follows:

domestic electric ovens with Energy Efficiency Index (EEI_{cavity}) equal to 70,7;

domestic gas ovens with Energy Efficiency Index (EEI_{cavity}) equal to 75,4;

domestic electric hobs with energy consumption per cooking zone or area ($EC_{electric\ cooking}$) equal to 169,3 Wh/kg;

domestic gas hobs with energy efficiency per gas burner ($EE_{gas\ burner}$) equal to 63,5 %;

domestic range hoods with Fluid Dynamic Efficiency (FDE_{hood}) equal to 22;

household range hoods with sound power level 51 dB at air flow of 550 m^3/h and 57 dB at air flow of 750 m^3/h.

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Annex 5
to the Technical Regulation

CORRELATION TABLE
of the provisions of Commission Regulation (EU) No 66/2014 of 14 January 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for domestic ovens, hobs and range hoods and of the Technical Regulation on Ecodesign Requirements for Domestic Ovens, Hobs and Range Hoods

Provisions of the Commission Regulation (EU)	Provisions of the Technical Regulation
Article 1(1)	point 1
Article 1(2)	point 2
First indent of Article 2	point 3
Article 2(1)	seventh indent of point 3
Article 2(2)	fourteenth indent of point 3
Article 2(3)	third indent of point 3
Article 2(4)	eighteenth indent of point 3
Article 2(5)	twenty-third indent of point 3
Article 2(6)	nineteenth indent of point 3
Article 2(7)	eleventh indent of point 3
Article 2(8)	twenty-sixth indent of point 3
Article 2(9)	thirty-first indent of point 3
Article 2(10)	twentieth indent of point 3
Article 2(11)	twenty-seventh indent of point 3
Article 2(12)	sixth indent of point 3
Article 2(13)	ninth indent of point 3
Article 2(14)	fifth indent of point 3
Article 2(15)	fourth indent of point 3
Article 2(16)	tenth indent of point 3
Article 2(17)	sixteenth indent of point 3
Article 2(18)	twelfth indent of point 3
Article 2(19)	twenty-first indent of point 3
Article 2(20)	seventeenth indent of point 3
Article 2(21)	second indent of point 3
Article 2(22)	twenty-second indent of point 3

Provisions of the Commission Regulation (EU)	Provisions of the Technical Regulation
Article 2(23)	twenty-ninth indent of point 3
Article 2(24)	twenty-eighth indent of point 3
Article 2(25)	twenty-fourth indent of point 3
Article 2(26)	twenty-fifth indent of point 3
Article 2(27)	thirtieth indent of point 3
Article 2(28)	thirteenth indent of point 3
Article 2(29)	fifteenth indent of point 3
Article 2(30)	eighth indent of point 3
Article 3(1)	point 4
Article 3(2)	point 5
Article 4	point 6
Article 5	point 7
Article 6	point 8
Article 8	
Annex I	Annex 1
Annex II	Annex 2
Annex III	Annex 3
Annex IV	Annex 4