APPROVED
Order of the Ministry of Regional Development, Construction and Housing of Ukraine
No. 28 of 07 February 2018

TECHNICAL REGULATION

on the energy labelling of domestic ovens and range hoods

I. General provisions

1. This Technical Regulation establishes the essential requirements to energy labelling of domestic ovens and domestic range hoods (hereinafter referred to as ‘ovens and range hoods’) (including the cases where the equipment is sold for non-domestic use).

This Technical Regulation is based on Commission Delegated Regulation (EU) No 65/2014 of 01 October 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of ovens and range hoods.

2. This Technical Regulation applies to electric and gas ovens (including when incorporated into cookers) and electric range hoods, including those sold for non-domestic purposes.

3. This Technical Regulation shall not apply to:

ovens that use energy sources other than electricity or gas;

ovens which offer ‘microwave heating’ function;

small ovens;

portable ovens;

heat storage ovens;

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

ovens which use only propane and butane.

4. In this Technical Regulation, the terms below shall be used in the following meanings:

‘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.;

‘alternative text’ means text provided as an alternative to a graphic allowing information to be presented in non-graphical form where display devices cannot render the graphic or for special devices, in particular, voice synthesis applications;

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

‘nested display’ means visual interface where an image or data set is accessed by means of a mouse or tactile screen expansion of the image;

‘heat source’ means the main energy form for heating an oven;

‘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;

‘equivalent model’ means a model of equipment 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-importer or supplier.

‘lighting efficiency’ (LE_{hood}) means the ratio between the average illumination of the lighting system of the range hood and the power of the lighting system (in lux/W);

‘grease filtering efficiency’ (GFE_{hood}) means the relative share of grease retained within the range hood grease filters;

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

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

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

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

‘range hood’ means an appliance, operated by a motor which it controls, intended to collect contaminated air from above a hob, or an appliance 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;

‘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;

‘display mechanism’ means any screen, including tactile screen, or other visual technology used for displaying Internet content;

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

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

‘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;

‘portable oven’ means an oven with a product mass of less than 18 kilograms, provided it is not designed for built-in installations;

‘point of sale’ means a location where ovens and range hoods are displayed and/or offered for sale, hire or hire purchase;

‘off mode’ means a condition in which the appliance 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 Technical Regulation on

electromagnetic compatibility of equipment approved by Resolution of the Cabinet of Ministers of Ukraine No 1077 of 16 December 2015;

‘standby mode’ means a condition where the appliance 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, or reactivation function and only an indication of enabled reactivation function, and/or information or status display which may persist for an indefinite time;

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

‘operation mode’ means the status of an oven during use;

‘distributor’ means a retail seller or other person who sells, including by instalments, hires, offers for hire-purchase or displays products to end-users;

‘tactile screen’ means a screen responding to touch;

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

‘reactivation function’ means a function that ensures the activation of other modes, in particular, active mode, by remote switch including remote control, internal sensor or timer to a condition providing additional functions, including the main function;

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

Other terms shall have the meaning as defined in the Laws of Ukraine ‘On technical regulations and conformity assessment’, ‘On state market surveillance and control of non-food products’, ‘On general safety of non-food products’, in the Technical Regulation on energy labelling of energy-related products, approved by Resolution of the Cabinet of Ministers of Ukraine No 702 of 07 August 2013.

II. Responsibilities of suppliers and distributors

1. The supplier shall provide the distributor with the oven and range hood together with the energy label and product fiche in accordance with the requirements of this Technical Regulation, point 12 of Technical Regulation on energy labelling of energy-related products, approved by Resolution of the Cabinet of Ministers of Ukraine No 702 of 7 August 2013.

The content of the energy label and product fiche shall comply with the requirements of points 2 to 5 of this Title.

The format (sample) of the energy label, as well as its description, is set out in Annex 1 to this Technical Regulation.

The information in the energy label and product fiche shall provided in accordance with the legislation on languages.

2. The energy label for ovens shall contain:

name or trade mark of the supplier of the oven;

the oven model code which is the alphanumeric code, which distinguishes a specific domestic oven model from other models with the same trade mark or from the same supplier;

energy source of the oven;

energy efficiency class of the oven’s cavity;

usable volume of the cavity in litres, rounded to the nearest integer;

energy consumption per cycle (electricity or gas consumption) for the heating function(s) (conventional and if available the forced air convection) of the cavity based on standardised load determined in accordance with the test procedures, rounded to the second decimal place, expressed in kWh/cycle or MJ/cycle.

3. The energy label for range hoods shall contain:

name or trade mark of the supplier of the range hood;

the range hood model code which is the alphanumeric code, which distinguishes a specific range hood model from other models with the same trade mark or from the same supplier;

the range hood energy efficiency class;

annual energy consumption in kWh, rounded up to the nearest integer;

the fluid dynamic efficiency class;

the lighting efficiency class;

the grease filtering efficiency class;

the noise level.

4. The product fiche of the domestic ovens, including the instructions and product brochures provided with the oven, shall contain the following information in the order specified below:

1) name or trade mark of the supplier;

2) the oven model which is the alphanumeric code, which distinguishes a specific domestic oven model from other models with the same trade mark or from the same supplier;

3) the energy efficiency index for each cavity of a domestic oven, rounded to the first decimal place, which shall not exceed the index reported in the technical documentation;

4) the energy efficiency class for each cavity of a domestic oven, which shall not be more favourable than the class reported in the technical documentation;

5) the energy consumption per cycle for each cavity of the oven (if available) in conventional mode and in fan-forced convection mode, expressed in kWh (for electric and gas ovens) and in MJ (for gas ovens), rounded to two decimal place, and shall not be lower than the value reported in the technical documentation;

6) the number of cavities, the heat source(s) per cavity and the volume of each cavity.

One fiche may cover a number of oven models supplied by the same supplier.

5. The product fiche of the range hood, including the instructions and product brochures provided with the range hood, shall contain the following information in the order specified below:

1) name or trade mark of the supplier;

2) the range hood model which is the alphanumeric code, which distinguishes a specific range hood model from other models with the same trade mark or from the same supplier;

3) the annual electricity consumption rounded to the first decimal place which shall not be lower than the value reported in the technical documentation;

4) the energy efficiency class, which shall not be more favourable than the class reported in the technical documentation;

5) the fluid dynamic efficiency rounded to the first decimal place, which shall not be higher than the value reported in the technical documentation;

6) the fluid dynamic efficiency class, which shall not be better than the class reported in the technical documentation;

7) the lighting efficiency rounded to the first decimal place, the declared value of which shall not be higher than the value reported in the technical documentation;

8) the lighting efficiency class, which shall not be better than the class reported in the technical documentation;

9) the grease filtering efficiency in percentage and rounded to the first decimal place, the declared value of which shall not be higher than the value reported in the technical documentation;

10) the grease filtering efficiency class, which shall not be better than the class reported in the technical documentation;

11) the air flow (in m^3/h, and rounded to the nearest integer), at minimum and maximum speed in normal use, intensive or boost excluded, the declared value of which shall not be higher than the value reported in the technical documentation;

12) the air flow (if available) (in m^3/h, and rounded to the nearest integer), at intensive or boost setting, the declared value of which shall not be higher than the value reported in the technical documentation;

13) the airborne acoustical A-weighted sound power emissions (in dB rounded to the nearest integer), at minimum and maximum speed available in normal use, the declared value of which shall not be lower than the value reported in the technical documentation;

14) the airborne acoustical A-weighted sound power emissions (if available) (in dB rounded to the nearest integer), at intensive or boost setting, the declared value of which shall not be lower than the value reported in the technical documentation;

15) the power consumption in off mode (P_o) (if applicable) rounded to the second decimal place, the declared value of which shall not be lower than the value reported in the technical documentation;

16) the power consumption in standby mode (P_s) (if applicable) rounded to the second decimal place, the declared value of which shall not be lower than the value reported in the technical documentation.

One fiche may cover a number of range hood models supplied by the same supplier.

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, its content shall comply with the requirements of points 4 and 5 of this Title. The information, not already displayed on the energy label, shall also be provided.

6. The supplier shall provide the distributor, for each model of the oven and range hood, with an electronic energy label and electronic fiche in accordance with the requirements specified in points 2 to 5 of this Title.

7. The supplier shall have the technical documentation that enables the verification of accuracy of the information contained in the energy label and product fiche, and shall make it available at the request of the state market surveillance authorities.

8. The technical documentation for ovens shall contain:

1) information on the full name and address of the supplier;

2) a general description of the oven model, sufficient for it to be unequivocally identified, including the oven model identifier (i.e. the code, usually alphanumeric) which distinguishes a specific oven model from other models with the same trade mark or supplier's name;

3) data on technical parameters of the oven, necessary for measurements, namely:

the number of cavities, the volume of each cavity, the heat source per cavity, the heating function(s) (conventional and/or fan-forced mode) per cavity;

the energy consumption per cycle for each cavity of the oven (if available) in conventional mode and in fan-forced convection mode. The measured energy consumption shall be expressed in kWh (electric and gas ovens) and in MJ (gas ovens), rounded to the second decimal place;

the energy efficiency index for each cavity of a domestic oven, rounded to the first decimal place;

energy efficiency class for each cavity of the oven;

4) a copy of the calculations and the results of the calculations;

5) the references to the national standards, for instance of the ones that are in conformity with the harmonised European standards, and other of standards and technical specifications applied (where appropriate);

6) signature of the supplier’s representative.

9. The technical documentation for range hoods shall contain:

information on the full name and address of the supplier;

a general description of the range hood model, sufficient for it to be unequivocally identified, including the range hood model identifier (i.e. the code, usually alphanumeric) which distinguishes a specific range hood model from other models with the same trade mark or supplier’s name;

the details of the technical parameters of the range hood required in order to perform the measurements, in particular:

the energy efficiency index, rounded to the first decimal place;

the energy efficiency class;

the annual energy consumption, rounded to the first decimal place, in kWh per year;

time increase factor f, rounded to the first decimal place;

the fluid dynamic efficiency, rounded to the first decimal place;

the fluid dynamic efficiency class;

the measured flow rate at the best efficiency point, rounded to the first decimal place, in m^3/h;

the measured value of the static pressure difference at the best efficiency point, rounded to the nearest integer, in Pa;

the measured value of the electric power input at the best efficiency point, rounded to the first decimal place, in W;

the average illumination of the lighting system on the cooking surface, rounded to the nearest integer, in lux;

the nominal power consumption of the lighting system on the cooking surface, rounded to the first decimal place, in W;

the measured value of the lighting efficiency, rounded to the nearest integer, in lux/W;

the lighting efficiency class;

the measured value of the grease filtering efficiency, rounded to the first decimal place;

the grease filtering efficiency class;

the power consumption in off mode (if applicable), rounded to the second decimal place, in W;

the power consumption in standby mode (if applicable), rounded to the second decimal place, in W;

the airborne acoustical A-weighted sound power emissions, at minimum and maximum speed available in normal use, rounded to the nearest integer, in dB;

the airborne acoustical A-weighted sound power emissions (if available) at intensive or boost setting, rounded to the nearest integer, in dB;

the air flow values at minimum and maximum speed available in normal use, rounded to the first decimal place, in m^3/h;

the air flow value at intensive or boost setting, rounded to the first decimal place, in m^3/h;

a copy of the calculations and the results of the calculations;

the references to the national standards, for instance of the ones that are in conformity with the harmonised European standards, and other of standards and technical specifications applied (where appropriate);

signature of the supplier’s representative.

10. Suppliers may include additional information to the mentioned list.

11. The distributor shall ensure that each oven or range hood presented at the point of sale carries the energy label and product fiche, attach them on the front or top of the oven or range hood, or in the immediacy of the appliance, so as to be identifiable as the energy label belonging to the model without having to read the brand name and model number on the label. In no way is their visibility to be hindered or reduced.

12. Suppliers and distributors shall indicate in their technical promotional materials describing the specific technical parameters of an oven and a range hood the information on the energy efficiency class of that specific model of the oven or range hood.

III. Distance selling and other forms of selling

1. Where an oven and a range hood is offered for sale, hire or hire-purchase by mail order, by catalogue, or by any other means which imply that the potential end-user cannot be expected to see the oven and range hood displayed, the distributor must ensure that a potential end-user is provided with the information in accordance with the requirements of points 2 and 3 of this Title, before buying, hiring or hire-purchasing the oven or range hood.

2. Where end-users cannot be expected to see the oven displayed, they shall be provided with following information:

name or trade mark of the supplier;

the oven model code sufficient for it to be unequivocally identified;

the energy efficiency class, which shall not be more favourable than the class reported in the technical documentation;

the energy consumption per cycle for each cavity of the oven (if available)

in conventional mode and in fan-forced convection mode. The energy consumption shall be expressed in kWh (electric and gas ovens) and in MJ (gas ovens), rounded to the second decimal place. The declared value shall not be lower than the value reported in the technical documentation;

number of cavities;

the heat source(s) per cavity and the volume of each cavity.

3. Where end-users cannot be expected to see the range hood displayed, they shall be provided with following information:

name or trade mark of the supplier;

the range hood model code sufficient for it to be unequivocally identified, to which the figures quoted below apply;

the energy efficiency class, which shall not be more favourable than the class reported in the technical documentation;

the annual energy consumption, which shall not be lower than the value reported in the technical documentation, in kWh;

the fluid dynamic efficiency class, which shall not be better than the class reported in the technical documentation;

the lighting efficiency class, which shall not be better than the class reported in the technical documentation;

the grease filtering efficiency class, which shall not be better than the class reported in the technical documentation;

the airborne acoustical A-weighted sound power emissions, at minimum and maximum speed available in normal use, which shall not be lower than the value reported in the technical documentation, in dB rounded to the nearest integer.

4. In the case of distance sale, hire or hire-purchase (through the Internet) of an oven or range hood, the end-users shall be provided with the information

subject to the requirements of Annex 2 to this Technical Regulation.

5. The energy efficiency class of an oven is determined in accordance with Table 1 in Annex 3 to this Technical Regulation.

6. The energy efficiency class, the fluid dynamic efficiency class, the lighting efficiency class, the grease filtering efficiency class of a range hood are determined in accordance with Tables 2 to 5 in Annex 3 to this Technical Regulation.

7. The annual energy consumption is calculated in accordance with Annex 4 to this Technical Regulation.

8. The information contained in the product fiche shall be provided in accordance with the requirements of points 4 and 5 of Title II of this Technical Regulation.

9. The size and font in which the information is shown shall allow the end-user to read such information without using a special device.

10. Any advertisement for any form or medium of distance selling and marketing concerning a specific model of oven and range hood covered by this Technical Regulation shall contain a reference to the energy efficiency class, if the advertisement discloses energy-related or price information.

IV. Measurement methods

The information to be provided by the supplier in the energy label and product fiche shall be obtained by measurement and calculations and the national measurement methods standards which are in compliance with the harmonised European standards.

V. State market surveillance

1. The state market surveillance on conformity of ovens and range hoods with the requirements of the Technical Regulation on energy labelling of

energy-related products, approved by Resolution of the Cabinet of Ministers of Ukraine No 702 of 07 August 2013, and of this Technical Regulation, shall be carried out by the state market surveillance authorities within the areas of their responsibility, and shall establish the availability of the energy label and the product fiche, their compliance with the requirements, set out in points 2 to 5 of Title II of this Technical Regulation, and shall provide for the oven and range hood actual specifications compliance verification.

2. The verification of conformity of the actual technical characteristics of the oven or a range hood with the requirements of this Technical Regulation is carried out by the state market surveillance authorities by testing of one single unit per model of the oven or range hood. The model of an oven or range hood shall be considered to comply with the applicable requirements if:

1) the values reported in the technical documentation under point 13 of the Technical Regulation on energy labelling of energy-related products, approved by Resolution of the Cabinet of Ministers of Ukraine No 702 of 07 August 2013, and (where possible) the values used for calculation are not more favourable for the supplier than the values determined in the verification reports;

2) if the values on the energy label and in the product fiche are not more favourable for the supplier than the values obtained as the results of the verification, and the reported energy efficiency class is not more favourable for the supplier than the class determined by such values;

3) if the values of the relevant model parameters, measured during the verification, and the values, calculated based on the measurements, determined during the verification by the state market surveillance authorities of the respective single unit of the model, comply with the verification tolerances.

3. Where the results of the verification have revealed non-compliance of the values with the requirements of subpoints 1 and 2 of point 2 of this Title, the oven or range hood model and all the equivalent models of ovens and range

hoods shall be considered not to comply with the requirements of this Technical Regulation.

4. Where the results of the verification by the state market surveillance authorities have revealed non-compliance of the values with the requirements of subpoint 3 of point 2 of this Title, an additional testing of three units of the same model of oven or range hood shall be held. As an alternative, the three additional units selected may be of one or more different models which have been listed as equivalent product in the supplier's technical documentation.

5. The oven or range hood shall be considered to comply with the requirements of this Technical Regulation if the verification results comply with the verification tolerances, set out in Annex 5 to this Technical Regulation.

6. The oven or range hood shall be considered not to comply with the requirements of this Technical Regulation if the verification results do not comply with the verification tolerances.

Measurements and calculations shall be held in accordance with Title IV of this Technical Regulation.

7. The verification tolerances relate only to the verification of the specifications by state market surveillance authorities. The verification tolerances shall not be used by the supplier in establishing the values in the technical documentation. The values and classes on the energy label or in the product fiche shall not differ from the values reported in the technical documentation.

VI. The energy efficiency classes of an oven and a range hood

1. The energy efficiency class of an oven or a range hood shall be determined in accordance with Tables 1 to 2 in Annex 3 to this Technical Regulation.

2. The fluid dynamic efficiency class of a range hood shall be determined in accordance with Table 3 in Annex 3 to this Technical Regulation.

3. The lighting efficiency class of a range hood shall be determined in accordance with Table 4 in Annex 3 to this Technical Regulation.

4. The grease filtering efficiency class of a range hood shall be determined in accordance with Table 5 in Annex 3 to this Technical Regulation.

5. The energy label:

for ovens shall comply with the requirements of points 1 to 3 of Annex 1 to this Technical Regulation;

for range hoods with energy efficiency classes A ++, A, B, C, D and E, shall comply with the requirements of points 5 and 7 of Annex 1 to this Technical Regulation or, where the supplier is able, with the requirements of points 6 and 7 of Annex 1 to this Technical Regulation;

for range hoods placed on the market from 1 January 2020 with energy efficiency classes A +++, A ++, A +, A, B, C and D, shall comply with the requirements of points 6 and 7 of Annex 1 to this Technical Regulation.

Deputy Director
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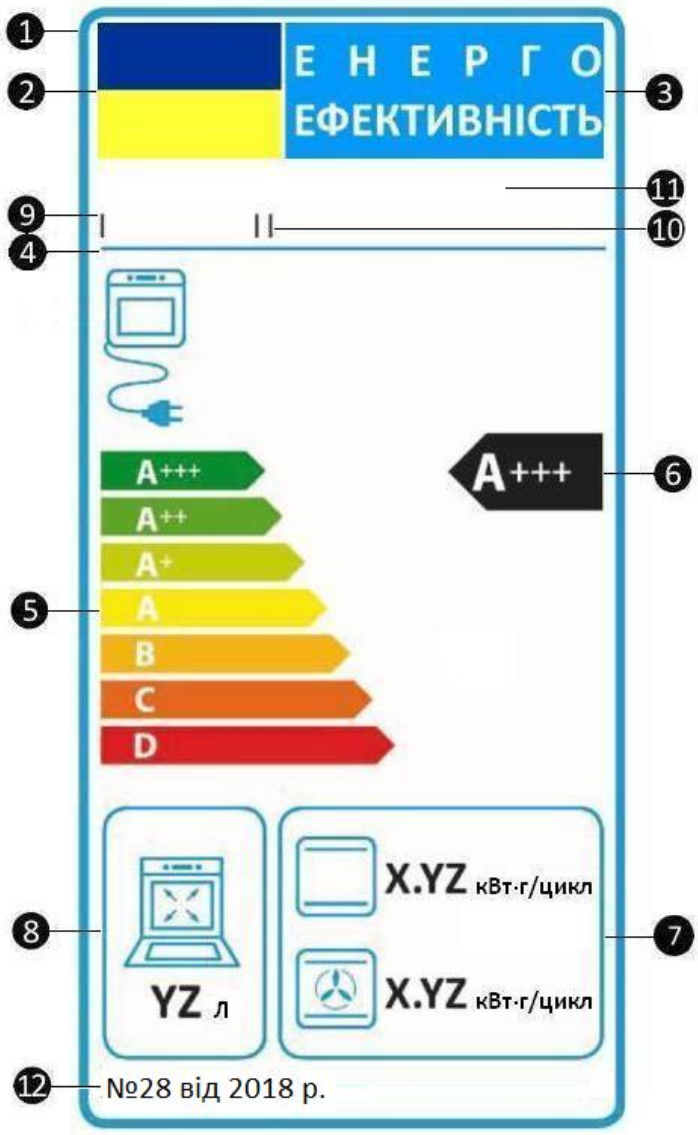
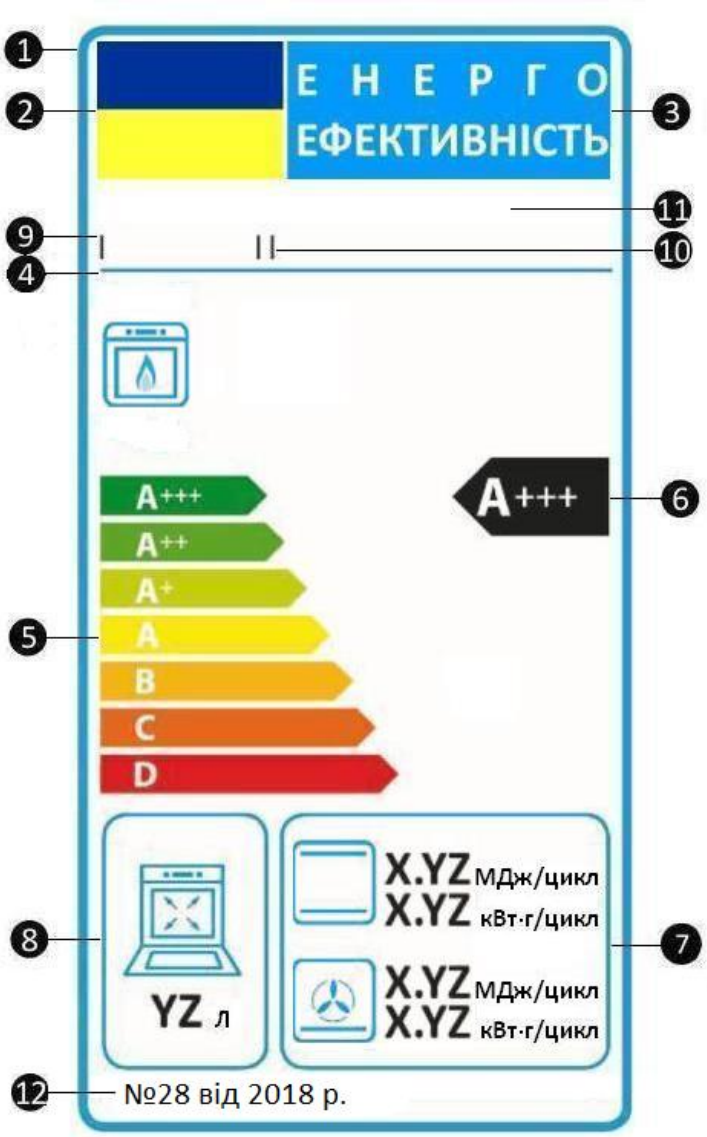
Annex 1
to Technical Regulation on the
energy labelling of domestic
ovens and range hoods
(Point 1 of Title II)

Format (sample) of the energy label

1. The design of the energy label for each cavity of the electric oven shall be the following:



2. The design of the energy label for each cavity of the gas oven shall be the following:



3. The energy label for electric and gas ovens shall be of the size at least 85 mm wide and 170 mm high. Where the energy label is printed in a larger format, its size must be increased proportionately.

The colours used in the energy label shall be cyan, magenta, yellow and black, the background shall be white.

The colour of any element of the label shall consist of a combination of the aforementioned colours expressed as a percentage of each of them.

Colours are coded as a combination of four symbols (figures), which indicate the percentage of the colours in the following order: cyan, magenta, yellow and black.

For example: the energy label element code ‘00-70-X-00’ indicates that such element includes 0 % cyan, 70 % magenta, 100 % yellow and 0 % black.

4. The energy label for electric and gas ovens shall fulfil the following requirements:

1) border stroke:

line - 4 pt thick;

colour: cyan - 100 %;

round corners - 3 mm;

2) colours: X-51-00-27 and 00-16-X-00;

3) energy logo:

colour- X-00-00-00;

colours pictogram and energy logo as depicted;

width - 70 mm;

height - 14 mm;

4) border:

line - 1,5 pt thick;

colour: cyan - 100 %;

length - 70 mm;

5) scale A^{+++} - D:

arrow:

height - 5,5 mm;

gap - 1 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, white;

‘+’ symbols:

Calibri bold - 12 pt;

white, aligned on a single row;

6) energy efficiency class:

arrow:

width - 20 mm;

height - 10 mm;

colour: black - 100 %;

text:

Calibri bold - 24 pt;

the capital white letter indicating the energy efficiency class shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

‘+’ symbols:

Calibri bold - 18 pt;

white, aligned on a single row;

7) energy consumption per cycle:

border:

line - 1,5 pt thick;

colour: cyan - 100 %;

round corners - 3 mm;

value:

Calibri bold - 19 pt;

Calibri regular - 10 pt;

colour: black - 100 %;

8) volume:

border:

line - 1,5 pt thick;

colour: cyan - 100 %;

round corners - 3 mm;

value:

Calibri bold - 20 pt;

Calibri regular - 10 pt;

colour: black - 100 %;

9) oven supplier’s name or trademark;

10) oven model;

11) the supplier’s name or trade mark and oven model information should fit in a space of 70 × 13 mm;

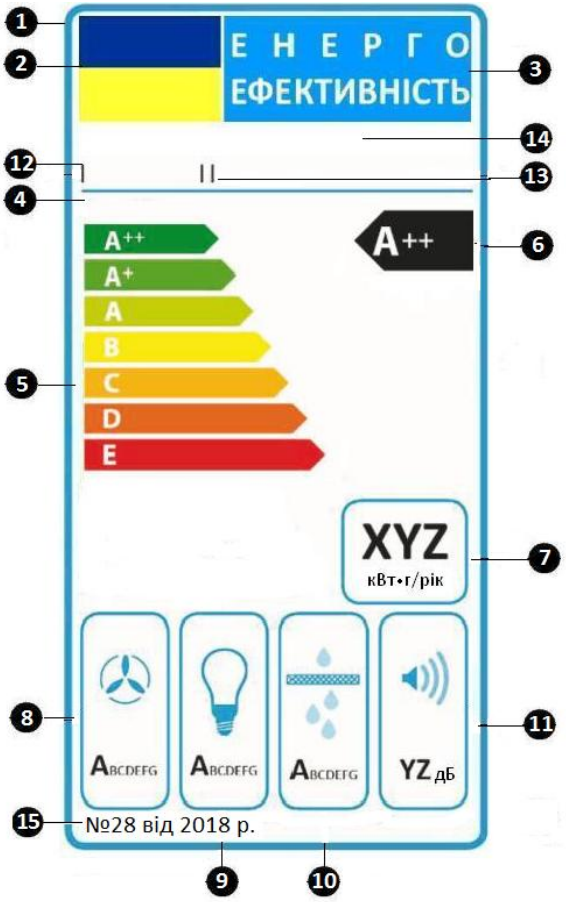
12) the number and date of the regulatory act, which approved Technical Regulation on the energy labelling of domestic ovens and range hoods (Order of

the Ministry of Regional Development, Construction and Housing of Ukraine No 28 of 7 February 2018):

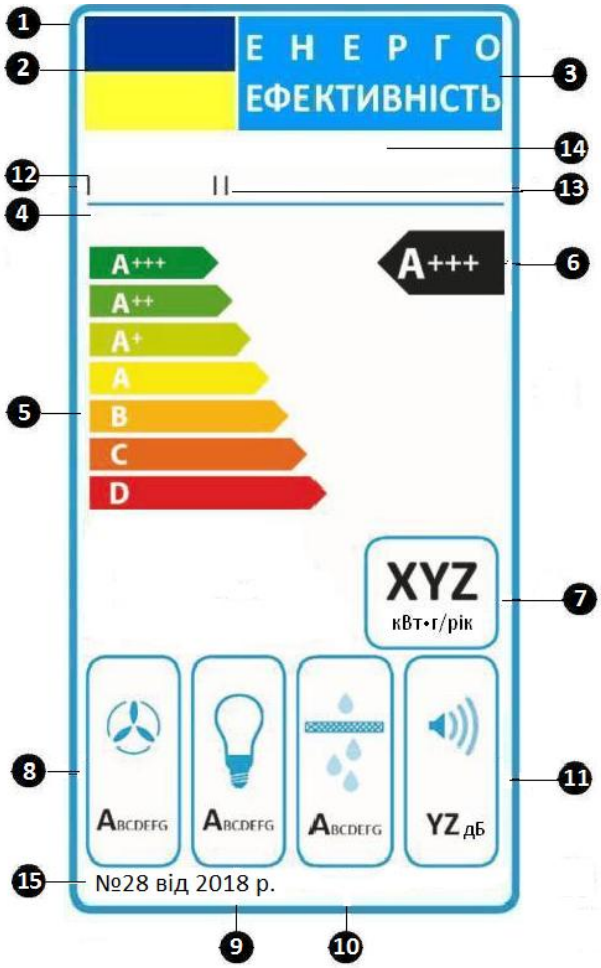
Calibri bold - 10 pt;

colour: black - 100 %.

5. The design of the energy label for range hoods placed on the market from the date Technical Regulation on the energy labelling of domestic ovens and range hoods enters into force shall be the following:



6. The design of the energy label for range hoods placed on the market from 1 January 2020 shall be the following:



7. The energy label for range hoods shall be of the size at least 60 mm wide and 120 mm high. Where the energy label is printed in a larger format, its size must be increased proportionately.

The colours used in the energy label shall be cyan, magenta, yellow and black, the background shall be white.

The colour of any element of the label shall consist of a combination of the aforementioned colours expressed as a percentage of each of them.

Colours are coded as a combination of four symbols (figures), which indicate the percentage of the colours in the following order: cyan, magenta, yellow and black.

For example: the energy label element code ‘00-70-X-00’ indicates that such element includes 0 % cyan, 70 % magenta, 100 % yellow and 0 % black.

8. The energy label for range hoods shall fulfil the following requirements:

1) border stroke:

line - 3 pt thick;

colour: cyan - 100 %;

round corners - 2 mm;

2) colours: X-51-00-27 and 00-16-X-00;

3) energy logo:

colour- X-00-00-00;

colours pictogram and energy logo as depicted;

width - 51 mm;

height - 10 mm;

4) sub-logos border:

line - 1 pt thick;

colour: cyan - 100 %;

length - 51 mm;

5) scale of energy classes:

arrow - 4 mm in height;

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 – 10 pt;

capitals, white;

‘+’ symbols:

Calibri bold - 7 pt;

white, aligned on a single row;

6) energy efficiency class:

arrow:

width - 15 mm;

height – 8 mm;

colour: black - 100 %;

text:

Calibri bold - 17 pt;

the capital white letter indicating the energy efficiency class shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

‘+’ symbols:

Calibri bold - 12 pt;

white, aligned on a single row;

7) annual energy consumption:

border:

line - 1 pt thick;

colour: cyan - 100 %;

round corners - 2,5 mm;

value:

first level:

Calibri bold - 21 pt;

colour: black - 100 %;

second level:

Calibri regular - 8 pt;

colour: black - 100 %;

8) fluid dynamic efficiency:

pictogram as depicted;

border:

line - 1 pt thick;

colour: cyan - 100 %;

round corners - 2,5 mm;

value:

first level:

Calibri regular - 6 pt;

colour: black - 100 %;

second level:

Calibri bold - 11,5 pt;

colour: black - 100 %;

9) lighting efficiency:

pictogram as depicted;

border:

line - 1 pt thick;

colour: cyan - 100 %;

round corners - 2,5 mm;

value:

first level:

Calibri regular - 6 pt;

colour: black - 100 %;

second level:

Calibri bold - 11,5 pt;

colour: black - 100 %;

10) grease filtering efficiency:

pictogram as depicted;

border:

line - 1 pt thick;

colour: cyan - 100 %;

round corners - 2,5 mm;

value:

first level:

Calibri regular - 10 pt;

colour: black - 100 %;

second level:

Calibri bold - 14 pt;

colour: black - 100 %;

11) noise level:

pictogram as depicted;

border:

line - 1 pt thick;

colour: cyan - 100 %;

round corners - 2,5 mm;

value:

first level:

Calibri regular - 6 pt;

colour: black - 100 %;

second level:

Calibri bold - 11,5 pt;

colour: black - 100 %;

12) range hood supplier's name or trade mark;

13) range hood model;

14) the supplier’s name or trade mark and range hood model information should fit in a space of 51 × 9 mm;

15) the number and date of the regulatory act, which approved Technical Regulation on the energy labelling of domestic ovens and range hoods (Order of

the Ministry of Regional Development, Construction and Housing of Ukraine No 28 of 7 February 2018):

Calibri bold - 8 pt;

colour: black - 100 %.

Annex 2
to Technical Regulation on the energy labelling of domestic ovens and range hoods
(Point 4 of Title III)

Information to be provided to the end-users in the case of distance sale, hire or hire-purchase of an oven or range hood (through the Internet)

1. The appropriate electronic label made available by suppliers in accordance with point 6 of Title II of Technical Regulation on the energy labelling of domestic ovens and range hoods (hereinafter referred to as ‘Technical Regulation’) shall be shown on the display mechanism in proximity to the price of the oven or range hood. For ovens, the appropriate energy label shall be shown for each cavity of the oven. The electronic energy label shall be clearly visible and its size shall be proportionate to the size specified in Annex 1 to the Technical Regulation, and it may be displayed using a nested display. If nested display is used, the electronic energy label shall be displayed on the application of the mouse or tactile screen expansion on the image.

2. The image used for accessing the electronic energy label in the case of nested display shall meet the following requirements:

1) the colour of the arrow indicating the energy efficiency class of the oven or range hood must correspond to the energy efficiency class indicated on the electronic energy label;

2) the energy efficiency class of the oven or range hood must be indicated in white in the same font as the price;

3) the arrow indicating the energy efficiency class of the oven or range hood must have one of the following formats:

.

3. In the case of a nested display, the following requirements to the display of the energy label shall be met:

1) the indication of the energy efficiency class shall be shown on the display mechanism in proximity to the price of the oven or range hood;

2) the indication of the energy efficiency class shall contain a link to the electronic energy label;

3) the electronic energy label shall be displayed on applying a mouse or tactile screen expansion on the image;

4) the electronic energy label shall be displayed by pop up, new tab, new page or inset screen display;

5) for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;

6) the electronic label shall cease to be displayed by means of a close option;

7) the alternative text for the graphic, to be displayed on failure to display the electronic energy label, shall be the energy efficiency class of the oven or range hood in the same font as the price.

4. The appropriate product fiche made available by suppliers in accordance with points 4 and 5 of Title II of the Technical Regulation shall be shown on the display mechanism in proximity to the price of the oven or range hood. The fiche must be clearly visible, it may be displayed using a nested display, in which case the link used for accessing the fiche shall clearly and legibly indicate ‘Product fiche’. If a nested display is used, the product fiche shall appear on applying a mouse or tactile screen expansion on the image.

Annex 3
to Technical Regulation on the energy labelling of domestic ovens and range hoods
(Point 5 of Title III)

Energy efficiency classes

1. The energy efficiency classes of ovens shall be determined separately for each cavity based on the energy efficiency indexes as set out in Table 1.

The energy efficiency index of ovens shall be calculated according to the formula set out in Title I of Annex 4 to Technical Regulation on the energy labelling of domestic ovens and range hoods (hereinafter referred to as 'Technical Regulation').

Table 1

Ovens energy efficiency classes

Energy efficiency class	Energy efficiency index (EEI_{cavity})
A+++ (the most efficient)	$EEI_{cavity} < 45$
A++	$45 \leq EEI_{cavity} < 62$

A+	$62 \leq EEI_{cavity} < 82$
A	$82 \leq EEI_{cavity} < 107$
B	$107 \leq EEI_{cavity} < 132$
C	$132 \leq EEI_{cavity} < 159$
D (the least efficient)	$EEI_{cavity} \geq 159$

2. The energy efficiency classes of range hoods shall be determined based on the energy efficiency indexes as set out in Table 2.

The energy efficiency index (EEI_{hood}) shall be calculated according to the formula set out in point 2 of Annex 4 to the Technical Regulation.

Table 2

Range hoods energy efficiency classes

Energy efficiency class	Energy efficiency index (EEI_{hood})	
	The label applied from the date Technical Regulation on the energy labelling of domestic ovens and range hoods entered into force	The label applied from 1 January 2020
A+++ (the most efficient)		$EEI_{hood} < 30$
A++	$EEI_{hood} < 37$	$30 \leq EEI_{hood} < 37$
A+	$37 \leq EEI_{hood} < 45$	$37 \leq EEI_{hood} < 45$
A	$45 \leq EEI_{hood} < 55$	$45 \leq EEI_{hood} < 55$
B	$55 \leq EEI_{hood} < 70$	$55 \leq EEI_{hood} < 70$
C	$70 \leq EEI_{hood} < 85$	$70 \leq EEI_{hood} < 85$
D	$85 \leq EEI_{hood} < 100$	$EEI_{hood} \geq 85$
E	$EEI_{hood} \geq 100$	
F		

G (the least efficient)		

3. The fluid dynamic efficiency classes shall be determined in accordance with the fluid dynamic efficiency (FDE_{hood}) as set out in the Table 3. The fluid dynamic efficiency of range hoods shall be calculated according to the formula set out in point 3 of Annex 4 to the Technical Regulation.

Table 3

Fluid dynamic efficiency classes

Fluid dynamic efficiency class	Fluid dynamic efficiency (FDE_{hood})
A (the most efficient)	$FDE_{hood} > 28$
B	$23 < FDE_{hood} \leq 28$
C	$18 < FDE_{hood} \leq 23$
D	$13 < FDE_{hood} \leq 18$
E	$8 < FDE_{hood} \leq 13$
F	$4 < FDE_{hood} \leq 8$
G (the least efficient)	$FDE_{hood} \leq 4$

4. The lighting efficiency classes shall be determined in accordance with the value of lighting efficiency as set out in Table 4. The lighting efficiency shall be calculated according to the formula set out in point 4 of Annex 4 to the Technical Regulation.

Table 4

Lighting efficiency classes

Lighting efficiency class	Lighting efficiency (LE_{hood})
A (the most efficient)	$LE_{hood} > 28$
B	$20 < LE_{hood} \leq 28$
C	$16 < LE_{hood} \leq 20$
D	$12 < LE_{hood} \leq 16$
E	$8 < LE_{hood} \leq 12$
F	$4 < LE_{hood} \leq 8$
G (the least efficient)	$LE_{hood} \leq 4$

5. The grease filtering efficiency classes shall be determined in accordance with the value of grease filtering efficiency (GFE_{hood}) as set out in Table 5. The grease filtering efficiency shall be calculated according to the formula set out in point 5 of Annex 4 to the Technical Regulation.

Table 5

Grease filtering efficiency classes (GFE_{hood})

Grease filtering efficiency class	Grease filtering efficiency (%)
A (the most efficient)	$GFE_{hood} > 95$
B	$85 < GFE_{hood} \leq 95$
C	$75 < GFE_{hood} \leq 85$
D	$65 < GFE_{hood} \leq 75$
E	$55 < GFE_{hood} \leq 65$
F	$45 < GFE_{hood} \leq 55$
G (the least efficient)	$GFE_{hood} \leq 45$

Annex 4
to Technical Regulation on the energy labelling of domestic ovens and range hoods
(Point 7 of Title III)

Measurements and calculations

1. 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:

1) for each cavity of a domestic oven, the energy efficiency index (EEI_{cavity}) shall be calculated according to the following formulas:

for electric ovens:

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

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

for gas ovens:

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

$$SEC_{gas\ cavity} = 0{,}0042 \times V + 3{,}53\ (in\ MJ)\ ,$$

where EEI_{cavity} — energy efficiency index for each cavity of a domestic oven, in %, rounded to the first decimal place;

$SEC_{electric\ \ cavity}$ — standard energy consumption (electricity consumption) required to heat a standardised load in a cavity of an electric heated domestic oven during a cycle, rounded to the second decimal place, expressed in kWh;

$SEC_{gas\ \ cavity}$ — standard energy consumption (gas consumption) required to heat a standardised load in a cavity of a gas heated domestic oven during a cycle, rounded to the second decimal place, expressed in MJ;

V — Volume of the cavity of the domestic oven, rounded to the nearest integer, in litres;

$EC_{electric\ cavity}$ — energy consumption required to heat a standardised load in a cavity of an electric heated domestic oven during a cycle, rounded to the second decimal place, expressed in kWh;

$EC_{gas\ \ cavity}$ — energy consumption required to heat a standardised load in a cavity of a gas heated domestic oven during a cycle, rounded to the second

decimal place, expressed in MJ;

2) the energy efficiency index for range hood (EEI_{hood}) shall be calculated according to the following formula:

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

where $SAEC_{hood}$ — standard annual energy consumption of the range hood rounded to the first decimal place, in kWh per year;

AEC_{hood} — annual energy consumption of the range hood rounded to the first decimal place, in kWh per year.

The energy efficiency index calculation result is rounded to the first decimal place.

The standard annual energy consumption ($SAEC_{hood}$) of a domestic range hood shall be calculated according to the following formula:

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

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

W_L — 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.

The annual energy consumption (AEC_{hood}) of a domestic range hood shall be calculated according to the following formulas:

for the fully automatic domestic range hoods:

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

for other range hoods:

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

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

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

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

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

f — time increase factor, calculated and rounded to the first decimal place, as:

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

3) the fluid dynamic efficiency of a range hood (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} — flow rate of the domestic range hood at best efficiency point, rounded to the first decimal place, in m^3/h;

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

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

4) the lighting efficiency of a domestic range hood (LE_{hood}) is determined by the ratio between the average illumination and the nominal electric power input of the lighting system, rounded at the nearest integer, in lux per W.

The lighting efficiency of a domestic range hood shall be calculated according to the following formula:

$$LE_{hood} = \frac{E_{middle}}{W_L}\ ,$$

where E_{middle} — average illumination of the lighting system on the cooking

surface measured under standard conditions, rounded to the nearest integer, in lux;

W_L — 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;

5) grease filtering efficiency the fluid dynamic efficiency of a domestic range hood (GFE_{hood}) is determined by the relative amount of grease retained within the range hood grease filters, rounded to the first decimal place and calculated by the following formula:

$$GFE_{hood} = \left[w_g/\left(w_r + w_t + w_g\right)\right] \times 100 \ [\%] ,$$

where w_g — mass of oil in the grease filter, including all detachable coverings, rounded to the first decimal place, in g;

– w_r — mass of oil retained in the airways of the range hood, rounded to the first decimal place, in g;

– w_t — mass of oil retained in the absolute filter, rounded to the first decimal place, in g.

2. The noise value of a range hood (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, rounded to the nearest integer.

Annex 5
to Technical Regulation on the energy labelling of domestic ovens and range hoods
(Point 5 of Title V)

Verification tolerances

No.	Parameters to be verified	Verification tolerances
1	2	3
1	Weight of the oven	The determined value shall not exceed the declared value by more than 5 %
2	Volume of the cavity of the oven	The determined value shall not be lower than the declared value by more than 5 %
3	Energy consumption required to heat a standardised load in a cavity of an electric and gas heated domestic oven during a cycle	The determined value shall not exceed the declared value by more than 5 %
4	Electric power input of the domestic range hood at the best efficiency point and nominal electric power input of the lighting system of the domestic range hood on the cooking surface	The determined value shall not exceed the declared value by more than 5 %
5	Air flow rate and static pressure difference of the domestic range hood at best efficiency point	The determined value shall not be lower than the declared value by more than 5 %
6	Maximum value of air flow	The determined value shall not exceed the declared value by more than 8 %
7	Average illumination of the lighting system on the cooking surface	The determined value shall not be lower than the declared value by more than 5 %
8	Grease filtering efficiency	The determined value shall not be lower than the declared value by more than 5 %
9	Power consumption in off-mode and standby mode	The determined value shall not exceed the declared value by more than 10 %. The determined value of less than or equal to 1 W shall not exceed the declared value by more than 0,01 W
10	Level of airborne acoustical noise emission	The determined value shall not exceed the declared value