

EL222. Water-saving Showerheads or Faucet Appendages [EL222-2000/5/2012-126]



1. Scope

The criteria shall apply to the faucet accessory with less than use pressure of 7.5 kg/cm^2 {735kPa} such as a showerhead for shower, shower tub and face wash/shower (including a showerhead with shower horse or pipe), and to water-saving accessory that have water-saving effect by setting up on the faucet and reducing the amount of water flow.

2. Definition

2.1

“Water-saving faucet accessory (hereinafter referred to as “Water-saving accessory” refers to the product, which is to be set up on the faucet, that generates an additional pressure loss inside the faucet to reduce the amount of water flow.

2.2

“Total water flow rate” refers to the amount of water [L/min] that is belched out per unit time through the faucet.

2.3

“Showerhead with a valve” refers to the products which belch and stop water by a valve mounted on the showerhead itself (open/close type, instantaneous shut-off type and so on).

2.4

“Open/close type” refers to the way that water is belched and stopped by on and off operation of the valve switch.

2.5

“Instantaneous shut-off type” refers to the way that water is automatically stopped by removing hands from the showerhead without operating the controlling part to stop water, after water is belched out by the operation of the controlling part such as a valve switch.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

The amount of water flow of showerhead shall be less than 1.0kg/cm²{98kPa} to 9.5L/min of water pressure.

3.1.2

With respect to set-up of water-saving accessory on faucet, the product shall satisfy the following requirements.

3.1.2.1

The maximum amount of water flow at the water pressure of 1.0kg/cm²{98kPa} shall be more than 50% and less than 80% of the amount before setting up the product.

3.1.2.2

The maximum amount of water flow at the water pressure of 3.0kg/cm²{294kPa} shall be from 1.0kg/cm²{98kPa} to less than 140% of the maximum amount.

3.1.3

The leachate by substance of a part where city water comes into contact with the products shall conform to the standard for hygiene and safety in accordance with 「Water Supply and Waterworks Installation Act」 .

3.2 Quality Criteria

3.2.1

Connectivity between showerhead and water-saving accessory shall satisfy the following requirements.

3.2.1.1

Showerhead shall be used by connecting to the product for shower, shower tub and face wash/shower among the 'mixed faucet for hot/cold water' stipulated in KS B 2331(faucet).

3.2.1.2

Water-saving accessory shall be the structure in which there is no leakage of water during the stage of belching and stopping water when it is set up on the product stipulated in KS B 2331(faucet) by the category of application products.

3.2.2

The height of belched watercourse of showerhead at the water pressure $1.0\text{kgf/cm}^2\{98\text{kPa}\}$ shall be more than 0.5 m.

3.2.3

Showerhead with a valve shall satisfy the following performance requirements.

Items	Requirements
Operating Performance	With respect to the product which manually operates opening/closing or belching/stopping water, the operating condition shall be smooth and secure.
Internal Pressure Performance	There shall be no transformation, breakage and leakage of internal pressure part during the stage of stopping water.
Marginal Performance of Water Shock	The value of water shock shall be less than $15.0\text{kgf/cm}^2\{1,470\text{kPa}\}$ during the operation of stopping-water valve.
Durability	After conducting the operation of stopping-water valve 1,000 times for opening/closing or belching/stopping water, the product shall satisfy the operating performance and internal pressure.

3.2.4

The materials of product that touches water shall satisfy the following requirements.

3.2.4.1

Materials with excellent durability, waterproof ability, erosion-proof ability and aging-proof ability shall be chosen and used.

3.2.4.2

With respect to the use of compound metal materials such as brass and bronze, materials with less than $300\ \mu\text{m}$ of average corrosion depth shall be used.

3.2.5

With respect to a possible problem that performance declines due to alien substances generated inside showerhead and water-saving accessory, the product shall have a structure that is easy for user to remove the alien substance.

3.3 Information for Consumers

3.3.1 Water-saving effect

3.3.1.1

The amount of water flow at the water pressure of 1kg/cm²{98kPa}(which shall be in accordance with the result of objective tests)

3.3.1.2

Additional water-saving effect in accordance with open/close type and instantaneous shut-off type

3.3.2

Notes to ways of set-up and usage (With respect to a showerhead with a valve, there shall be an item "there shall be necessarily function against counter current on the faucet for a showerhead with the mixed usage of cold and hot water.)

3.3.3

Drawing of disassembly and assembly, if necessary.

4. Test Methods

Certification Criteria		Test and Verification Methods	
Environmental Criteria	3.1.1~3.1.2	Test report by an accredited testing laboratory in accordance with 8.2 (function of belching out water) of KS B 2331(faucet)	
	3.1.3	Test report of materials and products for waterworks in accordance with hygiene and safety standard processing test method in 「Water Supply and Waterworks Installation Act」 by an accredited testing laboratory	
Quality Criteria	3.2.1	Verification of submitted documents	
	3.2.2	Test report by an accredited testing laboratory in accordance with the test methods 4.1 and 4.2.'	
	3.2.3	Test report by an accredited testing laboratory in accordance with KS B 2331 (faucet) 8.(function)	
	3.2.4	3.2.4.1	Verification of submitted documents
		3.2.4.2	Test report by an accredited testing laboratory in accordance with ISO 6509 (Corrosion of metals and alloys - Determination of dezincification resistance of brass)
3.2.5	Verification of submitted documents		
Consumer Information		Verification of submitted documents	

Note) Various water-saving accessory shall be a set so that even the same faucets can be applied to different water-saving accessory according to water pressure. In case that 3.1.2 of Environment Criteria

is satisfied, only the product satisfying the service of choosing and setting up application water-saving accessory by water pressure at the same time, shall be regarded as an appropriate one to the standard.

4.1 General Matters

4.1.1

One test sample shall be required for each applied product. However, in case that more than one test is needed, it shall not be required.

4.1.2

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

4.1.3

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

4.2 Test Methods of the Height of Belched Watercourse of Showerhead

4.2.1

Test sample shall be set up in accordance with the ways stipulated in KS B 2331 (faucet), 8.2 (function of belching water) and fix the showerhead so that watercourse belched from the showerhead faces vertically the floor.

4.2.2

Maintain the water pressure at 1.0 kgf/cm^2 {98kPa} during belching out water and measure the maximum height of watercourse which is consecutively belched out from the showerhead.

5. Reason for Certification

“Reduced harmful substances, 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.