

Annex 5

**Relevant documents for the implementation of Commission Regulation (EC) No .../... implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household refrigerating appliances**

Measured parameter	Organisation	Reference	Title
Terms and symbols	Cen/Cenelec	Clause 3 of EN 153 (Clause 3 of EN ISO 15502:2005)	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
Refrigerator-freezers having one or more, user-adjustable temperature control devices	Cen/Cenelec	Clause 4.2 of EN ISO 15502:2005	Household refrigerating appliances. Characteristics and test methods
Collection and disposal of defrost water	Cen/Cenelec	Clause 5 of EN 153 (Clause 5.6 of EN ISO 15502:2005)	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
Storage temperatures	Cen/Cenelec	Clause 6 of EN 153 (Clauses 6 of EN ISO 15502:2005), where in contrast Table 4 in Annex V shall prevail	
Determination of linear dimensions, volumes and areas	Cen/Cenelec	Clause 7 of EN 153 (Clause 7 of EN ISO 15502:2005)	
General test conditions	Cen/Cenelec	Clause 8 of EN 153, where in contrast conditions set in Annex IV, Part 2 shall prevail	
Storage temperatures	Cen/Cenelec	Clause 13 of EN 153 (Clause 13 of EN ISO 15502:2005)	
Energy consumption	Cen/Cenelec	Clause 15 of EN 153	
Temperature rise	Cen/Cenelec	Clause 16 of EN 153 (Clause 16 of EN ISO 15502:2005)	
Freezing capacity	Cen/Cenelec	Clause 17 of EN 153 (Clause 17 of EN ISO 15502:2005)	
Final test report	Cen/Cenelec	Clause 19 of EN 153, where in contrast the definitions and rounding indications of Annex IV, Part 3 shall prevail	
Built-in refrigerating	Cen/Cenelec	Annex D of EN 153	

appliances			
Rated characteristics and control procedure	Cen/Cenelec	Annex E of EN 153	
Element for the test Report Marking	Cen/Cenelec	Clauses 20 and 21 of EN 153 (Clause 20 and Clause 21.2, 21.2, 21.3 and 21.4 of EN ISO 15502:2005)	Household refrigerating appliances. Characteristics and test methods
Noise	International Electro-technical Commission	prEN 60704-2-14 (IEC 60704-2-14:2007)	Refrigerators, frozen-food storage cabinets and food freezers for household and similar use – Measurement of emission of airborne acoustical noise
Power consumption	European Commission	Regulation (EC) No .../.. of [...]	Commission Regulation (EC) No .../.. of [...] 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

The measurement method for wine storage appliances is as follows.

*Wine storage performance characteristics*

The storage temperature  $T_{wma}$  of each compartment shall be between +5°C and +20°C.

$T_{wma}$  is calculated as the average of the temperatures  $T_{wm1}$ ,  $T_{wm2}$  and  $T_{wm3}$  of 3 packages of 500g of food simulant (M-packages) to be used for measurement of each wine storage compartment:

$$T_{wma} = \frac{T_{wm1} + T_{wm2} + T_{wm3}}{3}$$

The position of the M-packages shall be as in Figure 1.

Each storage temperature must be maintained within a variation of less than 0.5 Kelvin at each ambient temperature specified by the climate class for refrigerating appliances (Table 3 of Annex IV).

### *Energy consumption measurement*

The energy consumption  $E_{24h}$  shall be measured at  $T_{wma} = 12\text{ }^{\circ}\text{C}$ .

The energy consumption  $E_{24h}$  to be declared for the calculation of the annual energy consumption AC shall be measured at the coldest storage temperature  $T_{wma}$  in the range from  $+5\text{ }^{\circ}\text{C}$  to  $+20\text{ }^{\circ}\text{C}$ , either pre-set in the compartment or capable of being set by the end-user and capable of being maintained continuously according to the manufacturer's instructions.

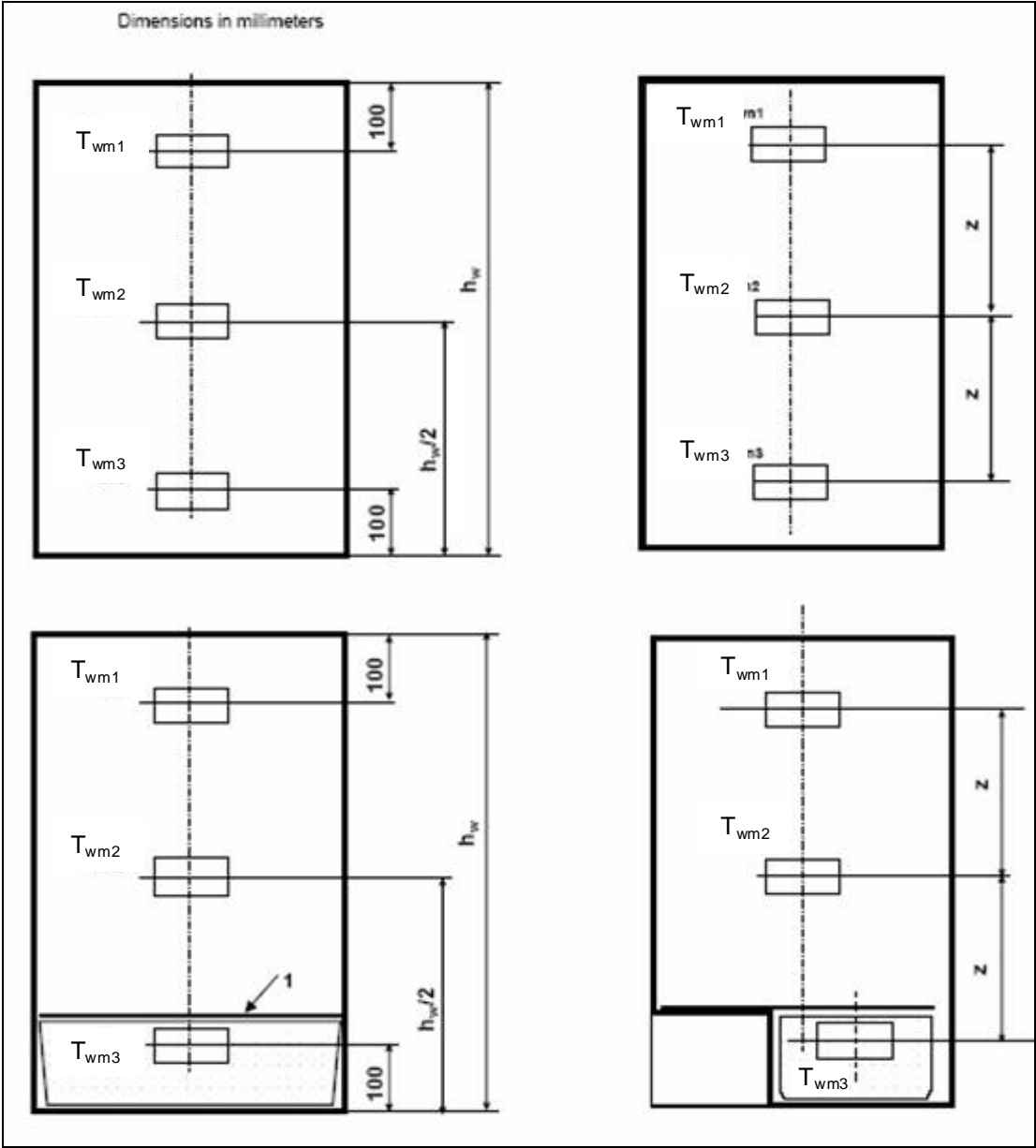
### *Humidity measurement*

The relative humidity of wine storage appliances shall be measured as follows:

- the relative humidity  $H_{wm}$  of each compartment is between +50% and +80%;
- $H_{wm}$  is measured by using a humidity sensor placed in the same position as the temperature measurement point  $T_{wm2}$  in Figure 1;
- for wine storage compartments closed by one door but split by fixed or adjustable dividers into separate sub-compartments with independent temperature control, the humidity measurement is measured for each sub-compartment;
- if  $z < 100\text{ mm}$  (Figure 1),  $H_{wm}$  is not measured for the compartment or the sub-compartment.

The relative humidity shall be expressed as percentage rounded to the nearest integer.

**Figure 1: Position of the M-packages for measurement of the storage temperature  $T_{wm}$  in wine storage compartments**



Note:

<sup>1</sup> shelf above a container placed at the lowest possible position

- Temperature measurement points  $T_{wm}$  relative to height  $h_w$  and internal fittings
- For wine storage compartments closed by one door but split by fixed or adjustable dividers into separate sub-compartments with independent temperature control, the arrangement applies for each sub compartment
- If  $z < 100$  mm,  $T_{wm2}$  is not be used
- If  $h_w < 300$  mm, only  $T_{wm2}$  is used