CABINET OF MINISTERS OF UKRAINE

RESOLUTION

No. 787 of 3 September 2008
Kyiv

On the approval of the Technical Regulation on the maximum permissible energy consumption by refrigerating appliances

{As amended by the CMU Resolutions
No. 368 of 10.05.2012
No. 235 of 08.04.2013}

According to Article 14 of the Law of Ukraine on Standards, Technical Regulations, and Conformity Assessment Procedures, the Cabinet of Ministers of Ukraine **hereby resolves** as follows:

1. The Technical Regulation on the maximum permissible energy consumption by refrigerating appliances and the action plan on its application (as attached) shall be hereby approved.

2. The State Agency on Energy Efficiency and Energy Saving shall ensure the application of the Technical Regulation approved hereby.

{Clause 2 as reworded by the CMU Resolution No. 368 of 10.05.2012}

Prime Minister of Ukraine **Yu. TYMOSHENKO**

Ind. 21

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 787 of 3 September 2008

TECHNICAL REGULATION on the maximum permissible energy consumption by refrigerating appliances

{For taking effect by this Technical Regulation and amendments thereto see Section III of the Law No. 3164-IV of 01.12.2005}

{In the Technical Regulation text, the digits and words "17 or 18" are replaced with the digits "17" according to the CMU Resolution No. 368 of 10.05.2012}

General provisions

1. This Technical Regulation shall set forth requirements concerning energy efficiency of household electric refrigerators, freezers and combined refrigerator-freezers (hereinafter referred to as 'refrigerating appliances').

2. The terms in this Technical Regulation shall be used in the meanings specified in the Law of Ukraine on Standards, Technical Regulations, and Conformity Assessment Procedures, the Law of Ukraine on Conformity Confirmation, and the Law of Ukraine on the Accreditation of Conformity Assessment Authorities.

3. This Technical Regulation shall apply to new electric mains-operated refrigerating appliances as defined in Clause 14 of this Technical Regulation.

This Technical Regulation shall not apply to refrigerating appliances that are powered by other energy sources, particularly by batteries, and to household absorption-type refrigerating appliances and appliances made for one-off use.

4. A refrigerating appliance shall be placed on the market provided that its Energy Efficiency Index depending on the energy consumption by the refrigerating appliance is not greater than the Energy Efficiency Index value as per Annex 5.

{Clause 4 as reworded by the CMU Resolution No. 368 of 10.05.2012}

5. The manufacturer of a refrigerating appliance or its authorised representative being a Ukrainian resident (hereinafter referred to as the 'authorised person'), or, if the manufacturer or the authorised person do not conduct activities in the territory of Ukraine, a person who placed the refrigerating appliances on the market, shall be responsible, pursuant to legislation, for conformity of each refrigerating appliance placed on the market with the requirements of this Technical Regulation.

6. It shall be prohibited to place on the market refrigerating appliances without the national conformity mark applied.

7. It shall not be allowed to establish prohibition or restriction on, or prevent, placing on the market of the refrigerating appliances with the national conformity mark applied.

8. Where refrigerating appliances are covered by other technical regulations that provide for application of the national conformity mark, the refrigerating appliances shall also meet the

requirements of such technical regulations. Compliance of refrigerating appliances with all the technical regulations shall be a precondition for application of the national mark.

9. It shall be prohibited to apply to refrigerating appliances any mark similar in form to the national conformity mark. Any other mark may be applied on refrigerating appliances, their packaging, operating instructions or other documentations provided that clarity and legibility of the national conformity mark are ensured.

10. If the fact of application of the national conformity mark on a refrigerating appliance failing to meet the requirements of this Technical Regulation is revealed, the manufacture or the authorised person or the person who placed the refrigerating appliance on the market shall be required to ensure conformity of the appliance with the requirements of this Technical Regulation.

11. If the fact of improper application of the national conformity mark on a refrigerating appliance is revealed again, measures shall be taken to restrict or prohibit placing of such a product on the market or to withdraw it from the market pursuant to the legislation of Ukraine.

12. Any decision concerning restriction of placing of refrigerating appliances on the market shall be required to be substantiated. The party concerned shall be informed on the decision made as well as on time limits for rectification of any violations of this Technical Regulation.

Method for calculating the maximum permissible energy consumption by a refrigerating appliance

13. Energy consumption by a refrigerating appliance depends on its category, volume, energy efficiency of its design (heat insulation depth, compressor efficiency, etc.), and the ratio between ambient temperature and temperature inside the appliance.

14. In terms of energy consumption, refrigerating appliance shall be classified in categories according to Annex 6. The categories shall be determined depending on compartments composition as per Annex 7 regardless of the number of doors and/or boxes.

{Clause 14 as reworded by the CMU Resolution No. 368 of 10.05.2012}

15. Refrigerating appliances are classified by climate class according to Annex 8.

{Clause 15 as reworded by the CMU Resolution No. 368 of 10.05.2012}

16. The equivalent volume of a refrigerating appliance (V_{eq}) is calculated according to the following formula (rounded to the nearest integer):

$$V_{eq} = \left[\sum_{c=1}^{c=n} V_c \times W_c \times FF_c\right] \times CC \times BI,$$

where n is the number of compartments;

V_c is the storage volume of the compartment, l;

W_c is the thermodynamic factor as per Annex 9;

FF_c, CC and BI are correction factors as per Annex 10.

The thermodynamic factor (W_c) is calculated according to the following formula:

$$W_c = \frac{(25 - T_c)}{20},$$

where T_c is the nominal temperature of a refrigerating appliance compartment as per Annex 7, °C.

The thermodynamic factor is determined as follows:

for a multi-use refrigerating appliance – by the nominal temperature of the coldest compartment capable of being set by the end-user and maintained continuously according to the operating instruction;

for any two-star section within a freezer compartment – by the nominal temperature –12°C;

for other compartments – by the coldest design temperature capable of being set by the end-user and maintained continuously according to the operating instruction.

If a refrigerating appliance is classified in more than one climate class, the climate class with the highest CC correction factor is used for the calculation of the equivalent volume.

{Clause 16 as reworded by the CMU Resolution No. 368 of 10.05.2012}

17. The Energy Efficiency Index (EEI) of a refrigerating appliance is calculated according to the following formula (rounded to the first decimal place):

$$EEI = \frac{AE_c}{SAE_c} \times 100,$$

where

AE_c is annual energy consumption of the refrigerating appliance, kWh/year;

SAE_c is standard annual energy consumption of the refrigerating appliance, kWh/year.

The annual energy consumption (AE_c) is calculated as follows and rounded to two decimal places:

$$AE_c = E_{24h} \times 365$$

where

E_{24h} is the energy consumption of the refrigerating appliance, rounded to three decimal places, kWh/24h.

The standard annual energy consumption (SAE_c) is calculated as follows and rounded to two decimal places:

$$SAE_c = V_{eq} \times M + N + CH,$$

where

V_{eq} is the equivalent volume of the refrigerating appliance, l;

CH is equal to 50 kWh/year for a household refrigerating appliance with a chill compartment and the equivalent volume of at least 15 litres;

M and N are factors as per Annex 11.

{Clause 17 as reworded by the CMU Resolution No. 368 of 10.05.2012}

{Clause 18 deleted by the CMU Resolution No. 368 of 10.05.2012}

Testing procedures for checking conformity of energy consumption by refrigerating appliances with the requirements of the Technical Regulation

19. Energy consumption by refrigerating appliances shall be determined according to the State Standard of Ukraine ДСТУ EN 153 "Methods for measuring energy consumption and related characteristics of electric mains-operated household refrigerators, freezing units, freezers and combinations thereof".

Refrigerating appliances shall be tested under the following conditions:

{Third paragraph of Clause 19 deleted by the CMU Resolution No. 368 of 10.05.2012}

AC voltage deviation limit – ± 1% of rated voltage of 220 V;

AC frequency deviation limit – ± 1% of rated frequency of 50 Hz.

20. To determine conformity of energy consumption by a refrigerating appliance with the requirements of this Technical Regulation, a single refrigerating appliance shall be tested.

If the refrigerating appliance's Energy Efficiency Index is greater than the Energy Efficiency Index by more than 10 percent, testing of three refrigerating appliances shall be performed.

The arithmetical mean of the Energy Efficiency Index of the three refrigerating appliances must not be greater than the Energy Efficiency Index by more than 10 percent.

Otherwise, all models of the given refrigerating appliances shall be considered not to comply with the requirements of this Technical Regulation.

{Clause 20 as reworded by the CMU Resolution No. 368 of 10.05.2012}

Conformity assessment procedures

21. The manufacturer or the authorised person shall carry out assessment of refrigerating appliances' conformity with the requirements of this Technical Regulation using Module A (internal production control) according to the Technical Regulation on conformity assessment modules approved by the Resolution of the Cabinet of Ministers of Ukraine No. 1585 of 7 October 2003 (Ofitsiynyi Visnyk Ukrainy, 2003, No. 41, p. 2175).

{First paragraph of Clause 21 as amended by the CMU Resolution No. 368 of 10.05.2012}

The manufacturer or the authorised person shall put the national conformity mark to each refrigerating appliance and shall complete the declaration of conformity of the refrigerating appliances with the requirements of the Technical Regulation. The form of the declaration is provided in Annex 4.

22. The manufacturer or the authorised person shall draw up technical documentation as provided for in Clause 23 of this Technical Regulation, keep it, along with the conformity declaration, during three years from the production date of the last sample of the refrigerating appliance, and provide it for inspections in cases specified by law.

23. The technical documentation shall be drawn up in the national language and contain:

name and address of the manufacturer;

general description of the refrigerating appliance model, sufficient for it to be unequivocally identified;

information on basic design features of the refrigerating appliance model, including relevant drawings, particularly on features substantially influencing the energy consumption, dimensions, volume and compressor parameters;

operating instruction;

reports on electric consumption tests;

confirmation of conformity of results of such tests with results of the calculations as per Clause 17 of this Technical Regulation.

Where the technical documentation contains information obtained by design calculations or testing of similar refrigerating appliance models, such information must be brought into conformity with the reports on tests performed by the manufacturer, and a list of refrigerating appliance models for which the Energy Efficiency Index has been calculated in that way must be provided.

{Clause 23 supplemented with a paragraph by the CMU Resolution No. 368 of 10.05.2012}

24. The manufacturer or the authorised person shall be responsible both for the determination of energy consumption by refrigerating appliances by means of testing according to Clause 19 and for correctness of calculations according to Clause 17 of this Technical Regulation.

The manufacturer shall be required to take measures to ensure, during the production process, conformity of any manufactured refrigerating appliance with the technical documentation and with the requirements of this Technical Regulation.

25. The person who placed refrigerating appliances on the market shall perform assessment of their conformity with the requirements of this Technical Regulation using Module 7 (verification of product units) according to the Technical Regulation on conformity assessment modules.

{First paragraph of Clause 25 as amended by the CMU Resolution No. 368 of 10.05.2012}

When using the above-mentioned module, the person who placed the refrigerating appliances on the market, shall put the national conformity mark on each refrigerating appliance sample tested, and draw up the declaration of conformity based on the certificate of conformity issued by the conformity assessment authority according to a statutory procedure.

26. To obtain the certificate of conformity, the person who placed the refrigerating appliances on the market shall lodge an application for testing of each refrigerating appliance sample with one of the designated conformity assessment authorities in the person's discretion. The application shall contain:

the manufacturer's name and address;

general description of the refrigerating appliance model, sufficient for it to be unequivocally identified;

the operating instruction.

27. The designated conformity assessment authority shall:

examine each refrigerating appliance sample and perform tests according to Clause 19 of this Technical Regulation;

issue, based on the tests performed, certificates of conformity, and provide a permit to put the manufacturer's identification number on each refrigerating appliance sample tested.

28. The person who placed the refrigerating appliances on the market shall keep the declarations of conformity and the certificates of conformity during three years from the date of placing the appliances on the market, and shall provide them for inspections in cases specified by law.

29. The person who placed the refrigerating appliances on the market shall be responsible both for the determination of energy consumption by each refrigerating appliance sample by means of testing according to Clause 19 and for correctness of calculations according to Clause 17 of this Technical Regulation.

{Annex 1 deleted by the CMU Resolution No. 368 of 10.05.2012}

{Annex 2 deleted by the CMU Resolution No. 368 of 10.05.2012}

{Annex 3 deleted by the CMU Resolution No. 368 of 10.05.2012}

Annex 4
to the Technical Regulation

DECLARATION
of conformity

{Annex 4 as amended by the CMU Resolution No. 368 of 10.05.2012}

_____
(full name of the manufacturer or its authorised person being a Ukrainian resident, who placed refrigerating appliances on the market,

_____
their address, USREOU code (if any)

represented by _____
(title and full name of the authorised person)

confirms that _____
(full name of the refrigerating appliance,

_____,
its type, brand, model)

manufactured according to _____
(titles of regulatory documents that confirm conformity of maximum permissible

_____,
energy consumption by refrigerating appliances with the Technical Regulation)

conforms to the Technical Regulation.

Certificate of conformity* _____
(Certificate No., registration date, validity period,

_____.
name and address of the designated conformity assessment authority)

The declaration is drawn up under the responsibility of the manufacturer or its authorised person, or the person who placed the refrigerating appliances on the market.

_____	_____	_____
(title of the person who drew up the declaration)	(signature)	(last name and initials)

LS _____20__

_____

*Used when applying a module where conformity assessment of a refrigerating appliance is conducted by the designated conformity assessment authority.

Annex 5
to the Technical Regulation

Energy Efficiency Index values

Energy Efficiency Index value	Date of applying
< 55	Six months after taking effect by the CMU Resolution No. 368 of 10 May 2012
< 44	Twelve months after taking effect by the CMU Resolution No. 368 of 10 May 2012
< 42	From 1 July 2014

{Annex 5 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 6
to the Technical Regulation

Refrigerating appliance categories

Category	Refrigerating appliance designation
1	Refrigerator with fresh-food storage compartments
2	Refrigerator-cellar, wine storage refrigerator
3	Refrigerator-chiller, refrigerator with a 0-star low-temperature compartment
4	Refrigerator with a one-star low-temperature compartment
5	Refrigerator with a two-star low-temperature compartment
6	Refrigerator with a three-star low-temperature compartment
7	Refrigerator-freezer with a four-star freezer compartment
8	Upright freezer
9	Chest freezer
10	Multi-use refrigerator, other refrigerating appliance

{Annex 6 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 7
to the Technical Regulation

COMPOSITION
of refrigerating appliance compartments

Refrigerating appliance category	Refrigerating appliance compartments composition									
	wine storage (+12°C)	cellar (+12°C)	fresh food storage (+5°C)	chill (0°C)	ice-making /0-star (0°C)	one-star (-6°C)	two-star (-12°C	three-star (-18°C)	four-star freeze (-18°C)	other (design temperature)
1	N	N	Y	N	N	N	N	N	N	N
	O	O	Y	N	N	N	N	N	N	O
2	O	Y	N	N	N	N	N	N	N	O
	Y	N	N	N	N	N	N	N	N	N
3	O	O	Y	Y	O	N	N	N	N	O
	O	O	Y	O	Y	N	N	N	N	O
4	O	O	Y	O	O	Y	N	N	N	O
5	O	O	Y	O	O	O	Y	N	N	O
6	O	O	Y	O	O	O	O	Y	N	O
7	O	O	Y	O	O	O	O	O	Y	O
8	N	N	N	N	N	N	O	Y	Y	N
9	N	N	N	N	N	N	O	N	Y	N
10	O	O	O	O	O	O	O	O	O	O

Note:
Y – the compartment is present;
N – the compartment is not present;
O – the presence of the compartment is optional

{Annex 7 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 8
to the Technical Regulation

CLIMATE CLASSES
of refrigerating appliances

Refrigerating appliance climate class	Climate class symbol	Ambient average temperature, °C
Extended temperate	SN	+ 10 to + 32
Temperate	N	+ 16 to + 32
Subtropical	ST	+ 16 to + 38
Tropical	T	+ 16 to + 43

{Annex 8 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 9
to the Technical Regulation

THERMODYNAMIC FACTOR
for refrigerating appliance compartments

Compartment	Nominal temperature, °C	Thermodynamic factor (W_c)
Wine storage compartment	+ 12	0,65
Fresh-food storage compartment	+ 5	1
Chill compartment	0	1,25
Ice-making compartment and 0-star compartment	0	1,25
One-star compartment	– 6	1,55
Two-star compartment	– 12	1,85
Three-star compartment	– 18	2,15
Food-freezer (four-star) compartment	– 18	2,15

Note: for other compartments of a refrigerating appliance, the nominal temperature and the thermodynamic factor are determined by its manufacturer.

{Annex 9 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 10
to the Technical Regulation

CORRECTION FACTORS

Correction factor	Value	Conditions of application
FF (frost-free)	1,2	For frost-free frozen-food storage compartment
	1	For other compartments
CC (climate class)	1,2	For tropical class refrigerating appliance
	1,1	For subtropical class refrigerating appliance
	1	For extended temperate and temperate class refrigerating appliance
BI (built-in)	1,2	For a built-in refrigerating appliance under 58 cm in width
	1	For other built-in refrigerating appliances

{Annex 10 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

Annex 11
to the Technical Regulation

M and N factors for refrigerating appliances

Category	Factor	
	M	N
1	0,233	245
2	0,233	245
3	0,233	245
4	0,643	191
5	0,45	245
6	0,777	303
7	0,777	303
8	0,539	315
9	0,472	286

Notes:

For a category 10 refrigerating appliance the M and N factors depend on the nominal temperature of the compartment capable of being set by the user and maintained continuously according to the manufacturer's instructions, and on the star rating of the compartments with the lowest storage temperature.

For other compartments the M and N factor values for category 1 are used.

{Annex 11 added to the Technical Regulation by the CMU Resolution No. 368 of 10.05.2012}

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 7878 of 3 September 2008
(as reworded by the Resolution of the Cabinet of Ministers of Ukraine
No. 368 of 10 May 2012)

ACTION PLAN
on the application of the Technical Regulation on the maximum permissible energy consumption by refrigerating appliances

Action	Responsible entities	Time limits
1. Establishing an advisory methodological centre on the application of the Technical Regulation on the maximum permissible energy consumption by refrigerating appliances (Technical Regulation) working on self-sustainability basis	State Agency on Energy Efficiency and Energy Saving	2012
2. Bringing own regulatory legal acts into conformity with the Technical Regulation, if required	Ministry of Economic Development and Trade	-"-
3. Popularising the application of the Technical Regulation through mass media as well as by means of seminars, conferences, etc.	State Agency on Energy Efficiency and Energy Saving	Regularly
4. Designating authorities to assess conformity of refrigerating appliances with the Technical Regulation requirements	Ministry of Economic Development and Trade State Agency on Energy Efficiency and Energy Saving	-"-
5. Supervising economic entities' compliance with the Technical Regulation requirements	State Inspectorate for Consumer Rights Protection State Customs Service	Regularly
6. Amending the Technical Regulation, if required	State Agency on Energy Efficiency and Energy Saving Ministry of Economic Development and Trade	-"-

{Action plan as reworded by the CMU Resolution No. 368 of 10.05.2012}