

Status: Point in time view as at 06/04/2009.

Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EC) No 278/2009 (repealed). Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)

ANNEX I

ECODESIGN REQUIREMENTS

1. NO-LOAD POWER CONSUMPTION AND AVERAGE ACTIVE EFFICIENCY

(a) **One year** after this Regulation has come into force:

The no-load condition power consumption shall not exceed 0,50 W.

The average active efficiency shall be not less than:

$0,500 \cdot P_O$, for $P_O < 1,0$ W;

$0,090 \cdot \ln(P_O) + 0,500$, for $1,0$ W $\leq P_O \leq 51,0$ W;

0,850, for $P_O > 51,0$ W.

(b) **Two years** after this Regulation has come into force:

The no-load condition power consumption shall not exceed the following limits:

	AC-AC external power supplies, except low voltage external power supplies	AC-DC external power supplies except low voltage external power supplies	Low voltage external power supplies
$P_O \leq 51,0$ W	0,5 W	0,3 W	0,3 W
$P_O > 51,0$ W	0,5 W	0,5 W	n/a

The average active efficiency shall be not less than the following limits:

	AC-AC and AC-DC external power supplies, except low voltage external power supplies	Low voltage external power supplies
$P_O \leq 1,0$ W	$0,480 \cdot P_O + 0,140$	$0,497 \cdot P_O + 0,067$
$1,0$ W $< P_O \leq 51,0$ W	$0,063 \cdot \ln(P_O) + 0,622$	$0,075 \cdot \ln(P_O) + 0,561$
$P_O > 51,0$ W	0,87	0,86

2. MEASUREMENTS

The no-load condition power consumption and the average active efficiency referred to in point 1 shall be established by a reliable, accurate and reproducible measurement procedure, which takes into account the generally recognised state of the art.

Measurements of power of 0,50 W or greater shall be made with an uncertainty of less than or equal to 2 % at the 95 % confidence level. Measurements of power of less than 0,50 W shall be made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level.

3. INFORMATION TO BE PROVIDED BY MANUFACTURERS

For the purposes of conformity assessment pursuant to Article 4, the technical documentation shall contain the following elements:

Reported quantity	Description
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Root mean square (Rms) output current (mA)	Measured at load conditions 1-4
Rms output voltage (V)	
Active output power (W)	
Rms input voltage (V)	Measured at load conditions 1-5
Rms input power (W)	
Total harmonic distortion (THD)	
True power factor	
Power consumed (W)	Calculated at load condition 1-4, measured at load condition 5
Efficiency	Calculated at load conditions 1-4
Average efficiency	Arithmetic average of efficiency at load conditions 1-4

The relevant load conditions are as follows:

Percentage of nameplate output current	
Load condition 1	100 % ± 2 %
Load condition 2	75 % ± 2 %
Load condition 3	50 % ± 2 %
Load condition 4	25 % ± 2 %
Load condition 5	0 % (no-load condition)

ANNEX II

VERIFICATION PROCEDURE

When performing the market surveillance checks referred to in Article 3(2) of Directive 2005/32/EC, the authorities of the Member States shall apply the following verification procedure for the requirements set out in Annex I.

1. Authorities of the Member State shall test one single unit.
2. The model shall be considered to comply with the provisions set out in Annex I, if:
 - (a) the result for no-load condition does not exceed the applicable limit value set out in Annex I by more than 0,10 W; and
 - (b) the arithmetic average of efficiency at load conditions 1-4 as defined in Annex I does not fall below the applicable limit value for average active efficiency by more than 5 %.
3. If the results referred to in points 2(a) and (b) are not achieved, three additional units of the same model shall be tested.

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4. After three additional units of the same model have been tested, the model shall be considered to comply with the requirements if:
 - (a) the average of the results for no-load condition does not exceed the applicable limit value set out in Annex I by more than 0,10 W; and
 - (b) the average of the arithmetic averages of efficiency at load conditions 1-4 as defined in Annex I does not fall below the applicable limit value for average active efficiency by more than 5 %.
5. If the results referred to in points 4(a) and (b) are not achieved, the model shall be considered not to comply with the requirements.

ANNEX III

INDICATIVE BENCHMARKS REFERRED TO IN ARTICLE 6

(a) No-load condition

The lowest available no-load condition power consumption of external power supplies can be approximated by:

- 0,1 W or less, for $P_O \leq 90$ W,
- 0,2 W or less, for 90 W < $P_O \leq 150$ W,
- 0,4 W or less, for 150 W < $P_O \leq 180$ W,
- 0,5 W or less, for $P_O > 180$ W.

(b) Average active efficiency

The best available active average efficiency of external power supplies according to most recent available data (status January 2008) can be approximated by:

- $0,090 \cdot \ln(P_O) + 0,680$, for $1,0$ W $\leq P_O \leq 10,0$ W,
- 0,890, for $P_O > 10,0$ W.

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