

Status: Point in time view as at 31/01/2020.

Changes to legislation: There are currently no known outstanding effects for the Commission Regulation (EC) No 244/2009, ANNEX II. (See end of Document for details)

ANNEX II

Ecodesign requirements for non-directional household lamps

1. LAMP EFFICACY REQUIREMENTS

Incandescent lamps with S14, S15 or S19 caps shall be exempted from the efficacy requirements of Stages 1 to 4 as defined in Article 3 of this Regulation, but not from Stages 5 and 6.

The maximum rated power (P_{\max}) for a given rated luminous flux (Φ) is provided in Table 1.

The exceptions to these requirements are listed in Table 2 and the correction factors applicable to the maximum rated power are in Table 3.

TABLE 1

| Application date | Maximum rated power (P_{\max}) for a given rated luminous flux (Φ) (W) | |
|------------------|---|------------------------------|
| | Clear lamps | Non-clear lamps |
| Stages 1 to 5 | $0,8 * (0,88\sqrt{\Phi}+0,049\Phi)$ | $0,24\sqrt{\Phi}+0,0103\Phi$ |
| Stage 6 | $0,6 * (0,88\sqrt{\Phi}+0,049\Phi)$ | $0,24\sqrt{\Phi}+0,0103\Phi$ |

TABLE 2

Exceptions

| Scope of the exception | Maximum rated power (W) |
|--|--|
| Clear lamps $60 \text{ lm} \leq \Phi \leq 950 \text{ lm}$ in Stage 1 | $P_{\max} = 1,1 * (0,88\sqrt{\Phi}+0,049\Phi)$ |
| Clear lamps $60 \text{ lm} \leq \Phi \leq 725 \text{ lm}$ in Stage 2 | $P_{\max} = 1,1 * (0,88\sqrt{\Phi}+0,049\Phi)$ |
| Clear lamps $60 \text{ lm} \leq \Phi \leq 450 \text{ lm}$ in Stage 3 | $P_{\max} = 1,1 * (0,88\sqrt{\Phi}+0,049\Phi)$ |
| Clear lamps with G9 or R7s cap in Stage 6 | $P_{\max} = 0,8 * (0,88\sqrt{\Phi}+0,049\Phi)$ |

The correction factors in Table 3 are cumulative where appropriate and also applicable to the products covered by the exceptions of Table 2.

TABLE 3

Correction factors

| Scope of the correction | Maximum rated power (W) |
|---|-------------------------|
| filament lamp requiring external power supply | $P_{\max}/1,06$ |
| discharge lamp with cap GX53 | $P_{\max}/0,75$ |
| non-clear lamp with colour rendering index ≥ 90 and $P \leq 0,5 * (0,88\sqrt{\Phi}+0,049\Phi)$ | $P_{\max}/0,85$ |
| discharge lamp with colour rendering index ≥ 90 and $T_c \geq 5\,000 \text{ K}$ | $P_{\max}/0,76$ |
| non-clear lamp with second envelope and $P \leq 0,5 * (0,88\sqrt{\Phi}+0,049\Phi)$ | $P_{\max}/0,95$ |

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| | |
|--|----------------|
| LED lamp requiring external power supply | $P_{\max}/1,1$ |
|--|----------------|

2. LAMP FUNCTIONALITY REQUIREMENTS

The lamp functionality requirements are set out in Table 4 for compact fluorescent lamps and in Table 5 for lamps excluding compact fluorescent lamps and LED lamps.

Where the rated lamp lifetime is higher than 2 000 h, the Stage 1 requirements for the parameters 'Rated lamp lifetime', 'Lamp Survival Factor' and 'Lumen maintenance' in Tables 4 and 5 are only applicable as from Stage 2.

For the purposes of testing the number of times the lamp can be switched on and off before failure, the switching cycle shall consist of periods comprising 1 minute on and 3 minutes off, while the other test conditions are defined according to Annex III. For the purposes of testing lamp lifetime, lamp survival factor, lumen maintenance and premature failure, the standard switching cycle according to Annex III shall be used.

TABLE 4

Functionality requirements for compact fluorescent lamps

| Functionality parameter | Stage 1 | Stage 5 |
|---|--|---|
| Lamp survival factor at 6 000 h | $\geq 0,50$ | $\geq 0,70$ |
| Lumen maintenance | At 2 000 h: $\geq 85\%$ ($\geq 80\%$ for lamps with second lamp envelope) | At 2 000 h: $\geq 88\%$ ($\geq 83\%$ for lamps with second lamp envelope) At 6 000 h: $\geq 70\%$ |
| Number of switching cycles before failure | \geq half the lamp lifetime expressed in hours $\geq 10\,000$ if lamp starting time $> 0,3$ s | \geq lamp lifetime expressed in hours $\geq 30\,000$ if lamp starting time $> 0,3$ s |
| Starting time | $< 2,0$ s | $< 1,5$ s if $P < 10$ W $< 1,0$ s if $P \geq 10$ W |
| Lamp warm-up time to 60 % Φ | < 60 s or < 120 s for lamps containing mercury in amalgam form | < 40 s or < 100 s for lamps containing mercury in amalgam form |
| Premature failure rate | $\leq 2,0\%$ at 200 h | $\leq 2,0\%$ at 400 h |
| UVA + UVB radiation | $\leq 2,0$ mW/klm | $\leq 2,0$ mW/klm |
| UVC radiation | $\leq 0,01$ mW/klm | $\leq 0,01$ mW/klm |
| Lamp power factor | $\geq 0,50$ if $P < 25$ W $\geq 0,90$ if $P \geq 25$ W | $\geq 0,55$ if $P < 25$ W $\geq 0,90$ if $P \geq 25$ W |
| Colour rendering (Ra) | ≥ 80 | ≥ 80 |

TABLE 5

Functionality requirements for lamps excluding compact fluorescent lamps and LED lamps

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| Functionality parameter | Stage 1 | Stage 5 |
|--------------------------------|---|---|
| Rated lamp lifetime | ≥ 1 000 h | ≥ 2 000 h |
| Lumen maintenance | ≥ 85 % at 75 % of rated average lifetime | ≥ 85 % at 75 % of rated average lifetime |
| Number of switching cycles | ≥ four times the rated lamp life expressed in hours | ≥ four times the rated lamp life expressed in hours |
| Starting time | < 0,2 s | < 0,2 s |
| Lamp warm-up time to 60 % Φ | ≤ 1,0 s | ≤ 1,0 s |
| Premature failure rate | ≤ 5,0 % at 100 h | ≤ 5,0 % at 200 h |
| Lamp power factor | ≥ 0,95 | ≥ 0,95] |

Textual Amendments

F1 Substituted by [Commission Regulation \(EC\) No 859/2009 of 18 September 2009 amending Regulation \(EC\) No 244/2009 as regards the ecodesign requirements on ultraviolet radiation of non-directional household lamps \(Text with EEA relevance\).](#)

3. PRODUCT INFORMATION REQUIREMENTS ON LAMPS

For non-directional household lamps, the following information shall be provided as from Stage 2, except where otherwise stipulated.

3.1. Information to be visibly displayed prior to purchase to end-users on the packaging and on free access websites

The information does not need to be specified using the exact wording of the list below. It may be displayed using graphs, figures or symbols rather than text.

These information requirements do not apply to filament lamps not fulfilling the efficacy requirements of Stage 4.

- (a) When the nominal lamp power is displayed outside the energy label in accordance with Directive 98/11/EC, the nominal luminous flux of the lamp shall also be separately displayed in a font at least twice as large as the nominal lamp power display outside the label;
- (b) Nominal life time of the lamp in hours (not higher than the rated life time);
- (c) Number of switching cycles before premature lamp failure;
- (d) Colour temperature (also expressed as a value in Kelvins);
- (e) Warm-up time up to 60 % of the full light output (may be indicated as ‘instant full light’ if less than 1 second);
- (f) A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers;
- (g) If designed for optimal use in non-standard conditions (such as ambient temperature $T_a \neq 25 \text{ }^\circ\text{C}$), information on those conditions;
- (h) Lamp dimensions in millimeters (length and diameter);

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- (i) If equivalence with an incandescent lamp is claimed on the packaging, the claimed equivalent incandescent lamp power (rounded to 1 W) shall be that corresponding in Table 6 to the luminous flux of the lamp contained in the packaging.

The intermediate values of both the luminous flux and the claimed incandescent lamp power (rounded to 1W) shall be calculated by linear interpolation between the two adjacent values.

TABLE 6

| Rated lamp luminous flux Φ [lm] | | | Claimed equivalent incandescent lamp power [W] |
|--------------------------------------|---------|---------------------|--|
| CFL | Halogen | LED and other lamps | |
| 125 | 119 | 136 | 15 |
| 229 | 217 | 249 | 25 |
| 432 | 410 | 470 | 40 |
| 741 | 702 | 806 | 60 |
| 970 | 920 | 1 055 | 75 |
| 1 398 | 1 326 | 1 521 | 100 |
| 2 253 | 2 137 | 2 452 | 150 |
| 3 172 | 3 009 | 3 452 | 200 |

- (j) The term ‘energy saving lamp’ or any similar product related promotional statement about lamp efficacy may only be used if the lamp complies with the efficacy requirements applicable to non-clear lamps in Stage 1 according to Tables 1, 2 and 3.

If the lamp contains mercury

- (k) Lamp mercury content as X,X mg;
- (l) Indication which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris.

3.2. Information to be made publicly available on free-access websites

As a minimum, the following information shall be expressed at least as values.

- (a) The information specified in point 3.1;
- (b) Rated wattage (0,1 W precision);
- (c) Rated luminous flux;
- (d) Rated lamp life time;
- (e) Lamp power factor;
- (f) Lumen maintenance factor at the end of the nominal life;
- (g) Starting time (as X,X seconds);

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(h) Colour rendering.

If the lamp contains mercury

(i) Instructions on how to clean up the lamp debris in case of accidental lamp breakage;

(j) Recommendations on how to dispose of the lamp at its end of life.

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