

## Criteria for allergy-friendly encasings

### BACKGROUND

Around twelve percent of adults suffering from allergies are allergic to mites. Mites are inevitably to be found in mattresses, bed linens and textile floors as they are living from human dander. Their occurrence has nothing to do with lack of hygiene. Persons allergic to mites mainly react to the excretions of these microscopically small organisms. This may especially be a problem at night and significantly affects the sleep.

Allergy impermeable covers for mattresses, pillows and blankets provide an effective protection. These coverings, also called encasings are used underneath regular bed linens. The material and weave largely prevent any contact between mites and the person sleeping.

ECARF certificated, allergy friendly encasings provably reduce the allergy exposition.

### 1. CRITERIA

#### 1.1. Necessary Product Features

The contamination of bed linens with allergens in house dust, mites and fungal spores is significantly reduced with the use of encasings. The sleeping comfort is not impaired by using encasings.

##### Encasing

- **Separation performance**
  - to house dust and bacteria, particle size  $\geq 1,0\mu\text{m}$  :  $\geq 70\%$
  - to pollen and mold spores, particle size  $\geq 5,0\mu\text{m}$  :  $\geq 90\%$
- **Resistance to water vapor permeability**  $< 20\text{m}^2 \text{ Pa/W}$
- **Air permeability** of mattress encasing's bed surface:  $\geq 50\text{l}/(\text{m}^2 \times \text{sec})$  with 200 Pa pressure difference
- **If any** : condition of coating
  - New state: closed, even
  - After 10 washing procedures (60°C): closed, even
  - Contaminant-free and disposable in the household waste

## 1.2. Measurements

Technical proof that used material, zippers and seams are being particle tight as far as possible. All tests have to be carried out on samples washed 10 times at 60°C using ordinary washing detergents. All tests have to be conducted by accredited testing institutes.

- **Filtration separation efficiency** on an area of 50 cm x 50 cm with a diagonally sewn zipper following DIN EN 1822-3 or DIN 71460-1 (ISO 11155-1) with KCl-aerosol:
  - Inflow velocity 5 cm/s, particle size 1 µm ≥ 70 %
  - Inflow velocity 5 cm/s, particle size 5 µm ≥ 90 %
  - Inflow velocity 50 cm/s, particle size 1 µm ≥ 70 %
  - Inflow velocity 50 cm/s, particle size 5 µm ≥ 90 %

Or alternatively,

- **Rolling test** following DIN EN 1957 with simulation of a person weighing 80 kg with 10 g/m<sup>2</sup> dust on the surface for 8 h
- Resistance to **water vapor permeability** measured with the thermo-regulation model following ISO 11092 (skin model) using a tissue sample of 100 cm x 100 cm
- Identification of the **air permeability** by pressure drop measurement using a tissue sample of 50 cm x 50 cm following DIN EN ISO 9237 with 200 Pa. The measurement can also be carried out by combining the pressure drop measurement with the filtration separation efficiency (point 1).
- **With existing coating:** proof of absence of pollutants and information of the material used on or inside the packing for appropriate disposal.

## 2. QUALITY CONTROL AND COMPLAINT MANAGEMENT

**The manufacturer has established a functional system of quality control that responds effectively to consumer complaints.** The system ensures the following:

- The manufacturer's contact details, such as the address, telephone number and/or email address, are clearly visible on the product packaging;
- Consumer complaints are handled and followed up in an appropriate manner by qualified and experienced personnel of the manufacturer;
- The assessment of consumer complaints and, if applicable, any inferred areas of improvement are reapplied to product quality and safety. The manufacturer agrees to make this data available to ECARF on an ongoing basis.