

# PM: Energy classification and marking of sanitary tapware

SS 820001

## Sanitary tapware – Method for determination of the energy efficiency of thermostatic mixing taps with shower heads

### Prepared by:

Advisory group energy classification

This is not an official English version of the PM document. It has been pre-pared in good faith, but is intended only to provide information on the content of the Swedish-language version.

### Version 2. 2014-02-01

### Goal:

This document is drawn to help clarify and improve the standard SS-820001. Continuous experience from testing laboratories is and will be used to explain and provide a basis for a future revision of the standard. The document must free available on the website for energy labelling.

### Appendix A.1 Test cloth

- The specification of food colouring used in the test method is consistent with the brand Dr. Oetker, which are sold in most parts of the world.
- The specification on Test cloth used in the test method is consistent with the brand Vileda Wettex, model soft & fresh, which is sold in many parts of the world.

### 3.9 Operating device

The term 'one single manual operation' in the standard is related to the handling of the energy saving functions for flow- or temperature settings. This extra manual operation should be designed in such a way that the user notes that the maximum flow is desired (ie not happens with routine) every time the tapware is used.

Examples of currently known operations related to energy saving for flow- or temperate settings:

- Automatic spring-loaded control handle that is activated when the user releases the handle.
- Button to manually be activated to enable the increase in flow / temperature.

Example of operations that are not sufficient to give one, on each occasion, consciously operation and thus does not considered as an energy saving.

- A stop which can easily pass through by increasing the manual force if an increased flow/temperature is desired.

### Economy temperature:

Energy efficiency functions s.c. economy temperature is chosen not rewarded for the thermostatic mixer. The advisory group find it difficult to influence the user to use a temperature that he /she does not feel as comfortable. Economy flow can however influenced because mixing air and water droplet shape and size can produce different sensations of comfort.

### 5.1.1 General

Testing shall be done at room temperature, between 19 °C and 25 °C.

Testing shall be done in a shower cubicle consisting of 3 walls. The width of the of the walls shall be 90-120 cm and the height  $\geq$  200 cm.

### 5.1.3

The mixer water temperature shall be measured in a plastic funnel with an inlet diameter of 24 cm. The outlet diameter shall secure enough water for correct measurement of the temperature.

### 5.4 Effective shower water proportion and the spread of the water

The cylindrical vessel shall have a depth of at least 10 cm and the edge of the vessel shall not be thicker than 1 mm. The shower head outlet must be carefully centred above the vessel. The testing is repeated 5 times and the volume is noted. The average value of  $V_{6cm}$ ,  $V_{30cm}$  and  $V_{80cm}$  is then used to calculate  $\eta_{spreading}$ . If the relative uncertainty of measurement exceeds 10 %, repeat the test from the beginning

### 5.5.2 Test equipment

Contrary to chapter 5.5.2, figure 4. The support sheet shall be mounted at an angle of  $10^\circ \pm 1$  against the showerhead.

### 5.5.4

The testing is repeated 10 times, and the time for each test is noted. Of the 10 measured test times, discard the shortest and the longest, and calculate the rinse time from the remaining 8 values. If, despite this, the relative uncertainty of measurement exceeds 10 %, continue with the test with additional 10 tests as specified in the standard.

### 6.3 Energy use of a thermostatic mixer unit

Factors in the equation for the total energy use are empirically tested.

#### Variable showerhead

The text of chapter 6.4 will be replaced by:

A variable shower head permits different spray patterns to be set. The energy use of such a shower head will be measured at the setting indicated by the manufacturer. This setting shall be marked permanently on all shower heads produced by the manufacturer. Consumers buying this product will see the setting linked to the energy class.

#### Appendix A.1 Test cloth

The test cloth should be heated in an oven 30 minutes by a temperature of 100 °C.