EL223. Water-saving Toilets

[EL223-1992/10/2013-132]

1. Scope

The criteria shall apply to the water-saving toilet (hereinafter referred to as "toilet") of toilets (western style water closet) with low tanks or flush valves.

2. Definitions

2.1

“Flush valve” refers to the washing valve that is set up on toilets without water tanks.

2.2

“Amount of water use” refers to the amount of water for one time that is used to flush a toilet by operating a flush handle given that water is supplied from pipes at dynamic pressure of 98 kPa. However, with respect to the toilet with low tank, the amount of makeup water shall be excluded (This requirement only applies to the certification requirements of water-saving toilets, not to the certification requirements of other products.)

2.3

“Make-up water” refers to the water that is needed to fill the trap inside a toilet again after flushing the toilet by operating a flush handle.

2.4

“Total amount of water use” refers to the amount of water added the amount of make-up water to the amount of water use.

2.5

“Toilet with low tank” refers to a toilet with the flushing method in which water in the tank is supplied to the toilet when flushing.

3. Certification Criteria

3.1 Environmental Criteria

With respect to the resources consumption in the use process, it shall satisfy the following requirements.

3.1.1

Total amount of water use shall satisfy the following requirements.

For Excrement	Feces-Separating type	
	For Excrement	For Urine
≤ 6 L	≤ 6 L	≤ 4 L

3.1.2

Toilet shall be supplied in a set with low tank or flush valve.

3.2 Quality Criteria

3.2.1

Flush capacity of toilets shall satisfy one of the followings.

3.2.1.1

With respect to the test of 'ball letting-out' and ‘particle letting-out,' particle and ink stain shall satisfy the following requirements.

Items	Number Remaining Inside Toilet	Number Completing Sewage Pipe Passage
Ball Letting-out Test	≤ 7 balls	≥ 75 balls
Particle Letting-out Test	≤ 125 particles	-

Note) With respect to the test of ball letting-out, the ‘number of sewage pipe passage’ refers to the number of balls that completely passed through traps and sewage pipes.

3.2.1.2

When conducting “sponge and toilet paper letting-out test”, sponge and toilet papers shall be completely let out of sewage pipes.

3.2.2

With respect to the letting-out capacity, the capacity of water bag, the level of ink penetration, the capacity for rapid freezing, and the test of cracking test, the product shall satisfy KS L 1551 (Hygiene Ceramic Ware).

3.3 Consumer Information

3.3.1

Water-saving effect such as total amount of water use

3.3.2

Attention to set-up and use of product

3.3.2.1

Attention to designing/construction : Matters of request on the proceeding of draining system and diameter/length/slope of pipes

3.3.2.2

Attention to use : General cautions on ceramic ware and attention to toilet cleaning and toilet clogging-up

4. Test Methods

Certification Criteria	Test and Verification Methods	
Environmental Criteria	3.1.1	Test report by an accredited testing laboratory in accordance with 4.1 and the 'Water Consumption and Flush Performance Test Methods for Installed Toilet <Appendix 3. EM501>'
	3.1.2	Verification of submitted documents
Quality Criteria	3.2.1	Test report by an accredited testing laboratory in accordance with 4.1 and the 'Water Consumption and Flush Performance Test Methods for Installed Toilet <Appendix 3. EM501>'

	3.2.2	Test report by an accredited testing laboratory in accordance with KS L 1551 (Hygiene ceramic ware) or the equivalent certificate
Consumer Information		Verification of submitted documents

4.1 General Matters

4.1.1

One test sample shall be required for each applied product.

4.1.2

Test samples shall be collected at random from products in market or those in storage at the production site by an eco-label certification institute.

4.1.3

Test result shall be numerically set according to KS Q 5002 (Statistical interpretation of data – Part 1: Statistical presentation of data).

4.1.4

‘EM501. Water Consumption and Flush Performance Test Methods for Installed Toilet’ shall be followed, except for the following matters:

4.1.4.1

In principle, the total amount of water use shall be measured by a flowmeter connected to the supply water pipe. If it is unavoidable to use a measuring container, measurement shall be made at the location of the outlet of the toilet.

4.1.4.2

The water level of a low-tank toilet shall be based on the water level marked inside the tank, and adjustment of the time of closing the drain cap shall follow the user manual. However, if the tank has no water level mark or the contents of the manual are deemed as insufficient to reproduce the time of closing the drain cap, adjust water amount to the maximum possible level.

4.1.4.3

For water-saving flush valves equipped with a water amount adjusting screw, adjust the level to the screw location marked on the product. If there is no marking for the location of the water amount adjusting screw or the marking is not clear, adjust it to the maximum possible amount of water use. However, the manual may be followed if it is possible to adjust the amount of water use in a reproducible manner according to the method specified in the manual.

5. Reasons for Certification

“Water-saving”

[Common Criteria]

1. The candidate products for Korea Eco-Label shall comply with the following regulations with regard to the appropriate processing of environmental contaminants that occur in the process of manufacturing or service operation, including air contaminants, water contaminants, waste and harmful chemical substances.

   1.1 A person who violates any environment-related law or agreement applicable in the region where his or her factory or operating establishment is located within one year prior to the date of application may not apply for Korea Eco-Label certification. For violations other than the ones subject to penalties, however, a person may apply for the certification after completion of any action for the violation.

   1.2 A person who has obtained Korea Eco-Label certification must comply with the environment-related laws and agreements applicable in the region where the factory or operating establishment is located during the certification period. If any violation against penal provisions is found during the certification period, however, the certification may be canceled, and for violations other than the ones against penal provisions, the certification may be suspended until the relevant action is completed.

2. In principle, the “consumer information” specified in the certification standards by product shall be marked in a way not to be removed easily on the surface of the product. If it is impossible or undesirable to mark it on the surface of a product, the information shall be marked on another appropriate part of a product where consumers will notice it, including product packaging, a guidebook, an instruction or etc. For services, however, the consumer information shall be, in principle, marked on the internal and external areas of a building where the service is provided. If it is impossible or undesirable to mark it on the internal or external area of a building, however, it shall be marked on an appropriate part where consumers can notice it, including a contract, statement of delivery, letter of guarantee or brochure.

3. A person who has applied for, or obtained approval for, use of Korea Eco-Label on a product shall comply with the Fair Labeling and Advertising Act in order to establish

fair trade order and protect consumers, and if they violate the law, their application for certification may be rejected or their certification may be canceled.

4. Unless otherwise specified, the various specifications cited in the certification criteria by product shall be the latest ones at the time of application for certification.

5. If application of the standards for quality in accordance with the certification criteria by product is deemed as inappropriate, the President of Korea Environmental Industry & Technology Institute (hereinafter referred to as KEITI president) may establish and operate the quality criteria for the product after deliberation committee review or expert consultation.