

## SCHEDULES

### SCHEDULE 14

#### Measurement methods and calculations for refrigerating appliances

##### Determination of the *AE*

**3.—**(1) For all refrigerating appliances other than low noise appliances, the energy consumption must be determined as follows.

(2) Testing must be carried out at ambient temperatures of 16 °C and 32 °C.

(3) The average air temperatures in each compartment must be equal to or below the target temperatures specified in Table 17 for each compartment type claimed by the manufacturer, the importer or authorised representative. Values above and below target temperatures may be used to estimate the energy consumption at the target temperature for each relevant compartment by interpolation, as appropriate.

(4) The main components of energy consumption to be determined are—

- (a) a set of steady state power consumption values ( $P_{ss}$ ), expressed in Watts and rounded to one decimal place, each at a specific ambient temperature and at a set of compartment temperatures, which are not necessarily the target temperatures;
- (b) the representative incremental defrost and recovery energy consumption ( $\Delta E_{d-f}$ ), expressed in watt-hours (Wh) and rounded to one decimal place, for products with one or more auto-defrost system (each with its own defrost control cycle) measured at an ambient temperature of 16 °C ( $\Delta E_{d-f16}$ ) and 32 °C ( $\Delta E_{d-f32}$ );
- (c) defrost interval ( $t_{d-f}$ ), expressed in hours (h) and rounded to three decimal places, for products with one or more defrost systems (each with its own defrost control cycle) measured at an ambient temperature of 16 °C ( $td-f16$ ) and 32 °C ( $td-f32$ );  $td-f$  must be determined for each system under a certain range of conditions;
- (d) for each test performed the  $P_{ss}$  and  $\Delta E_{d-f}$  are added together to form a daily energy consumption at a certain ambient temperature (ET) as follows—

$$ET = 0.001 \times 24 \times (P_{ss} + \Delta E_{d-f}/t_{d-f}),$$

expressed in kilowatt-hours per day (kWh/24 h), specific to the settings applied;

- (e)  $E_{aux}$ , expressed in kilowatt-hours per year (kWh/a) and rounded to three decimal places.

(5) Each of the parameters in sub-paragraph (4) must be determined through tests.

(6) For the purposes of sub-paragraph (5)—

- (a) measurement data must be averaged over a test period which is taken after the appliance has been in operation for a certain time;
- (b) to improve the efficiency and accuracy of testing, the length of the test period is not fixed; it must be such that the appliance is in steady state condition during this test period;
- (c) the steady state condition is validated by examining all data within this test period against a set of stability criteria determined in accordance with regulation 31.

(7) *AE*, expressed in kWh/a, must be rounded to two decimal places and calculated as follows—

**Status:** This is the original version (as it was originally made). This item of legislation is currently only available in its original format.

$$AE = 365 \times E_{\text{daily}}/L + E_{\text{aux}}$$

Where—

- (a) the load factor L is—
  - (i) 0.9 for refrigerating appliances with only frozen compartments; and
  - (ii) 1.0 for all other appliances;
- (b)  $E_{\text{daily}}$  is rounded to three decimal places expressed in kWh/24 h, and calculated from  $E_T$  at an ambient temperature of 16 °C ( $E_{16}$ ) and at an ambient temperature of 32 °C ( $E_{32}$ ) as follows—

$$E_{\text{daily}} = 0.5 \times (E_{16} + E_{32})$$

(8) For the purposes of sub-paragraph (7)  $E_{16}$  and  $E_{32}$  are derived by interpolation of the energy test at the target temperatures set out in Table 17.

(9) For low noise refrigerating appliances, the energy consumption is determined in accordance with the preceding provisions of this paragraph except—

- (a) testing must be carried out at an ambient temperature of 25 °C;
- (b)  $E_{\text{daily}}$ , expressed in kWh/24 h and rounded to three decimal places for the calculation of the AE is  $E_{25}$ ,

where  $E_{25}$  is  $E_T$  at an ambient temperature of 25 °C and derived by interpolation of the energy tests at the target temperatures listed in Table 17.