EL171. Electric Hot and Cold Water Dispensers

[EL171-1999/6/2010-13]

1. Scope

The criteria shall apply to the electric hot/cold water dispenser (hereinafter referred to as "hot/cold water dispenser") with rated power consumption of 1.5kW or less that supplies drinking water, whose storage tanks of cold and hot water is internally designed in one cabinet.

2. Definitions

2.1

“Ozone depletion potential (ODP)” refers to the value indicating the relative impact of substances depleting ozone when the ozone depletion impact of CFC-11 is set to be 1.

3. Certification criteria

3.1 Environmental criteria

3.1.1

With respect to noise during use, the noise level shall be 45dB (A) or less while the product is in use.

3.1.2

With respect to energy consumption at use stage, Energy consumption efficiency of the products shall meet Level 1 of 'regulations on management of efficiency control equipment in accordance with the Energy Use Rationalization Act.

3.1.3

Chemical substances used at the manufacturing stage, or the recycling capability of components at the disposal stage shall meet the following requirements.

Note) This Criteria shall not applied on materials which are exempted from Hazardous Substances Restriction lists on EU Directive 2002/95/EC and lead in solder of printed circuit board (PCB). However, in case of revision of EU Directive 2002/95/EC, this shall follow revised EU Directive which is applicable at the time the application for eco-label certification

3.1.3.1

With respect to the product, lead, cadmium, mercury and their compounds, as well as hexavalent chromium compounds, shall not be used.

3.1.3.2

Lead (Pb), cadmium (Cd), mercury (Hg), and hexavalent chromium (Cr^{6+}) contained in components of the product shall satisfy one of the following criteria.

a) With respect to the harmful elements contained in the product, an appropriate management system shall be established and operated, which shall meet the following requirements.

Harmful element	Lead(Pb)	Cadmium(Cd)	Mercury (Hg)	Hexavalent chromium(Cr^{+6})
Standard [mg/kg]	≤1000	≤100	≤1000	≤1000

b) In the absence of an appropriate management system that is established and operated for harmful elements, the harmful elements contained in components of the product shall satisfy the following criteria.

Harmful Element	Lead(Pb)	Cadmium(Cd)	Mercury(Hg)	Hexavalent chromium(Cr^{6+})Note)
Standard [mg/kg]	≤1000	≤100	≤1000	≤1000

Note) In the event that total chromium content is less than 1000 mg/kg, it shall be deemed to have met the standards.

3.1.3.3

The product shall not use polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), or short-chain chlorinated paraffin (C=10~13) with a chlorine concentration with more than 50%.

3.1.3.4

Refrigerants used at the manufacturing stage must have an ODP equal to zero.

3.1.4

Recycling at the manufacturing stage or the recycling capability of the product at the disposal stage shall meet the following requirements.

3.1.4.1

For the easy separation & collection of synthetic resins (more than 100 g) used in the product, material information shall be labeled for each separable item.

3.1.4.2

The product packaging cushions shall be made of recycled paper or pulp materials, such as pulp molding products. However, the following shall be regarded as equivalent to said materials:

a) Packaging cushions that have achieved the environmental mark ‘packaging material (EL606)’ certification

b) Packaging cushions produced with more than 50% waste synthetic resins (based on total weight)

c) Packaging cushions of foamy synthetic resin (EPS, EPE, EPP) produced using blowing agents whose ODP is equal to zero

d) Air cell packing bubble wrap that injects air into synthetic resins.

3.2 Quality Criteria

3.2.1
The quality of the product shall satisfy the safety standards in accordance with the Korean Safety and Control Act for Electric Appliances.

3.2.2
The lever controlling hot water shall be at higher position than the hot water outlet.

3.3 Information for Consumers

Energy-saving information as to how to use time switch, whether temperature control switch is attached or not, and so on

4. Test Methods

Certification Criteria	Test and Verification Methods

Environmental Criteria	3.1.1		Test report by an accredited testing laboratory in accordance with Test Methods 4.1 and 4.2.
	3.1.2		Test report by an accredited testing laboratory in accordance with 「Energy Use Rationalization Act」 in accordance with 「Regulations on management of efficiency control equipment」 of test methods or certificate of equivalent
	3.1.3	3.1.3.1	Verification of submitted documents
		3.1.3.2	Submitted documents in accordance with the verification and test methods specified in 4.3’
		3.1.3.3~3.1.3.4	Verification of submitted documents
Quality Criteria	3.1.1		Test report by an accredited testing laboratory in accordance with the safety standards for electric appliances or certificate of equivalent
	3.1.2		Verification of submitted documents
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 by a certification institute from products in market or those in storage at the production site.

4.1.3

The temperature shall be adjusted to 25 ± 2°C during the measurement.

4.1.4

All the tests shall make it a rule to be conducted in a stabilized condition in which the product is set in regular use state and reaches to normal conditions.

4.1.5

The result of test shall be numerically set according to KS Q 5002 (Statistical interpretation method of the data – Part 1: Statistical description of the data).

4.2 Noise Gauge Methods

4.2.1

Test for noise emission shall be conducted with the following condition in accordance with KS I ISO 1996-1 (Acoustics - Description, measurement and assessment of acoustics - Description, measurement and assessment of environment noise - Part 1: Basic quantities and assessment procedures). A sound level meter specified in KS C 1502 (Sound level meters) shall be used, and the noise emission shall be determined in accordance with the weighting network A.

4.2.2

The noise shall be gauged at a point, 1m away from the sides, front and back, and represented as the biggest one among the gauged values.

4.2.3

The noise shall be necessarily gauged at the operation stage of refrigerant-circulating compressor motor, and the noise at the point of starting the compressor shall not be reflected in the gauged value.

4.2.4

If the noise is gauged in a non-anechoic room, the distance between walls and the tested product shall be broad enough not to create reflecting sounds. A gap between background noise and gauged noise shall be at least more than 10 dB(A).

4.3.3

Verification method of establishment & operation of suitable management system regarding harmful elements

Note) This method is for verifying the suitability regarding the criteria limiting the use of lead, cadmium, mercury, its compounds, and chromium 6 compounds on parts constituting the product. This method can be used as the method for proving that the applicant is appropriately managing PBBs, PBDEs, and short-chain chlorinated paraffins(C=10~13) other than harmful elements.

4.3.3.1

Verify the suitability by checking any one of the following 4.3.1.1.1~4.3.1.1.4, or equivalent or higher documents or test results.

4.3.3.1.1

Manual and related documents regarding the management system that the product producer is preparing for appropriately managing relevant harmful elements when being supplied with part from parts supplier

4.3.3.1.2

Test results performed in-house for the appropriate management of relevant harmful elements when product producer receives supply of parts from parts supplier (In this case, it shall clearly state specific test methods including conditioning method applied to the in-house test.)

4.3.3.1.3

Certificate from 3rd party accrediting testing laboratory that can prove the parts constituting the product is appropriate for the certification criteria. [ex. Eco label certification on 'parts for electric & electronic products(EL763)' among certification criteria by product for environmental mark]

4.3.3.1.4

Other data that can prove that the relevant harmful elements is appropriately managed when the product producer receives supply of parts from parts supplier

4.3.3.2

In case it is difficult to determine whether or not the management system regarding harmful elements is appropriately established and operated in accordance with 1) or when the Eco-label certification review committee demand test results of specific parts, the product shall be verified in accordance to the following '4.3.2 Test method for harmful element content' regarding parts collected at random by a certification institute.

4.3.4

Test method for harmful element content

Note) This method is an example of a test method that verifies content of lead(Pb), cadmium(Cd), mercury(Hg) and chromium 6(Cr6+) included in the parts constituting the product. Other than this method, content can be verified with objective test method that can be used internationally. In this case, specific test method containing conditioning method shall be clearly stated, and the suitability of clearly stated test method shall be determined after going through the evaluation of the Eco-label certification deliberation committee.

4.3.4.1

It shall be a general rule to prepare homogenous substance which has gone through fabrication such as grinding by basic unit of parts as the sample to be analyzed for its content.

4.3.4.2

Method of analyzing lead(Pb), cadmium(Cd), mercury(Hg), hexavalent chromium(Cr^{+6}), total chromium(Cr)

4.3.4.2.1

Lead(Pb), Cadmium(Cd) : KS M 0016(General Rules for Atomic Absorption Spectrochemical Analysis), KS M 0032(General Rules for ICP Emission Spectrochemical Analysis), Inductively Coupled Plasma Mass Spectrometry(ICP-MS).

4.3.4.2.2

Mercury(Hg) : Mercury(Hg): atomic absorption spectrochemical analysis by combustion gold amalgamation method, KS M 0016(General Rules for Atomic Absorption Spectrochemical Analysis)

4.3.4.2.3

Hexavelent Chromium(Cr6+): Ultraviolet spectrometry by diphenylcarbazide method, ultraviolet spectrometry by lead acetate trihydrate method.

4.3.4.2.4

Total chromium(Cr): KS M 0016(General Rules for Atomic Absorption Spectrochemical Analysis), KS M 0032(General Rules for ICP Emission Spectrochemical Analysis), and Inductively Coupled Plasma Mass Spectrometry(ICP-MS).

5. Reasons for Certification

“Power-saving, low noise”

Common Criteria, Notice No. 2012-36, the Ministry of Environment

1. Eco-label products must follow the following provisions with regard to the proper treatment of environmental pollution substances, such as air and water wastes and noxious chemical substances emitted in the process of manufacturing or service operation.

A. When first applying for certification, the product manufacturer should observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located for a period of one year prior to the date of application. Any case of violation of the penalty clause will be verified by confirming documents involved during a period of one year to the date of application. Regarding any violation not related to the penalty clause, confirmation will be made on the completion of appropriate measures.

B. A person who has received a certification of eco-labeling shall observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located during the period of certification. However, regarding any violation besides a penalty, confirmation will be made on the completion of appropriate measures.

2. As a general rule, information for consumers shall be indicated on the surface of the product in such a way not to be easily erased. However, in case that indication on the surface of the product is impossible or undesirable, it can be indicated on the appropriate part such as product packaging, product guidebook and user's manual that consumers can recognize. However, the service information should be indicated inside and outside of the place of service operation. In case that indication inside and outside of the place of service operation is impossible or undesirable, it can be indicated on the appropriate part such as an agreement, letter of delivery, letter of guarantee, and PR materials that consumers can recognize.

3. In order to establish fair trade and to protect consumer, the applicant for eco-label and the holder of eco-label license shall observe the Act on the Fairness of

Indication and Advertisement with respect to the environmental aspects of the product.

4. For Various standards referred in the certification criteria by target product, the latest revised edition applies at the date of application, if not specified otherwise.

5. In applying the quality related criteria for each target product, if no standard is available that can be applied as the quality criteria, the president of Korea Environmental Industry & Technology Institute (KEITI) (hereafter referred to as "president of KEITI") may establish and operate the quality criteria for the product involved after review by a competent committee.