L.N. 349 of 2007

PRODUCT SAFETY ACT (CAP. 427)

Energy Efficiency Requirements for Household Electric Refrigerators, Freezers and Combinations thereof (Implementing Measures) Regulations, 2007

IN exercise of the powers conferred by articles 38 to 40 of the Product Safety Act, the Minister for Competitiveness and Communications, on the advice of the Malta Standards Authority, has made the following regulations:-

Citation and commencement.

1. (1) The title of these regulations is the Energy Efficiency Requirements for Household Electric Refrigerators, Freezers and Combinations thereof (Implementing Measures) Regulations, 2007.

(2) These regulations shall be interpreted in terms of the Framework for the Setting of Ecodesign Requirements for Energy-Using Products Regulations, 2007, hereinafter referred to as "the Ecodesign Regulations".

(3) These regulations implement the requirements of Directive 96/57/EC of the European Parliament and of the Council of 3 September 1996 on energy efficiency requirements for household electric refrigerators, freezers and combinations thereof as amended by Directive 2005/32/EC of the European Parliament and of the Council of 6th July 2005 Establishing a Framework for the Setting of Ecodesign Requirements for Energy-Using Products and Amending Council Directive 92/42/EEC and Directives 96/57/EC[1] and 2000/55/EC[2] of the European Parliament and of the Council,

(4) These regulations constitute an implementing measure with in the meaning of the principal regulations with regard to energy efficiency during use of refrigeration appliances.

(5) These regulations shall come into force on the 11th August 2007.

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1 OJ No. L236, 18-09-1996, p. 36-43.

2 OJ No. L279, 01-11-2000, p. 33-39.

Scope and application.

2. (1) These regulations shall apply to new electric mains-operated household refrigerators, frozen food storage cabinets, food freezers, and combinations of these as defined in Schedule I hereto and referred to hereinafter as 'refrigeration appliances'.

(2) Appliances which can also use other energy sources, particularly accumulators, and household refrigeration appliances working on the absorption principle and appliances manufactured on a one off basis shall be excluded.

Definitions.

3. For the purposes of these regulations, the definitions of the Ecodesign Regulations shall also apply.

Placing on the market and putting into service.

4. (1) With regard to placing on the market and putting into service mentioned in the principal regulations the following shall apply:

(a) All necessary measures shall be taken to ensure that refrigeration appliances covered by these regulations can be placed on the market only if the electricity consumption of the appliance in question is less than or equal to the maximum allowable electricity consumption value for its category as calculated according to the procedures defined in Schedule I hereto;

(b) The manufacturer of a refrigeration appliance covered by these regulations, or his authorised representative shall be responsible for ensuring that each appliance placed on the market conforms with the requirement referred to in paragraph (a) above;

(c) Where refrigeration appliances are subject to other regulations concerning other aspects which also provide for the affixing of the 'CE' marking, the latter shall indicate that the refrigeration appliances in question are also presumed to conform to the provisions of those regulations.

(2) Where one or more of these regulations allow the manufacturer, during a transitional period, to choose which arrangements to apply, the CE marking shall indicate conformity to the provisions only of those regulations applied by the manufacturer. In this case, particulars of the regulations applied, as published in the OJ, must be given in the documents, notices or instructions required by the regulations and accompanying the refrigeration appliances.

Conformity assessment procedures.

5. With regard to the conformity assessment procedures mentioned in the Ecodesign regulations the conformity assessment procedure set out in Schedule II hereto shall apply.

Repeals L.N. 63 of 2002.

6. The Energy Efficiency Requirements for Household Electric Refrigerators, Freezers and Combinations thereof Regulations, 2002 are hereby being repealed.

Schedule I

Based on Annex I of directive 96/57/EC

METHOD FOR CALCULATING THE MAXIMUM ALLOWABLE ELECTRICITY CONSUMPTION OF A REFRIGERATION APPLIANCE AND PROCEDURE FOR CHECKING CONFORMITY

The electricity consumption of a refrigeration appliance (which may be expressed in kWh per 24 hours) is a function of the category of appliance to which it belongs (e.g. 1-star refrigerator, chest freezer, etc.), its volume and the energy efficiency of its construction, (thickness of insulation, compressor efficiency, etc.) and the difference between ambient temperature and the temperature inside the appliance. In setting energy efficiency standards therefore, allowance must be made for the main endogenous factors which influence energy consumption (i.e. the category of the appliance and its volume). For this reason the maximum allowable electricity consumption of a refrigeration appliance is defined by a linear equation which is a function of the volume of the appliance, with different equations laid down for each category of appliance.

To calculate the maximum allowable electricity consumption of a given appliance, it must therefore first be allocated to the appropriate category from the following list:

Category	*Description*
1	**Refrigerator** without low temperature compartment (any compartment with a temperature at or below -6°C)
2	Refrigerator/chiller with compartment at 5°C and/or 12°C
3	**Refrigerator** with no-star low temperature compartment
4	**Refrigerator** with low temperature compartment (*)
5	**Refrigerator** with low temperature compartment (**)
6	**Refrigerator** with low temperature compartment (***)
7	Refrigerator/freezer, with freezer compartment (****)
8	Food freezer, upright
9	Food freezer, chest
10	Refrigerator/freezer with more than two doors, or other appliances not covered above

Because refrigeration appliances contain different compartments maintained at different temperatures, (which will significantly influence electricity consumption), maximum allowable electricity consumption is defined in practice as a function of the adjusted volume, which is the weighted sum of the volumes of the different compartments.

Thus, for the purposes of these regulations, the adjusted volume (Vadj) of a refrigeration appliance is defined as:

$Vadj = \Sigma\ Vc \times Wc \times Fc \times Cc$ $Wc = (25 - Tc)/20$

where Tc is the design temperature in each compartment (in °C),

where Vc is the net volume of a given type of compartment in the appliance and Fc is a factor which equals 1.2 for no frost compartments and 1 for other compartments,

Cc = 1 for refrigeration appliances belonging to the normal (N) and subnormal (SN) climate classes

Cc = Xc for refrigeration appliances belonging to the sub-tropical (ST) climate class

Cc = Yc for refrigeration appliances belonging to the tropical (T) climate class.

The weighting co-efficients Xc and Yc for the different types of compartment are:

	Xc	*Yc*
Cellar compartment	1.25	1.35
Fresh food compartment	1.20	1.30
0°C compartment	1.15	1.25
1-star (*) compartment	1.12	1.20
2-star (**) compartment	1.08	1.15
3 (***) and 4 (****) star compartments	1.05	1.10

Both the adjusted volume and the net volume are expressed in litres.

The maximum allowable electricity consumption (Emax expressed in kWh per 24 hours calculated to two decimal places), for an appliance type with adjusted volume Vadj is defined by the following equations for each appliance category:

Category	*Description*	*Emax (kWh/24 h)*
1	**Refrigerator** without low temperature compartment	(0.207 × Vadj + 218)/365
2	Refrigerator/chiller with compartment at 5°C and/or 12°C	(0.207 × Vadj + 218)/365
3	**Refrigerator** with no-star low temperature compartment	(0.207 × Vadj + 218)/365
4	**Refrigerator** with low temperature compartment (*)	(0.557 × Vadj + 166)/365
5	**Refrigerator** with low temperature compartment (**)	(0.402 × Vadj + 219)/365
6	**Refrigerator** with low temperature compartment (***)	(0.573 × Vadj + 206)/365
7	Refrigerator/freezer, with freezer compartment (****)	(0.697 × Vadj + 272)/365
8	Food freezer, upright	(0.434 × Vadj + 262)/365
9	Food freezer, chest	(0.480 × Vadj + 195)/365

For refrigerators/freezers with more than two doors, or other appliances not covered above, the maximum allowable electricity consumption (Emax) is determined by the temperature and the star rating of the compartment with the lowest temperature, as follows:

Temperature of the coldest compartment	*Category*	*Emax (kWh/24 hours)*
> - 6°C	1/2/3	(0.207 × Vadj + 218)/365
<= - 6°C (*)	4	(0.557 × Vadj + 166)/365
<= - 12°C (**)	5	(0.402 × Vadj + 219)/365
<= - 18°C (***)	6	(0.573 × Vadj + 206)/365
<= - 18°C (****)	7	(0.697 × Vadj + 272)/365

Test procedures for checking whether an appliance complies with the electricity consumption requirements of these regulations.

If the electricity consumption of a refrigeration appliance submitted for verification is less than or equal to Emax (the maximum allowable electricity consumption value for its category, as defined above), plus 15 %, the appliance is certified as conforming to the electricity consumption requirements of these regulations. If the electricity consumption of the appliance is greater than Emax plus 15 %, the electricity consumption of a further three appliances must be measured. If the arithmetic mean of the electricity consumptions of these three appliances is less than or equal to Emax plus 10 %, the appliance is certified as conforming to the electricity consumption requirements of these regulations. If the arithmetic mean exceeds Emax plus 10 %, the appliance must be judged not to conform to the electricity consumption requirements of these regulations.

Definitions
The terms used in this Schedule correspond to the definitions in MSA EN 153:2000.

Schedule II

Based on Annex II of the directive 96/57/EC

CONFORMITY ASSESSMENT PROCEDURES (MODULE A)

1. This module describes the procedure whereby the manufacturer or his authorized representative, who carries out the obligations laid down in point 2 of this Schedule, ensures and declares that the refrigeration appliance satisfies the relevant requirements of these regulations. The manufacturer must affix the “CE” marking to each refrigeration appliance which he manufactures and draw up a written declaration of conformity.

2. The manufacturer must establish the technical documentation described in point 3 of this Schedule and he or his authorized representative must keep it at the disposal of the relevant national authorities for inspection purposes for a period of not less than three years from the date on which the last appliance has been manufactured.

   Where neither the manufacturer nor his authorized representative is established in Malta, the obligation to keep the technical documentation available is the responsibility of the person who places the refrigeration appliance on the market.

3. Technical documentation must enable the conformity of the refrigeration appliance with the requirements of these regulations to be assessed. It must, as far as relevant for such assessment, cover the design, manufacture and operation of the refrigeration appliance and comprise:

(i) the name and the address of the manufacturer;

(ii) a general description of the model sufficient for unambiguous identification;

(iii) information, including drawings as relevant, on the main design features of the model and in particular on items which appreciably affect its electricity consumption, such as dimensions, volume(s), compressor characteristics, special features, etc.;

(iv) the operating instructions, if any;

(v) the results of electricity consumption measurements carried out as required by point 5 of this Schedule;

(vi) details of the conformity of these measurements as compared to the energy consumption requirements set out in Schedule 1 hereto.

4. Technical documentation established for other legislations may be used in so far as it meets the requirements of this Schedule.

5. Manufacturers of refrigeration appliances are responsible for establishing the electricity consumption of each refrigeration appliance covered by these regulations according to the procedures specified MSA EN 153:2000, as well as the appliance's conformity with the requirements of regulation 5 of these regulations.

6. The manufacturer or his authorized representative must keep a copy of the declaration of conformity with the technical documentation.

7. The manufacturer must take all measures necessary in order that the manufacturing process ensures that the manufactured refrigeration appliances comply with the technical documentation referred to in point 2 of this Schedule and with the relevant requirements of the regulations.

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