Revision of the ecolabelling criteria for bed mattresses

(decision 98/634/CE)

Third revision

First meeting : 28 march 2006

28th of March 2006 1st working group
3rd revision

Agenda of the day

- Introduction – Round Table
- Scope of the contract and time schedule
- Presentation of bed mattresses
  - ✓ Definition, scope of the product group
  - ✓ Market data
- Discussion of current criteria
  - ✓ Round table
  - ✓ Opinions of the participant
- Conclusions
- Any other business

Introduction (Afnor)

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Scope of the contrat

- Call for tender in 2005
  - ✓ Revision of textiles and bed mattresses in the same lot n°2
  - ✓ Decision of the Commission on December 2005
  - ✓ 2 phases proposed in this call for tender
- Phase 1 :
  - ✓ Prolongation, withdrawing or revision of the criteria
- Phase 2 :
  - ✓ If agreement of the Commission, the task will consist on the revision of the ecological criteria and related assessments and compliance with verification requirements.

Objective of the Community Ecolabel Scheme

- To promote products which have the potential :
  - ✓ to reduce negative environmental impacts,
  - ✓ as compared with the other products (having the same functional unit) in the same product group.
- Based on provision of accurante, and scientifically based information.

Objective

- To provide a document in September 2007, which can be used as a basis of a draft for the Commission establishing revised criteria for the award of the Community Eco-label to bed mattresses.

Planning of the work

- Phase 1 (2006)
  - ✓ For and ad'hoc working group :
    - ➢ Interested Industries, including suppliers
    - ➢ SME's, trade unions,
    - ➢ Retailers,
  - ✓ To update as appropriate market information and life cycle information,
  - ✓ To present the results and estimated whether the ecological criteria should be either prolonged, withdrawn or revised.

Planning of the work

- To develop a revised criteria proposal :
  - ✓ covering the relevant environmental aspects,
  - ✓ To be proposed to the Eco-label Regulatory Committee,
- To prepare a user manual for applicants and competent bodies,
- To prepare a final report.

Definition and scope of the product group : bed mattresses

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Definition of the bed-mattress

- Product providing a surface to sleep or rest upon,
- Fit for use by human beings for a long period of time,
- Consisting of a strong cloth cover filled with materials,
- That can be placed on an existing supporting bed structure
- Life : 10 – 15 years ??

Composition of the product group

- Latex mattresses (latex foam or cellular rubber)
- Polyether mattresses (PUR foam or cellular plastics)
- Spring interior mattresses
- Scandinavian mattresses/beds (wood frame integrated wit a spring system, with a mattress fixed on it)
- Mattresses of other materials (eg cotton, coconut fibre core).

Products excluded from the scope

- Inflate air beds
- Water beds
- Hospital mattresses (special requirement – different functional unit)

New products for the group ? …

- Baby mattress
  - ✓ Relevance to include such product within the scope,
  - ✓ Special conditions ?

Evaluation of the past and likely future of the mattress

Market information

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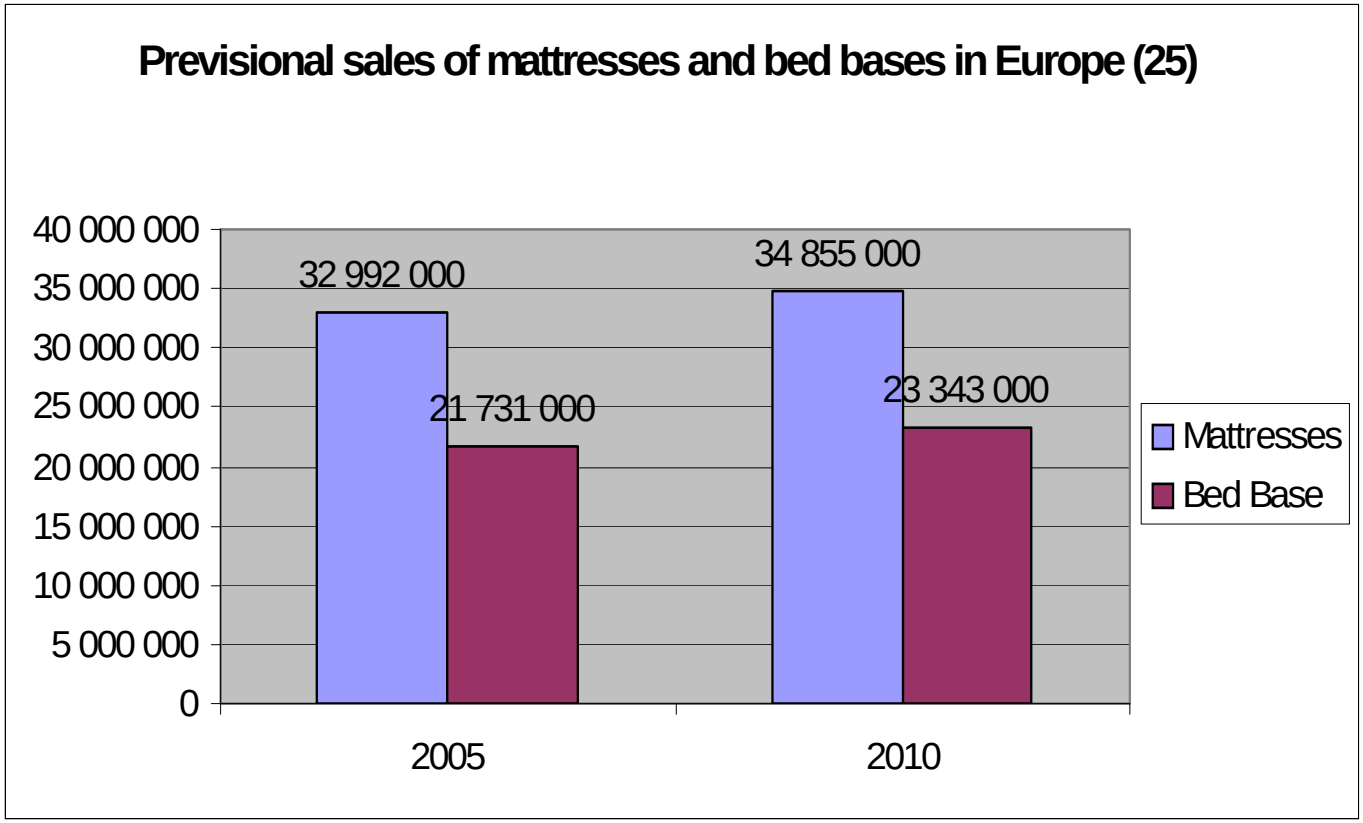
General information

- Since 2000, mattress market is hard
- Composition of the market :
  - ✓ Spring interior : 64%
  - ✓ Poly ether : 22%
  - ✓ Latex : 14%
- An important part of the mattresses is produced and sold within the same country :
  - ✓ National preference linked with type of mattress
  - ✓ Transport is cumbersome and expensive.

Provisional sales



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Comments

- Future of the market is located in Eastern Europe
- General ageing of the population will require more qualitative products
- Export market is still difficult
  - ✓ High diversity of technologies
  - ✓ Diversity of bedding habits

Comments

- Ageing of the population (Germany, Fr)
- Decrease of the population
- Increase of low price demand (Fr)
- …

(source : IPEA survey – December 2004)

To be update with national contributions

Security and fitness for use
European frame

Listing of requirements

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Mattresses and/or materials used in mattresses

- EN 1334 : Domestic furniture - Beds and mattresses - Methods of measurement and recommended tolerances
- EN 1725:1998 : Domestic furniture - Beds and mattresses - Safety requirements and test methods
- EN 1957:2000 : Domestic furniture - Beds and mattresses - Test methods for the determination of functional characteristics

Test methods for mattresses and/or materials used in mattresses

- **MOUSSE / foam OR WAPPING**
  - ✓ Determination of fatigue by constant-load pounding NF EN ISO 3385
  - ✓ Determination of compression set with temp and 70% humidity NF EN ISO 1856
  - ✓ Static fatigue by indentation NF T 56 116
  - ✓ Determination of hardness (indentation technique) ISO 2439
  - ✓ Determination of fatigue by constant-load pounding NF EN ISO 3386-1
  - ✓ Determination of tensile strength and alongation at break NF EN ISO 1798

Test methods for mattresses and/or materials used in mattresses

- ✓ Determination of tear strength NF EN ISO 8067
- ✓ Determination of resilience NF EN ISO 8307
- ✓ Determination of apparent density NF EN ISO 845
- ✓ Accelerated ageing tests NF EN ISO 2440

Test methods for mattresses and/or materials used in mattresses

- **Ticking / coutils**
  - ✓ **N 14976 Textiles - Mattress ticking - Specifications and test methods E**
    - ➢ ❑ Determination of maximum force and elongation at maximum force using the strip method NF EN ISO 13934-1
    - ➢ ❑ Determination of the slippage resistance of yarns at seam in woven fabrics - Part 2: fixed load method NF EN ISO 13936-2
    - ➢ ❑ Determination of tear force of trouser-shaped test specimens NF EN ISO 13937-2
- EN 12127: surfacic mass
- EN ISO 105 E04: Test color fastness - Color fastness to perspiration
- ISO 105 B02 Test color fastness - Color fastness to artificial light: Xenon arc lamp

Test methods for mattresses and/or materials used in mattresses

- ISO 105 X12 Tests for colour fastness - color fastness to wet and dry rubbing
- EN ISO 13938-1: Textiles - Bursting properties of fabrics - Part 1: Hydraulic method for determination of bursting strength and bursting distension (ISO 13938-1:1999)
- EN 25077: Textiles; determination of dimensional change in washing and drying (ISO 5077:1984);
- EN ISO 6330: Textiles - Domestic washing and drying procedures for textile testing (ISO 6330:2000)

EU Directives for the application and treatment of mattresses

- Requirement on label for France
- Azo dyes

Requirements for product information on mattresses

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Life cycle information

The Community Eco Label for mattresses

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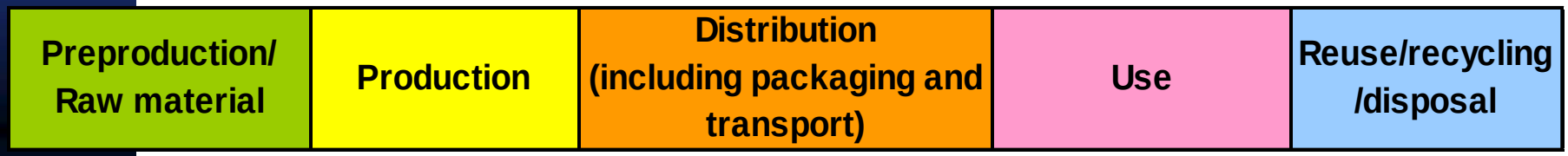
General scheme



Eco labelled products

Manufacturer	Origin	Number of products
Athinaiki Stromatopiia	Greece	9
Ideal Strom Kardakos Bros	Greece	1
Greco Strom	Greece	1
Evros Strom VAS	Greece	1
Elite Strom	Greece	1
Candia Strom	Greece	1
K Balling – Engelsen	Denmark	1
Carpenter APS	Denmark	1

Product group

1.The product group ‘bed mattresses’ shall comprise:

(a) bed mattresses within the meaning of paragraph 2;
(b) latex foam for use in bed mattresses;
(c) polyurethane foam for use in bed mattresses.

2. ‘**Bed mattresses’** means products providing a surface to sleep or rest upon, consisting of a strong cloth cover filled with materials, and that can be placed on an existing supporting bed structure.

This includes framed sprung mattresses, which are defined as an upholstered bed base consisting of springs, topped with fillings, on a rigid frame to be used in a bed frame or free standing, combined with a mattress pad which is not intended to be used separately.

Inflatable mattresses and water mattresses are excluded

Criteria on eco-design

- Is it relevant to add eco design criteria such as :
  - ✓ Mass of the product
  - ✓ Number of materials included in the product
  - ✓ Separability of materials

Criteria on materials

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Latex foam

Note: The following criteria need only be met if latex foam contributes to more than 5 % of the total weight of the mattress.

(a) **Extractable heavymetals** : the concentrations of the following metals shall not exceed the following values:

antimony 0,5 ppm, arsenic 0,5 ppm, lead 0,5 ppm, cadmium 0,1 ppm, chromium (total) 1,0 ppm, cobalt 0,5 ppm, copper 2,0 ppm,

nickel 1,0 ppm, mercury 0,02 ppm

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(b) **Formaldehyde**: The concentration of formaldehyde shall not exceed 30 ppm as measured with EN ISO 14184-1. Alternatively it shall not exceed 0,01 mg/m3 as measured with the chamber test.

Latex foam

(c) **Volatile organic compounds** (VOCs): The concentration of VOCs shall not exceed 0,5 mg/m3. In this context,

VOCs are any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use.

(d) **Dyes, pigments, flame retardants**: Any dyes, pigments or flame retardants used shall comply with the corresponding criteria (listed below) laid down in Commission Decision 2002/371/EC of 15 May 2002 establishing the ecological criteria for the award of the Community eco-label to textile products and amending Decision 1999/178/EC (1):

impurities in dyes, impurities in pigments, chrome mordant dyeing, azodyes, dyes that are carcinogenic, mutagenic or toxic to reproduction potentially sensitising dyes, flame retardants

Latex foam

(e) **Metal complex dyes**: Metal complex dyes based on copper, lead, chromium or nickel shall not be used.

(f) **Chlorophenols**: No chlorophenol (salts and esters) shall be present in concentrations exceeding 0,1 ppm, except mono- and di-chlorinated phenols (salts and esters) which shall not exceed 1 ppm.

(g) **Butadiene**: The concentration of butadiene shall not exceed 1 ppm.

(h) **Nitrosamines**: The concentration of N-nitrosamines shall not exceed 0,001 mg/m3 as measured with the chamber test.

PUR foam

Note: The following criteria need only be met if PUR foam contributes to more than 5 % of the total weight of the mattress.

- *(*a) Extractable heavy metals : The PUR foam shall meet the corresponding requirement for latex foam detailed in criterion 1(a).
- (b) Formaldehyde: The PUR foam shall meet the corresponding requirement for latex foam detailed in criterion 1(b).
- (c) Volatile organic compounds (VOCs): The PUR foam shall meet the corresponding requirement for latex foam detailed in criterion 1(c).
- (d) Dyes, pigments, flame retardants: The PUR foam shall meet the corresponding requirement for latex foam detailed in criterion 1(d).

PUR foam

- (e) Metal complex dyes: The PUR foam shall meet the corresponding requirement for latex foam detailed in criterion 1(e).
- (f) Organic tin: Tin in organic form (tin bonded to a carbon atom) shall not be used.
- (g) Blowing agents: CFCs, HCFCs, HFCs or methylene chloride shall not be used as blowing agents or as auxiliary
- blowing agents. The use of methylene chloride as an auxiliary blowing agent is nevertheless allowed in conjunction with the application of powdered flame retardants.

Wire and springs

- **(**a) Decreasing: If decreasing and/or cleaning of wire and/or springs is carried out with organic solvents, use shall be made of a closed cleaning/decreasing system.

- (b) Galvanisation: The surface of springs shall not be covered with a galvanic metallic layer.

Coconut fibres

Note: The following criterion need only be met if coconut fibres contribute to more than 5 % of the total weight of the mattress.

If the coconut fibre material is rubberised, it shall comply with the criteria applicable to latex foam.

Wooden material

- (a) Particle board: The formaldehyde measured in any particle board used shall not exceed 50 % of the threshold value that would allow it to be classified as class 1 quality according to EN 312-1.
- (b) Fibreboard: The formaldehyde measured in any fibreboard used shall not exceed 50 % of the threshold value that would allow it to be classified as class A quality according to EN 622-1.

Textiles (fibres and fabric)

- All textile fibres and fabrics (except yarn used for sewing) shall comply with all of the relevant criteria laid down in Decision 2002/371/EC (which establishes the ecological criteria for textile products).

Glues

(a) Volatile organic compounds (VOCs): Any glues used shall contain less than 10 % by weight of volatile organic compounds (VOCs). This criterion does not apply to glues used for occasional repairs. In this context, VOCs are any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use.

(b) Benzenes, chlorobenzenes: Any glues used shall be free of benzene and chlorobenzenes.

Criteria on use

- Durability
- Information on packaging

Durability

- (a) Loss of height : the loss of height shall be less than 20 mm.
- (b) Loss of firmness: the loss of firmness (Hs) shall be less than 20 %.

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Criteria
(including packaging and transport)

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Information on the packaging

The following text (or equivalent text) shall appear on the packaging:

- ‘For more information on the why this product has been awarded the Flower please visit the web-site: http://europa.eu.int/ecolabel’
- ‘Please consult your local authority on the best way to dispose of your old mattress.’

Criteria on end of life / re use / disposal

- Durability
- Information on packaging (consultation of local authority)
- Information appearing on the eco-label

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