

WORKING DOCUMENT 2

on a possible Commission Regulation amending Commission Regulation (EC) No 245/2009 of 18 March 2009 with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps

AMENDMENTS PROPOSED IN THE REGULATION

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Article 1

Subject matter and scope

This Regulation establishes ecodesign requirements for the placing on the market of fluorescent lamps without integrated ballast, of high intensity discharge lamps, and of ballasts and luminaires able to operate such lamps as defined in Article 2, even when they are integrated into other energy-using products.

This Regulation also provides indicative benchmarks for products intended for use in office lighting and public street lighting.

Exemptions for certain products are listed in Annex I.

Rationale: This change is needed in view of the proposed reorganisation of the exemptions in Annex I (see explanation under part 2 of that Annex).

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ANNEX I Exemptions

Rationale: This change is needed in view of the proposed reorganisation of the exemptions (see explanation under part 2 of this Annex).

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1. The following lamps shall be exempted from the provisions of this regulation:

- a) lamps that are not white light sources as defined in Annex II; this exemption does not apply to high pressure sodium lamps,
- b) lamps that are directional light sources as defined in Annex II,

Rationale: point shifted to part 2 of this Annex, for the reasons explained there.

c) blended high intensity discharge lamps having:

- 6% or more of total radiation of the range 250-780 nm in the range of 250-400 nm and

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- 11% or more of total radiation of the range 250-780 nm in the range of 630-780 nm and
- 5% or more of total radiation of the range 250-780 nm in the range of 640-700 nm

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d) blended high intensity discharge lamps having:

- the peak of the radiation between 315 - 400 nm (UVA) or 280 - 315 nm (UVB),

Rationale for c) and d): ELC/CELMA claim that the current provisions under c) (former point d) exempt many halophosphate lamps and thus leave the most inefficient fluorescent lamps on the market, which is clearly not the intention of the regulation as witnessed by the explanatory memorandum and by the efficiency and colour rendering requirements in Annex III. On the other hand, the exemption can remain valid for specialised mercury-mixed light HID lamps e.g. for pet care use.

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e) double capped fluorescent lamps having:

- a diameter of 7 mm (T2) and less,
- a diameter of 16 mm (T5) and lamp power $P \leq 13W$ or $P > 80W$,
- a diameter of 38 mm (T12), lamp cap G-13 Medium BiPin base, +/-5m (+magenta,- green) color compensating filter value limit (cc). CIE coordinates $x=0.330$ $y=0.335$ and $x=0.415$ $y=0.377$, and
- a diameter of 38 mm (T12) and equipped with an external ignition strip,

f) single capped fluorescent lamps having:

- a diameter of 16 mm (T5) 2G11 4 pin base, $T_c = 3200K$ with chromaticity coordinates $x=0.415$ $y=0.377$ and $T_c = 5500K$ with chromaticity coordinates $x=0.330$ $y=0.335$,

g) high intensity discharge lamps with $T_c > 7000K$,

h) high intensity discharge lamps having a specific effective UV output $> 2mW/klm$, and

i) high intensity discharge lamps not having lamp cap E27, E40, PGZ12

2. The following products shall be exempt from the provisions of Annex III, provided that in all forms of product information it is stated that the relevant products are not intended for general lighting use within the meaning of this Regulation, or that they are intended for use in applications falling under the Directives listed in paragraphs (b) to (e) below. The intended purpose shall be stated for each product in the product information, and the technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2005/32/EC shall list the technical parameters (if any) that make the product design specific for the stated intended purpose.

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a) products intended for use in applications other than general lighting and products incorporated into products which do not provide a general lighting function.

Rationale for the introduction to part 2 and for a): The full exemptions based on technical parameters are in Part 1 of this Annex (with some recommendations to change the individual details). Part 2 introduces a product information requirement as a condition for the exemption of products not defined by technical parameters in the Regulation itself. This reorganisation increases consistency with the provisions of Regulation 244/2009, where some lamps defined by technical parameters in Article 1 on scope are completely exempted from the requirements of the Regulation, whereas special purpose lamps are exempted on the condition that they provide information on their purpose in their product information and technical documentation. Such an approach also facilitates market surveillance of products exempted in part 2 of this Annex.

b) [lamps covered by the requirements of Directives 94/9/EC of the European Parliament and of the Council¹ or Directive 1999/92/EC of the European Parliament and of the Council²](#);

Rationale for b): special T12 lamps which are suitable for use in explosion proof surroundings and thus essential for lighting in many critical applications in e.g. the chemical industry are not covered by any existing exemption. For such lamps, an additional exemption needs to be created, as ELC/CELMA claim there is no alternative to this lamp type for applications areas with a risk of explosions.

c) [emergency lighting luminaires and emergency sign luminaires within the meaning of Council Directive 2006/95/EC³](#);

d) [ballasts intended for use in luminaires defined in paragraph c\) and designed to operate lamps in emergency conditions](#);

Rationale for d): ballasts for emergency lighting luminaires are currently not exempted, whereas in order to be ready to switch on in case of power failure, ELC/CELMA claim they need to have a standby power exceeding the requirements of the Regulation in Annex III.2.1. In practice, this means that emergency lighting ballasts will be banned from the EU market from April 2010, which means in turn that no new emergency lighting system can be set up any more in the EU and no repairs can be done to the existing ones due to the lack of ballasts. This was clearly not the intention, as it is visible from the luminaires exemption. The exemption for emergency lighting needs to be extended to ballasts for emergency lighting, otherwise important security problems would occur.

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¹ Directive 94/9/EC of the European Parliament and of the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres, OJ L 100, 19.4.1994, p. 1

² Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres, OJ L 23, 28.1.2000, p. 57

³ Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (codified version), OJ L 374, 27.12.2006, p. 10

e) luminaires covered by the requirements of Directives 94/9/EC of the European Parliament and of the Council ⁴, Directive 1999/92/EC of the European Parliament and of the Council ⁵, Directive 2006/42/EC of the European Parliament and of the Council ⁶, Council Directive 93/42/EEC ⁷, Council Directive 88/378/EEC ⁸ and luminaires integrated into equipment covered by these requirements.

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ANNEX II

Technical parameters covered and definitions

for the purposes of Annexes I and III to VII

1. Technical parameters for ecodesign requirements

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Rationale: in line with the most recent Ecodesign implementing measures, the text on the measurement procedures is updated and moved to Annex IV Verification procedure.

Deleted: For the purposes of compliance and verification of this Regulation, the parameters below shall be established by reliable, accurate and reproducible measurement procedures, which take into account the generally recognised state of the art measurement methods.

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3. Definitions

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(o) "Blended lamp" means a lamp containing a mercury vapour lamp and an incandescent lamp filament connected in series in the same bulb.

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Rationale: the term "blended high intensity discharge lamp" is introduced in Annex I, therefore it has to be defined in Annex II.

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⁴ Directive 94/9/EC of the European Parliament and of the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres, OJ L 100, 19.4.1994, p. 1

⁵ Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres, OJ L 23, 28.1.2000, p. 57

⁶ Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast), OJ L 157, 09/06/2006 P. 0024 - 0086

⁷ Council Directive 93/42/EEC of 14 June 1993 concerning medical devices, OJ L 169, 12/07/1993 P. 0001 – 0043

⁸ Council Directive 88/378/EEC of 3 May 1988 on the approximation of the laws of the Member States concerning the safety of toys, Official Journal L 187, 16/07/1988 P. 0001 - 0013

ANNEX III

Ecodesign requirements for fluorescent and high intensity discharge lamps and ballasts and luminaires able to operate such lamps

For each ecodesign requirement, the moment from which it applies is specified below. Unless a requirement is superseded or this is otherwise specified, it shall continue to apply together with the requirements introduced at later stages.

1. REQUIREMENTS FOR FLUORESCENT LAMPS WITHOUT INTEGRATED BALLAST AND FOR HIGH INTENSITY DISCHARGE LAMPS

1.1. Lamp efficacy requirements

A. First stage requirements

One year after the entry into force of this Regulation:

Double capped fluorescent lamps of 16 mm and 26 mm diameter (T5 and T8 lamps) shall have at least the rated luminous efficacies as specified in Table 1 at 25°C.

In case the nominal wattages are different from those listed in Table 1, lamps must reach the luminous efficacy of the nearest equivalent in terms of wattage, except T8 lamps above 50W, which must reach a luminous efficacy of 83 lm/W. If the nominal wattage is at equal distance from the two nearest wattages in the table, it shall conform to the higher efficacy of the two. If the nominal wattage is higher than the highest wattage in the table, it shall conform to the efficacy of that highest wattage.

Table 1 - Rated minimum efficacy values for T8 and T5 lamps

T8 (26 mm Ø)		T5 (16 mm Ø) High Efficiency		T5 (16 mm Ø) High Output	
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
15	63	14	86	24	73
18	75	21	90	39	79
25	76	28	93	49	88
30	80	35	94	54	82
36	93			80	77
38	87				
58	90				
70	89				

Single capped fluorescent lamps shall have the following rated luminous efficacies at 25°C. In case the nominal wattages or lamp shapes are different from those listed in tables 2 to 5: lamps must reach the luminous efficacy of the nearest equivalent in terms of wattage and shape. If the nominal wattage is at equal distance from two wattages in the table, it shall conform to the higher efficacy of the two. If the nominal wattage is higher than the highest wattage in the table, it shall conform to the efficacy of that highest wattage.

Table 2 - Rated minimum efficacy values for single capped fluorescent lamps working on electromagnetic and electronic ballast

Small single parallel tube, lamp cap G23 (2 pin) or 2G7 (4 pin)		Double parallel tubes, lamp cap G24d (2 pin) or G24q (4 pin)		Triple parallel tubes, lamp cap GX24d (2 pin) or GX24q (4 pin)	
Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
5	<u>48</u>	10	60	13	<u>62</u>
7	57	13	<u>62</u>	18	67
9	67	18	67	26	66
11	<u>76</u>	26	66	32	75
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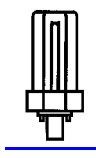
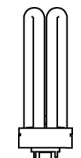
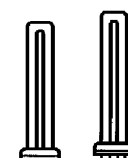
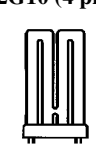
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Table 3 - Rated minimum efficacy values for single capped fluorescent lamps, working only on electronic ballast

<u>Triple parallel tubes, lamp cap GX24q (4 pin)</u>		<u>Four parallel tubes, lamp cap GX24q (4 pin)</u>		<u>Long single parallel tube, lamp cap 2G11 (4 pin)</u>		<u>4 legs in one plane, lamp cap 2G10 (4 pin)</u>	
							
<u>Nominal wattage (W)</u>	<u>Rated luminous efficacy (lm/W), 100 h initial value</u>	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value	Nominal wattage (W)	Rated luminous efficacy (lm/W), 100 h initial value
42	74	57	75	18	67	18	61
57	75	70	74	24	75	24	71
70	74			34	82	36	78
				36	81		
				40	83		
				55	82		
				80	75		

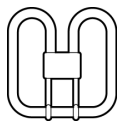
Rationale for Tables 2 and 3: Even though ELC/CELMA noted during the preparatory process of the regulation that using rated rather than nominal values for efficacy could have consequences on the appropriate levels for the requirements, they did not voice concrete concerns related to specific values in these tables before the very end of the decision making process. They claim now there are some lamps in Table 2 that are operated on electromagnetic ballast and cannot fulfil the efficacy requirements. Although they would have been phased out anyway by the third stage requirements in 8 years, their phase-out is thus advanced by 7 years. This is an unintended and arbitrary consequence compared to the phase-out planning for the other lamps in the table. It would mean that many consumers would have to change at high cost their luminaires and ballasts already 1 year after the entry into force of the regulation, while others who happen to use lamps with similar efficacy but different wattage/shape could keep their luminaires for 8 years. Therefore it is necessary to lower the efficacy requirement for the 5, 11 and 13W lamps.

In addition, three lamp types were mistakenly placed in Table 2, as they only operate on electronic ballasts. Their place is in Table 3. However, among these, the 42W lamp cannot fulfil the efficacy requirement, so it will be phased out in 2010 (unless the efficacy requirement is lowered as suggested).

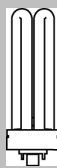
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Table 4 - Rated minimum efficacy values for single capped fluorescent lamps with square shape or (very) high output

Single flat plane tube, lamp cap GR8 (2 pin), GR10q (4 pin) or GRY10q3 (4 pin)



Four or three parallel T5 tubes, lamp cap 2G8 (4 pin)



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