

## WORKING DOCUMENT

COMMISSION DELEGATED REGULATION (EU) No .../..

of XXX

**supplementing Directive 2010/30/EU of the European Parliament and of the Council  
with regards to the energy labelling of refrigerated commercial display cabinets**

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2010/30/EU<sup>1</sup> of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products , and in particular Article 10 thereof,

### WHEREAS:

- (1) Directive 2010/30/EU requires the Commission to adopt delegated acts as regards the labelling of energy-related products that have a significant potential for energy savings but exhibit a wide disparity in performance levels with equivalent functionality.
- (2) The energy consumed by refrigerated commercial display cabinets accounts for a significant share of the total electricity demand in the Union, and refrigerated commercial display cabinets with equivalent functionality exhibit a wide disparity in terms of energy efficiency. The scope for reducing their energy consumption is significant. Refrigerated commercial display cabinets should therefore be covered by energy labelling requirements.
- (3) Harmonised provisions should be laid down on labelling and standard product information regarding the energy efficiency of refrigerated commercial display cabinets in order to provide incentives for manufacturers to improve the energy efficiency of these products, to encourage end-users to purchase energy-efficient products and to contribute to the functioning of the internal market.
- (4) The combined effect of this Delegated Regulation and Commission Regulation (EU) No XX/YY of ZZ implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for refrigerated commercial display cabinets<sup>2</sup> is expected to result in annual electricity savings of about 18 TWh (terawatt hour) by 2020 and up to 58 TWh by 2030, corresponding to 7 and 20 million tonnes CO<sub>2</sub>, if compared to what would happen if no measures were taken.
- (5) The information provided on the label should be obtained through reliable, accurate and reproducible measurement procedures, which take into account the recognised

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<sup>1</sup> OJ L 153, 18.6.2010, p. 1.

<sup>2</sup> OJ L XXX, DD.MM.YYYY, p.X.

state of the art measurement methods including, where available, harmonised standards adopted by the European standardisation organisations, as listed in Annex I to Regulation (EU) 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation<sup>3</sup>.

- (6) This Regulation should specify a uniform design and content of product labels for refrigerated commercial display cabinets.
- (7) In addition, this Regulation should specify requirements for the product fiche and technical documentation for refrigerated commercial display cabinets.
- (8) Moreover, this Regulation should specify requirements for the information to be provided for any form of distance selling of refrigerated commercial display cabinets and in any advertisements and technical promotional material for such products.
- (9) It is appropriate to provide for a review of the provisions of this Regulation taking into account technological progress,

HAS ADOPTED THIS REGULATION:

#### **ARTICLE 1** **SUBJECT MATTER AND SCOPE**

1. This Regulation establishes requirements for the labelling of, and the provision of supplementary product information on refrigerated commercial display cabinets.
2. This Regulation shall apply to electric mains-operated refrigerated commercial display cabinets, including those sold for the refrigeration of items other than foodstuffs.
3. This Regulation shall not apply to:
  - (a) Refrigerated commercial display cabinets that are primarily powered by energy sources other than electricity;
  - (b) Cabinets that do not use a compression-type refrigerating cycle such as absorption and thermoelectric based systems;
  - (c) The part of the refrigeration system, typically the condensing unit, placed outside the cabinet in remote cabinets.
  - (d) Cabinets specifically designed for carrying out food processing such as ice-cream makers, ice makers, or microwave-equipped vending machines, other than cabinets with one compartment, equivalent to less than 20% of the net volume, specifically designed for carrying out food processing.
  - (e) Cabinets that are primarily intended for the refrigeration and storage of items, and not for the additional functions of display and sales of items;
  - (f) Cabinets specifically designed for the storage of medicines and scientific samples;
  - (g) Refrigerated cabinets for the sale and display of live foodstuff, such as living fish and shellfish, refrigerated aquaria and water tanks;
  - (h) Wine storage appliances;

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<sup>3</sup> OJ L 316, 14.11.2012, p. 12

- (i) Built-in cabinets;
- (j) Vertical static-air cabinets;
- (k) Saladettes;
- (l) Products coming under scope of Commission delegated regulation XXX with regard to professional refrigerated storage cabinets<sup>4</sup> [DG ENTR Lot1] or under scope of Commission delegated regulation 1060/2010 with regard to household refrigerating appliances<sup>5</sup>.

## ARTICLE 2 DEFINITIONS

In addition to the definitions set out in Article 2 of Directive 2010/30/EU, the following definitions shall apply for the purpose of this Regulation:

- (a) ‘refrigerated commercial display cabinet’ or ‘cabinet’ means an appliance intended for the functions of storage and display to and/or access to customers, of items at specified temperatures below the ambient temperature, with one or more compartments of chilled and/or frozen items, and are accessible directly through open sides or via one or more doors, and/or drawers;
- (b) ‘remote cabinet’ means a factory made assembly of components that in order to function as a refrigerator or freezer, needs input of electricity and to be connected additionally to remote components (condensing unit and/or compressor) which are not an integral part of the cabinet;
- (c) ‘compression-type refrigerating cycle cabinet’ means a cabinet or appliance in which refrigeration is effected by means of a motor-driven compressor;
- (d) ‘absorption-type refrigerating cycle cabinet’ means a cabinet or appliance in which refrigeration is effected by means of an absorption process using heat as the energy source;
- (e) ‘thermoelectric-type refrigerating cycle cabinet’ means a cabinet or appliance in which refrigeration is effected by means of a thermoelectric process;
- (f) ‘foodstuffs’ means food, ingredients, beverages, and other items primarily intended for consumption which require refrigeration at specified temperatures;
- (g) ‘built-in cabinet’ means a fixed cabinet intended to be installed in a prepared recess in a wall or similar location, and requiring furniture finishing;
- (h) ‘vertical cabinet’ means a cabinet with a vertical display opening from the front;
- (i) ‘horizontal cabinet’ means a cabinet with a horizontal display opening on its top and accessible from above;
- (j) ‘semi-vertical cabinet’ means a vertical cabinet whose overall height does not exceed 1.5m and having either a vertical or inclined display opening;

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<sup>4</sup> OJ L XXX, DD.MM.YYYY, p.X.

<sup>5</sup> OJ L 314, 30.11.2010, p.17.

- (k) ‘combined cabinet’ means a cabinet which combines display and opening directions from a vertical, a horizontal or a semi-vertical cabinet;
- (l) ‘static-air cabinet’ means a cabinet without internal forced-air circulation; a single static air compartment within the cabinet is not sufficient to designate the cabinet as a static air cabinet;
- (m) ‘vertical static-air cabinet’ means a refrigerated commercial display cabinet with one or more vertical display openings, without internal forced-air circulation; a single static air compartment within the cabinet is not sufficient to designate the cabinet as a static air cabinet;
- (n) ‘condensing unit’ means a product integrating at least one electrically driven compressor and one condenser, capable of cooling down and continuously maintaining chilled and/or frozen operating temperatures inside a refrigerated appliance or system, using a compression-type refrigerating cycle once connected to an evaporator and expansion device;
- (o) ‘saladette’ means a cabinet with one or more doors or drawer fronts in the vertical plane that has cut-outs in the top surface into which temporary storage bins can be inserted for easy-access storage of foodstuffs such as, but not limited to, pizza toppings or salad items;

For the purposes of the Annexes, additional definitions are set out in Annex I.

### **ARTICLE 3 RESPONSIBILITIES OF SUPPLIERS**

From 1 January 2017 suppliers placing refrigerated commercial display cabinets on the market and/or putting them into service, shall ensure that:

- (a) a printed label complying with the format and content of information set out in Annex III is provided for each refrigerated commercial display cabinet;
- (b) an electronic label in the format and containing the information set out in Annex III shall be made available to dealers for each refrigerated commercial display cabinet model;
- (c) a product fiche, as set out in Annex IV, shall be provided;
- (d) an electronic product fiche, as set out in Annex IV, shall be made available to dealers for each refrigerated commercial display cabinet model;
- (e) the technical documentation, as set out in Annex V, is provided on request to the authorities of the Member States and to the Commission;
- (f) any advertisement relating to a specific refrigerated commercial display cabinet model and containing energy-related or price information includes a reference to the energy efficiency class of that model;
- (g) any technical promotional material concerning a specific refrigerated commercial display cabinet model and describing its specific technical parameters includes the energy efficiency class of that model;

**ARTICLE 4**  
**RESPONSIBILITIES OF DEALERS**

Dealers of refrigerated commercial display cabinets shall ensure that:

- (a) at the point of sale, each refrigerated commercial display cabinet shall bear the label provided by suppliers in accordance with Article 3(1) on the outside of the front or top of the appliance, so that it is clearly visible;
- (b) refrigerated commercial display cabinets offered for sale, hire or hire-purchase, where the end-user cannot be expected to see the product displayed, shall be marketed with the information provided by the suppliers in accordance with Annex VI, except where the offer is made on the internet, in which case the provisions of Annex VII shall apply;
- (c) any advertisement relating to a specific refrigerated commercial display cabinet model and containing energy-related or price information shall include a reference to the energy efficiency class of that model;
- (d) any technical promotional material concerning a specific refrigerated commercial display cabinet model and describing its specific technical parameters shall include a reference to the energy efficiency class of that model.

**ARTICLE 5**  
**MEASUREMENT AND CALCULATION METHODS**

The information to be provided pursuant to Articles 3 and 4 shall be obtained by reliable, accurate and reproducible measurement and calculation procedures based on recognised state-of-the-art methods, as set out in Annex IX.

**ARTICLE 6**  
**VERIFICATION PROCEDURE FOR MARKET SURVEILLANCE PURPOSES**

Member States shall apply the procedure set out in Annex X when assessing the conformity of the declared energy efficiency class, annual energy consumption, volumes and total display area.

**ARTICLE 7**  
**REVIEW**

The Commission shall review this Regulation in the light of technological progress no later than five years after its entry into force. The review shall in particular assess any significant changes in the market shares of various types of appliances and the verification tolerances set out in Annex X.

**ARTICLE 8**  
**ENTRY INTO FORCE AND APPLICATION**

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

*For the Commission  
The President*

**ANNEX I**  
**DEFINITIONS APPLICABLE FOR ANNEXES II TO X**

For the purposes of Annexes II to X the following definitions shall apply:

- (1) 'supermarket segment' means the use of a cabinet for the sale and display of items in retail applications, including supermarkets. It does not include the use of a cabinet in catering or similar non-retail applications;
- (2) 'beverage cooler' means a cabinet designed to refrigerate (*'pull down'*) at a specified speed packaged non-perishable beverages loaded at ambient temperature, for sale at specified temperatures below the ambient temperature. The beverages are accessible directly through open sides or via one or more doors, and/or drawers. Because of the non-perishable nature of beverages, during periods of no demand the temperature inside the cooler may increase for energy saving purposes.
- (3) 'vending machine' means a refrigerated commercial display cabinet designed to accept consumer payments or tokens to dispense chilled or frozen items without on-site labour intervention.
- (4) 'small ice-cream freezer' means a horizontal freezer cabinet with a net volume under 500 litres intended to sell and display pre-packed ice-cream. These appliances are different to supermarket segment freezers, as they work as a static air cabinet and are also used for the storage of pre-packed ice-cream at the bottom.
- (5) 'soft scoop ice-cream cabinet' means a cabinet in which ice-creams can be stored, displayed and scooped, within prescribed temperature limits.
- (6) 'compartment' means each of the parts or spaces into which a cabinet is subdivided or partitioned to maintain a constant operating temperature within the subdivision or partition.
- (7) 'refrigerator' means a cabinet that maintains the temperature of the products inside the cabinet at chilled operating temperature;
- (8) 'chilled operating temperature' means that the temperature of products stored in the compartment or cabinet is continuously maintained between -1°C and 15°C;
- (9) 'freezer' means a cabinet that maintains the temperature of the products inside the cabinet at frozen operating temperature;
- (10) 'frozen operating temperature' means that the temperature of products stored in the compartment or cabinet is continuously maintained below -12°C;
- (11) 'total display area' means the total visible items area, including visible area through glazing, defined by the sum of horizontal and vertical projected surface areas of the net volume;
- (12) 'gross volume' means the volume within the inside liner of the compartment with an external door, in every case without internal fittings and with doors or lids closed.
- (13) 'net volume' means the part of the gross volume of any compartment that remains after deduction of the volume of components and spaces unusable for the storage and display of items;

- (14) 'multi-temperature cabinet' means a cabinet including at least one compartment exclusively intended for use as refrigerator, and at least one compartment exclusively intended for use as freezer;
- (15) 'equivalent refrigerating appliance' means a refrigerating appliance model placed on the market with the same net volume or total display area, same technical, efficiency and performance characteristics, and same compartment types as another refrigerating appliance model placed on the market under a different commercial code number by the same manufacturer.
- (16) 'energy management device' means a device based on electronic control components that allow a refrigerated commercial display cabinet to control the power and/or activity of some of the components such as lights, compressors and fans and thereby use less energy for a certain time.
- (17) 'global warming potential' (GWP) means the measure of how much 1 kg of the refrigerant applied in the compression-type refrigerating cycle is estimated to contribute to global warming, expressed in kg CO<sub>2</sub> equivalents over a 100-year time horizon.
- (18) 'foaming or blowing agent' means the gas trapped in the bubbles conforming the insulation panel (typically PUR foams in a closed-cell shape) of a cabinet, this gas provides the necessary expansion and support to the structure, together with the insulating properties.

**ANNEX II**  
**ENERGY EFFICIENCY CLASSES**

The energy efficiency class of a refrigerated commercial display cabinet shall be determined on the basis of its energy efficiency index (EEI), as set out in Table 1 for beverage coolers, in Table 2 for small ice-cream freezers, in Table 3 for vending machines, in Table 4 for soft scoop ice-cream cabinets, in Table 5 for supermarket segment refrigerated commercial display cabinets.

The EEI shall be calculated as detailed in Annex VIII.

**Table 1:** Energy efficiency classes of beverage coolers

Energy efficiency class	EEI
A	$EEI < 30$
B	$30 \leq EEI < 50$
C	$50 \leq EEI < 80$
D	$80 \leq EEI < 110$
E	$110 \leq EEI < 130$
F	$130 \leq EEI < 140$
G	$140 \leq EEI$

**Table 2:** Energy efficiency classes of small ice-cream freezers

Energy efficiency class	EEI
A	$EEI < 40$
B	$40 \leq EEI < 70$
C	$70 \leq EEI < 90$
D	$90 \leq EEI < 110$
E	$110 \leq EEI < 130$
F	$130 \leq EEI < 140$
G	$140 \leq EEI$

**Table 3:** Energy efficiency classes of vending machines

Energy efficiency class	EEI
A	$EEI < 55$
B	$55 \leq EEI < 75$
C	$75 \leq EEI < 95$
D	$95 \leq EEI < 115$
E	$115 \leq EEI < 135$
F	$135 \leq EEI < 145$
G	$145 \leq EEI$

**Table 4:** Energy efficiency classes of soft scoop ice-cream cabinets

Energy efficiency class	EEI
A	$EEI < 40$
B	$40 \leq EEI < 60$
C	$60 \leq EEI < 80$
D	$80 \leq EEI < 100$
E	$100 \leq EEI < 120$
F	$120 \leq EEI < 140$
G	$140 \leq EEI$

**Table 5:** Energy efficiency classes of supermarket segment refrigerated commercial display cabinets.

Energy efficiency class	EEI
A	$EEI < 30$
B	$30 \leq EEI < 50$
C	$50 \leq EEI < 80$
D	$80 \leq EEI < 110$

E	$110 \leq \text{EEI} < 120$
F	$120 \leq \text{EEI} < 130$
G	$130 \leq \text{EEI}$

ANNEX III  
LABEL

1. Label — Refrigerated commercial display cabinets in energy efficiency classes A to G



The following information shall be included in the label:

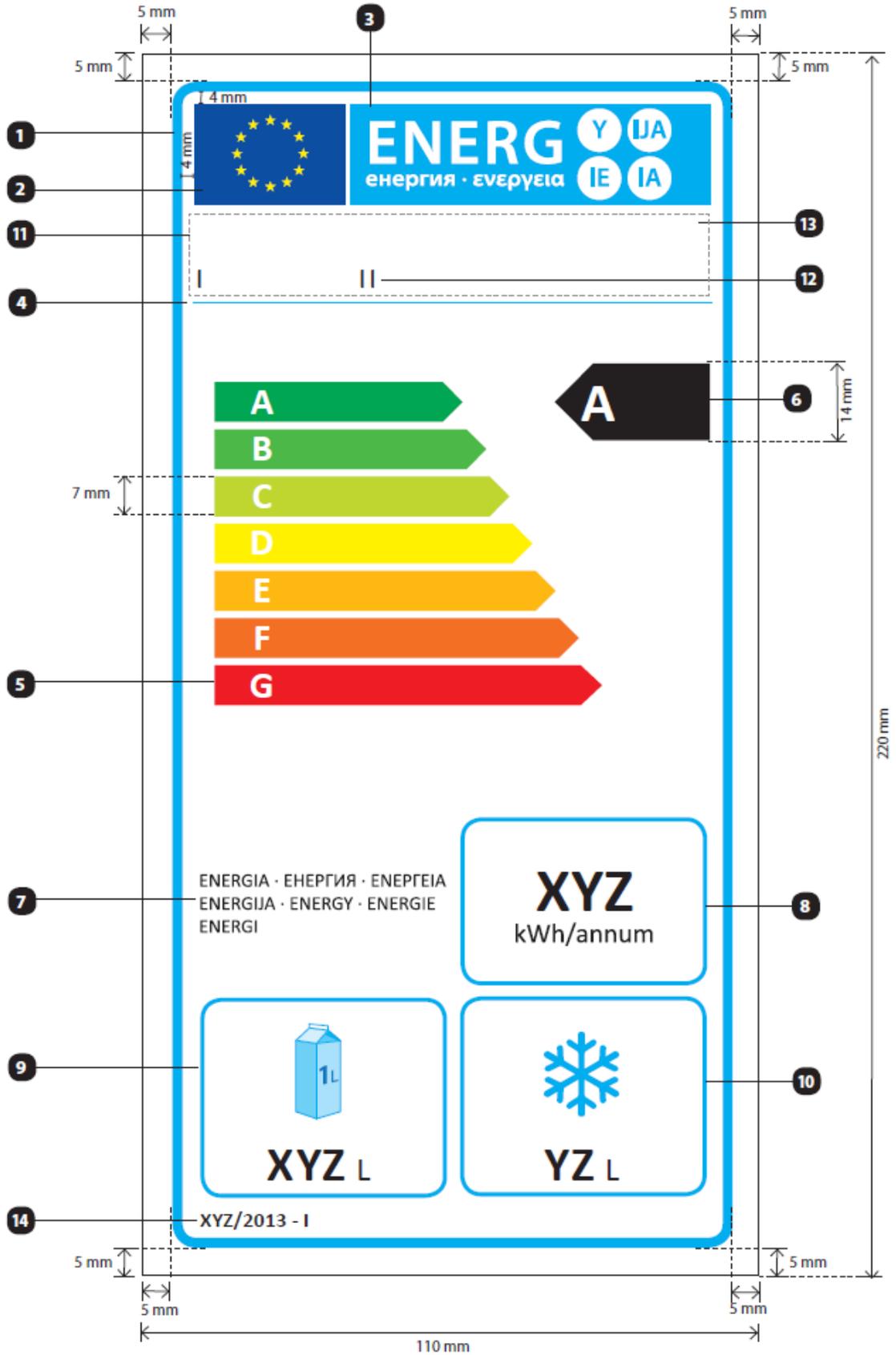
- I. supplier's name or trade mark;
- II. supplier's model identifier;
- III. the energy efficiency class, determined in accordance with Annex II; the head of the arrow containing the energy efficiency class shall be placed at the same height as that for the relevant energy efficiency class;
- IV. the annual electricity consumption in kWh in terms of final energy consumption per year, calculated in accordance with Annex IX and rounded to the nearest integer;
- V. the sum of the net volumes or total display areas of all chilled operating temperature compartments; and
- VI. the sum of the net volumes or total display areas of all frozen operating temperature compartments.

The design of the label shall be in accordance with point 2. By way of derogation, where a model has been awarded an 'EU ecolabel'<sup>6</sup>, a copy of the ecolabel may be added.

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<sup>6</sup> Under Regulation (EC) No 66/2010 (OJ L 27, 30.1.2010, p. 1).

2. The design of the label for refrigerated commercial display cabinets shall be as follows:



Where:

- (a) The label shall be at least 110 mm wide and 220 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above;
- (b) The background of the label shall be white.
- (c) Colours shall be CMYK — cyan, magenta, yellow and black; for example, 00-70-X-00 indicates 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (d) The label shall meet the following specifications (numbers refer to the figure above):
  - ❶ **EU label border stroke:** 5 pt — colour: Cyan 100 % — round corners: 3.5 mm;
  - ❷ **EU logo:** colours: X-80-00-00 and 00-00-X-00;
  - ❸ **Energy label:** colour: X-00-00-00;  
**Pictogram as depicted (EU logo + energy label):** 92 mm wide x 17 mm high;
  - ❹ **Sub-logos border:** 1 pt — colour: Cyan 100 % — 92.5 mm long;
  - ❺ **A-G scale**  
Arrow: 7 mm high, 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 classes: 00-X-X-00.  
Text: Calibri bold 19 pt, capitals and white; ‘+’ symbols: Calibri bold 13 pt, capitals, white, aligned on a single row;
  - ❻ **Energy efficiency class**  
Arrow: 26 mm wide x 14 mm high, 100 % black;  
Text: Calibri bold 29 pt, capitals and white; ‘+’ symbols: Calibri bold 18 pt, capitals, white and aligned on a single row;
  - ❼ **Energy**  
Text: Calibri regular 11 pt, capitals, black;
  - ❽ **Annual energy consumption**  
Border: 3 pt — colour: Cyan 100 % — round corners: 3.5 mm;  
Value: Calibri bold 32 pt, 100 % black;  
2nd line: Calibri regular 14 pt, 100 % black;
  - ❾ **Sum of net volumes or total display areas of all chilled operating temperature compartments**  
Border: 3 pt — colour: Cyan 100 % — round corners: 3.5 mm;

Value: Calibri bold 25 pt, 100% black; Calibri regular 17 pt, 100% black;

**⑩ Sum of net volumes or total display areas of all frozen operating temperature compartments**

Border: 3 pt — colour: Cyan 100% — round corners: 3.5 mm;

Value: Calibri bold 25 pt, 100% black; Calibri regular 17 pt, 100% black;

**⑪ Supplier's name or trademark**

**⑫ Supplier's model identifier**

**⑬ The supplier's name or trademark and model identifier should fit in a space of 90 x 15 mm**

**⑭ Number of Regulation**

Text: Calibri bold 11 pt.

**ANNEX IV**  
**PRODUCT FICHE**

1. The information in the product fiche of the refrigerated commercial display cabinet shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:
  - (e) supplier's name or trade mark;
  - (f) supplier's model identifier;
  - (g) type of model in accordance with the definitions in Annex I, specifying the category, and if applicable, subcategory of the appliance, namely whether it is:
    - a vertical or horizontal supermarket segment cabinet; if applicable, the subcategory (remote vertical, roll-in, serve-over, etc.)
    - a beverage cooler;
    - a small ice-cream freezer;
    - a vending machine; if applicable, the subcategory (cans and bottles, chilled foodstuff, confectionery and snacks);
    - a soft scoop ice-cream cabinet.
  - (h) the energy efficiency class of the model, determined in accordance with Annex II; and EEI, determined in accordance with Annex VIII.
  - (i) where the model has been awarded an 'EU Eco-label' under Regulation (EC) No 66/2010, that information may be included;
  - (j) the energy consumption of the cabinet over 24 hours (E24h) and the annual energy consumption in kWh, calculated in accordance with Annex IX and rounded to the nearest integer;
  - (k) net volume or display area of each compartment, as appropriate;
  - (l) climate class in accordance with Table 2 in Annex IX;
  - (m) beverage coolers shall include the following sentence: *'This refrigeration cabinet is not intended for the storage for display of perishable foodstuffs'*;
2. A single fiche may cover a number of refrigerated commercial display cabinet models supplied by the same supplier.
3. The information in the fiche may be given in the form of a copy of the label, either in colour or in black and white, in which case information listed in point 1 and not displayed on the label shall also be provided.

**ANNEX V**  
**TECHNICAL DOCUMENTATION**

1. The technical documentation referred to in Article 3(1)(e) shall include:
  - (a) the name and address of the supplier;
  - (b) sufficient description of the refrigerated commercial display cabinet model for it to be unambiguously identified;
  - (c) where appropriate, the references of the harmonised standards applied;
  - (d) where appropriate, the other technical standards and specifications used;
  - (e) the identification and signature of the person empowered to bind the supplier;
  - (f) the results of the measurements and calculations for the technical parameters specified in Annex IX;
2. Where the information included in the technical documentation file for a refrigerated commercial display cabinet model has been obtained by a calculation based on an equivalent refrigerated commercial display cabinet, the technical documentation shall include details of such calculations and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken. The technical information shall also include a list of all other equivalent refrigerated commercial display cabinet models where the information was obtained on the same basis.
3. The information contained in this technical documentation may be merged with the technical documentation provided in accordance with measures under Directive 2009/125/EC.

## **ANNEX VI**

### **INFORMATION TO BE PROVIDED WHERE END-USERS CANNOT BE EXPECTED TO SEE THE PRODUCT DISPLAYED, EXCEPT ON THE INTERNET**

1. Where end-users cannot be expected to see the product displayed, except on the internet, the information shall be provided in the following order:
  - (a) the energy efficiency class of the model, under climate conditions as specified in Table 2 of Annex IX, in accordance with Annex II;
  - (b) the annual energy consumption in kWh per year, rounded to the nearest integer and calculated in accordance with Annex IX;
  - (c) the net volume or total display area of each compartment;
  - (d) the climate class in accordance with Annex IX.
2. Where other information contained in the product fiche is provided, it shall be in the form and order specified in Annex IV.
3. The size and font in which the information referred to in this Annex is printed or shown shall be such that it is legible.

**ANNEX VII**  
**INFORMATION TO BE PROVIDED IN THE CASE OF SALE, HIRE OR HIRE-PURCHASE**  
**THROUGH THE INTERNET**

1. For the purpose of points 2 to 5 of this Annex the following definitions shall apply:
  - (a) ‘display mechanism’ means any screen, including tactile screen, or other visual technology used for displaying internet content to users;
  - (b) ‘nested display’ means visual interface where an image or data set is accessed by a mouse click, mouse roll-over or tactile screen expansion of another image or data set;
  - (c) ‘tactile screen’ means a screen responding to touch, such as that of a tablet computer, slate computer or a smartphone;
  - (d) ‘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 as an aid to accessibility such as input to voice synthesis applications.
2. The appropriate label made available by suppliers in accordance with Article 3(b) shall be shown on the display mechanism near the price of the product. The size of the label shall be such that it is clearly visible and legible and shall be proportionate to the size specified in point 2 of Annex III. The label may be displayed using a nested display, in which case the image used for accessing it shall comply with the specifications in point 3 of this Annex. If nested display is applied, the label shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the image.
3. The image used for accessing the label in the case of nested display shall:
  - (a) be an arrow in the colour corresponding to the energy efficiency class of the product on the label;
  - (b) indicate the energy efficiency class of the product in white in the same font size as that used for the price; and
  - (c) be in one of the following two formats:


4. In the case of nested display, the sequence of display of the label shall be as follows:
  - (a) the image referred to in point 3 of this Annex is shown on the display mechanism in proximity to the price of the product;
  - (b) the image links to the label;
  - (c) the label is displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
  - (d) the label is displayed by pop up, new tab, new page or inset screen display;
  - (e) for magnification of the label on tactile screens, the device conventions for tactile magnification apply;
  - (f) display of the label is closed by means of a close option or other standard closing mechanism;

(g) the alternative text for the graphic, to be displayed on failure to display the label, is the energy efficiency class of the product in the same font size as that used for the price.

5. The appropriate product fiche made available by suppliers in accordance with Article 3(1)(d) shall be shown on the display mechanism near the price of the product. The size shall be such that the product fiche is clearly visible and legible. The product fiche may be displayed using a nested display, in which case the link used for accessing it shall clearly and legibly indicate 'Product fiche'. If nested display is used, the fiche shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.

**ANNEX VIII**  
**METHOD FOR CALCULATING THE EEI FOR REFRIGERATED COMMERCIAL DISPLAY CABINETS**

For the calculation of the EEI of a refrigerated commercial display cabinet, the Annual Energy Consumption of the cabinet is compared to its Standard Annual Energy Consumption.

The EEI is calculated and rounded to the first decimal place, as:

$$EEI = (AEC/SAEC) \times 100$$

Where:

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

With

AEC = Annual Energy Consumption of the cabinet in kWh/year,

E<sub>24h</sub> = the energy consumption of the cabinet over 24 hours

and

$$SAEC = (M + N \times Y) \times 365$$

With SAEC = Standard Annual Energy Consumption of the cabinet in kWh/year

For beverage coolers, small ice-cream freezers and vending machines:

Y = net volume of the appliance, which is the sum of net volumes of all compartments of the cabinet, expressed in litres.

For all other cabinets:

Y = total display area, which is the sum of the display areas of all compartments of the cabinet, expressed in square metres (m<sup>2</sup>).

M and N are given in Table 3.

<b>Table 3 – M and N coefficient values</b>		
<b>Category</b>	<b>Value for M</b>	<b>Value for N</b>
Beverage coolers	1.0	0.013
Small ice-cream freezers	1.0	0.009
Vending machines	4.1	0.004
Soft scoop ice-cream cabinets	10.4	30.4
Vertical, semi-vertical and combined supermarket freezer cabinets	1.6	19.1
Horizontal supermarket freezer cabinets	4.2	9.8
Vertical, semi-vertical and combined supermarket	9.1	9.1

refrigerator cabinets		
Horizontal supermarket refrigerator cabinets	3.7	3.5

**ANNEX IX**  
**MEASUREMENTS AND CALCULATIONS FOR REFRIGERATED COMMERCIAL DISPLAY CABINETS**

- (a) For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published for this purpose in the *Official Journal of the European Union*, or using other reliable, accurate and reproducible methods that take into account the generally recognised state-of-the-art methods. In the case of refrigerated commercial display cabinets they shall meet the conditions and technical parameters set out in points (b) to (d).
- (b) For establishing the values of annual energy consumption and EEI for refrigerated commercial display cabinets, measurements shall be done using the following conditions:
- i) The ambient conditions shall correspond to climate class 3 as detailed in Table 2, except for small ice-cream freezers and soft scoop ice-cream cabinets which shall be tested in ambient conditions corresponding to climate class 4, as detailed in Table 2.
  - ii) If one or several compartment(s) is/are multi-temperature, it/they shall be tested at the lowest operating temperature at which it/they can be used.
- (c) The ambient conditions of the climate classes 3 and 4 are shown in Table 2.

Table 2 – Ambient conditions of the climate classes 3 and 4				
Test room climate class	Dry bulb temperature, °C	Relative humidity, %	Dew point, °C	Water vapour mass in dry air, g/kg
3	25	60	16.7	12.0
4	30	55	20.0	14.8

- (d) The net volume ( $V_n$ ) shall be expressed in litres and calculated with the following formula:

$$V_n \text{ cabinets} = \text{base surface} (h - (n \times 10))$$

where:

- base surface means the surface of the shelf containing the maximum configuration of test packages;
- h means the space from the top surface of the shelf in the lowest position to the load limit line;
- n means the number of shelves used based on the loading scheme, not including the shelf at the lowest position;
- 10 is a fixed value expressed in millimetres representing the thickness of the shelf.

For multi-temperature cabinets, the net volume is replaced by the adjusted net volume:

- $V_a = V_{n,ref} + V_{n,frz} \times 1.92$

Where:

- $V_{n,ref}$  is the sum of the net volume of all chilled compartments in litres
- $V_{n,frz}$  is the sum of the net volumes of all frozen compartments in litres
- The factor 1.92 is a calculated standard thermodynamic ratio which provides the volume of refrigerator compartment that consumes the same energy as a unit volume of the frozen compartment.

**ANNEX X**  
**VERIFICATION PROCEDURE FOR MARKET SURVEILLANCE PURPOSES FOR**  
**REFRIGERATED COMMERCIAL DISPLAY CABINETS**

For the purposes of assessing conformity with the requirements laid down in Articles 3 and 4, Member States authorities shall apply the following verification procedure:

1. The Member State authorities shall test one single unit per model.
2. The model shall be considered to comply with the applicable requirements provided the following requirements are met:
  - (a) the measured volume or total display area shall not be more than 3% lower than the declared value;
  - (b) the measured value of energy consumption shall not exceed the declared value (E24h) by more than 10 %.
3. Where the result referred to in point 2 is not achieved, the Member State authorities shall randomly select three additional units of the same model for testing.
4. The model shall be considered to comply with the applicable requirements provided the following requirements are met:
  - (a) the arithmetic average of the three units for the measured volume or total display area shall not be more than 3% lower than the declared value;
  - (b) the arithmetic average of the three units for the measured value of energy consumption shall not exceed the declared value (E24h) by more than 10 %.
5. Where the results referred to in point 4 are not achieved, the model and all other equivalent refrigerated commercial display cabinet models shall be considered not to comply with this Regulation. The Member State authorities shall provide the test results and other relevant information to the authorities of the other Member States and to the Commission within one month of the decision being taken on the non-compliance of the model.
6. Member State authorities shall use the measurement and calculation methods set out in Annexes VIII and IX.
7. The verification tolerances set out in point 2 and point 4 of this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the supplier as an allowed tolerance to establish the values in the technical documentation. The values and classes on the label or in the product fiche shall not be more favourable for the supplier than the values reported in the technical documentation.