

**Commission communication in the framework of the implementation of Commission Regulation (EC) No 643/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household refrigerating appliances**

(Text with EEA relevance)

(2010/C 16/09)

1. Publication of titles and references of transitional methods of measurement <sup>(1)</sup> for the implementation of Regulation (EC) No 643/2009 and, in particular, Annex III thereof.

Measured parameter	Organisation	Reference	Title
Terms, definitions, symbols and classification	CEN	Clauses 3 and 4 of EN 153. Where Clauses 3 and 4 of EN 153 conflict with the definitions set out in Article 2 and Annex I of Regulation (EC) No 643/2009, then that Regulation shall prevail.	Methods of measuring the energy consumption of electric mains operated household refrigerators, frozen food storage cabinets, food freezers and their combinations, together with associated characteristics
General test conditions	CEN	Clause 8 of EN 153. Where Clause 8 of EN 153 conflicts with the conditions set out in Annex III, Part 1 to Regulation (EC) No 643/2009, then that Regulation shall prevail.	
Collection and disposal of defrost water	CEN	Clause 5 of EN 153	
Storage temperatures	CEN	Clauses 6 and 13 of EN 153. Where Clauses 6 and 13 of EN 153 conflict with Table 4 in Annex IV to Regulation (EC) No 643/2009, then that Regulation shall prevail.	
Determination of linear dimensions, volumes and areas	CEN	Clause 7 of EN 153	
Energy consumption	CEN	Clause 15 of EN 153	
Temperature rise time	CEN	Clause 16 of EN 153	
Freezing capacity	CEN	Clause 17 of EN 153	
Built-in refrigerating appliances	CEN	Annex D to EN 153	
Rated characteristics and control procedure	CEN	Annex E to EN 153. Where Annex E to EN 153 conflicts with Table 1 of Annex V to Regulation (EC) No 643/2009, then that Regulation shall prevail.	
Elements for the test report, marking	CEN	Clauses 20 and 21 of EN 153	

<sup>(1)</sup> It is intended that these transitional methods will ultimately be replaced by harmonised standard(s). When available, reference(s) to the harmonised standard(s) will be published in the *Official Journal of the European Union* in accordance with Articles 9 and 10 of Directive 2009/125/EC.

Measured parameter	Organisation	Reference	Title
Noise	International Electro-technical Commission	IEC 60704-2-14	Household and similar electrical appliances — Test code for the determination of airborne acoustical noise — Part 2-14: Particular requirements for refrigerators, frozen-food storage cabinets and food freezers
Power consumption	European Commission	Regulation (EC) No 1275/2008	Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment
Wine storage compartment humidity	European Commission	Part 2(d) of this communication	Measurement method for wine storage appliances

## 2. Measurement method for wine storage appliances

### (a) General test conditions:

- the duration of the test period is defined in accordance with clause 8 of EN 153,
- the variation over time of the storage temperature is measured three times as follows: the first measurement is performed at the lowest prescribed ambient temperature of the climate class(es) of the wine storage appliance, the second measurement is performed at an ambient temperature of + 25 °C and the third at the highest prescribed ambient temperature of the climate class(es) of the wine storage appliance,
- the measurement of the active or passive control of the compartment humidity is performed with an ambient humidity between 50 % and 75 % at an ambient temperature of + 25 °C,
- the measurements of the active or passive control of the compartment humidity and of the variation over time of the storage temperature at an ambient temperature of + 25 °C may be done simultaneously,
- the average storage temperature of each compartment ( $t_{wma}$ ) is set at + 12 °C or the nearest colder temperature.

### (b) The average storage temperature ( $t_{wma}$ ) of each compartment is calculated as follows:

$$t_{wma} = \frac{\sum_{i=1}^n t_{wim}}{n}$$

where:

- $t_{wim}$  = integrated time average of the instantaneous temperature value of one package of 500 g of food simulant (M-package) placed at the measurement point(s) ( $T_{wi}$ ) in compliance with Figure 1
- $n$  = number of food simulant (M-packages) placed at the measurement point(s) ( $T_{wi}$ ),  $1 \leq n \leq 3$

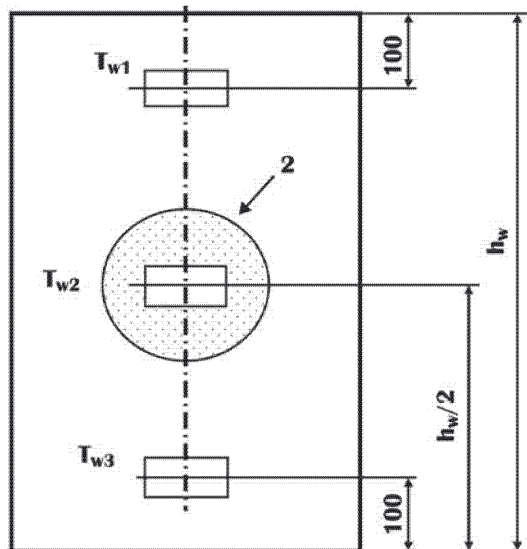
- (c) The variation over time of the storage temperature(s), hereafter referred to as the 'temperature amplitude', is measured at each measurement point ( $T_{wi}$ ) in compliance with Figure 1. It is calculated as the average of the differences between the warmest and coldest instantaneous temperature values ( $t_{wi}$ ) measured between two successive stops of the refrigerating system over the duration of the test period. If no successive stops of the refrigerating system can be identified then sequential periods of 4 hours must be considered.

The variation over time of the storage temperature(s) is considered to meet the 0,5 K feature listed in Annex I, point (n)(ii) to Regulation (EC) No 643/2009 where the average(s) of all temperature amplitudes at each measurement point ( $T_{wi}$ ) is less than 0,5 K in the three tested ambient temperatures.

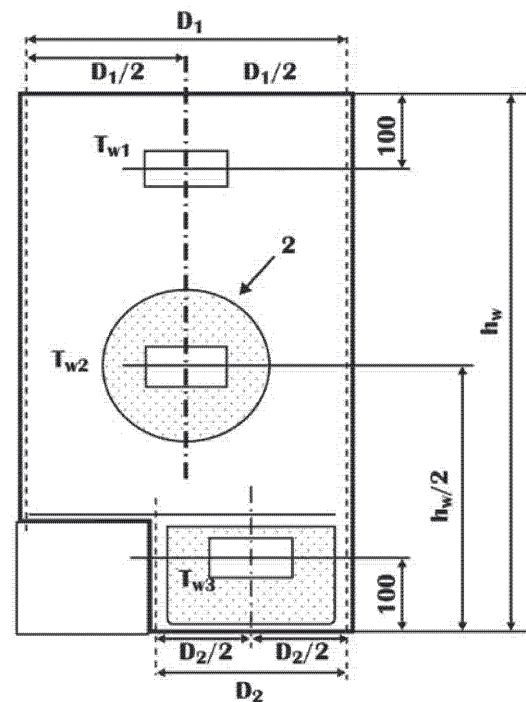
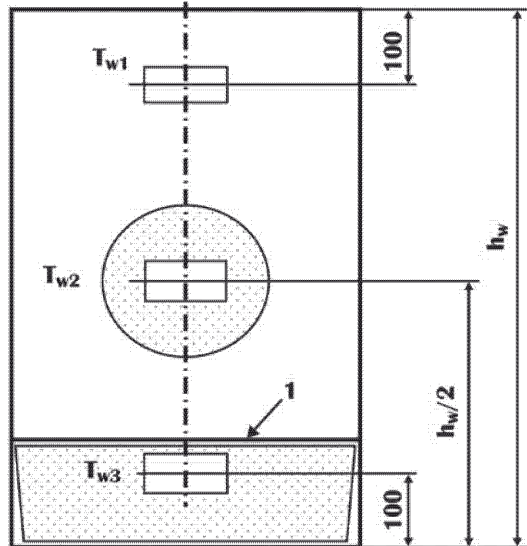
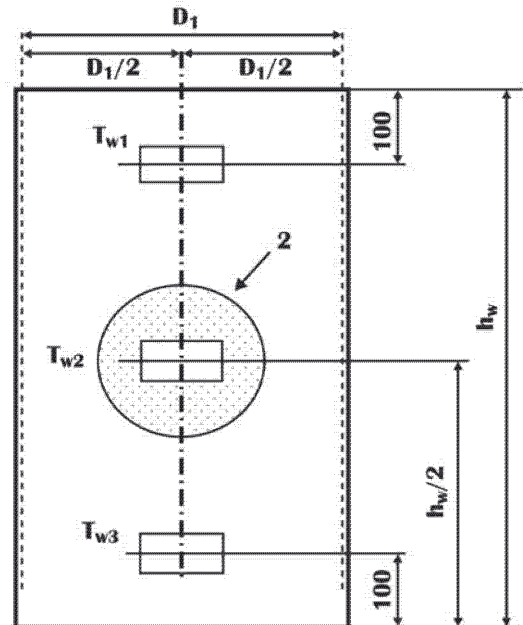
- (d) The relative humidity of each compartment ( $H_{wm}$ ) is measured in percentage and rounded to the nearest integer, as follows:
- $H_{wm}$  is measured by using a humidity sensor located at the measurement point ( $T_{w2}$ ) in compliance with Figure 1,
  - for wine storage appliances with a single door but split by fixed or adjustable dividers into separate compartments each with independent temperature control,  $H_{wm}$  is measured for each compartment in compliance with Figure 1,
  - the active or passive control of the compartment humidity is considered to meet the range from 50 % to 80 % as listed in Annex I, point (n)(iii) to Regulation (EC) No 643/2009 where the measured relative humidity ( $H_{wm}$ ) remains between 50 % and 80 % over the duration of the test period,
  - if the height of the compartment or sub-compartment ( $h_w$ ) is less than 400 mm (Figure 1),  $H_{wm}$  is not measured for that compartment or sub-compartment.

Figure 1: Measurements points ( $T_{wi}$ ) in wine storage compartment(s)  
(dimensions in millimetres)

Front view



Side view



Where:

- $h_w$  = height in millimetres of the wine storage compartment
- $D_1$  and  $D_2$  = distance between the reference lines used for determining the net volume
- If there is a drawer, the shelf above that drawer is placed at the lowest possible position as illustrated in point 1 of Figure 1.

- The temperature measurement point(s) ( $T_{wi}$ ) must be placed equidistant of the sides of the compartment at  $D_1/2$  or  $D_2/2$  as illustrated in Figure 1.
  - The humidity measurement point must be placed near  $T_{w2}$  with an accuracy of 100 mm as illustrated in point 2 of Figure 1.
  - If  $h_w > 400$ , three temperature measurement points ( $T_{w1}$ ,  $T_{w2}$  and  $T_{w3}$ ) are used.
  - If  $300 < h_w \leq 400$ , two temperature measurement points ( $T_{w1}$  and  $T_{w3}$ ) are used.
  - If  $h_w \leq 300$  mm, only one temperature measurement point ( $T_{w2}$ ) is used.
-