

EL225. Water Meters

[EL225-2000/5/2010-13]



1. Scope

The criteria shall apply to the water meters with a diameter of 350mm or less.

2. Definitions

2.1

“Dezincification corrosion” refers to the electrochemical corrosion of brass caused by ‘demetallation’. Brass-made and copper-only zinc easily lose electrons, because zinc has higher electrical potential than copper. That results in ionization, fusion, and diffusion in a solution. Accordingly, dezincificated parts can become porous and their strength decreases.

2.2

“Demetalization” refers to the selective corrosion caused by the difference in ionization tendencies of the components of alloy.

2.3

“The average corrosion depth” refers to the degree of brass corrosion. It indicates the corrosion depth of test pieces in micrometer(μm) when brass is exposed to a test solution in accordance with 'ISO 6509 (Corrosion of metals and alloys – Determination of dezincification resistance of brass)’.

2.4

“Synthetic resin coating/lining” refers to coating or lining outside or inside metal water-meters with synthetic resin to protect the contacts with tap water.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to the chemical substance used in processes of manufacture and

recyclability in processes of scrap, a product that consist of over 25g of synthetic resin don't use halogen and chlorinate synthetic resin, and don't include halogen compounds. However, organic fluorine additives of below 0.5 weight%(ex) anti-dripping agent) shall be allowed.

3.1.2

With respect to hazardous pollutants emission, the product shall comply with the following requirements.

3.1.2.1

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

3.1.2.2

When a copper alloy such as brass, bronze, etc. is used in the metal housing for product composition, a substance certified under 'Copper Alloy for Casting (EL742)' of the certification criteria by product, corresponding to the environmental mark certification, or a substance complying with the following criteria, shall be used.

a) The amount of lead eluted by water for 30 minutes at 95°C shall be less than 1mg/ml (1ppm) from the part of a metal housing of the product contacted with tap water.

b) For a metal housing, a material of 500 μ m or less in the average corrosion depth shall be used. Exempted from this requirement are plated water-contacting parts.

3.1.3

In the recycle or scrapping level, with respect to recyclability of the product shall be applied to the product.

3.1.3.1

Painting shall not be conducted on any part on which city water makes contact.

3.1.3.2

Internal and external side of products housing shall not coat with synthetic resin or lining.

3.1.3.3

Separable plastic parts (weighing 25g or more and covering a flat surface of 200mm² or more) shall be visibly marked with material identification to facilitate separation and collection in disposal.

3.1.3.4

The products shall have a structure about disassembly and assembly easily with general tool

3.1.3.5

As black seal materials for water meters, the lead shall not be used.

3.2 Quality Criteria

The product shall fit to the certificated standard on water-meter according to 'Measures Act'.

3.3 Consumer Information

Indication of matters contributing to reasons (Less harmful substances for body) for the certification of the concerned product at the stage of consumption

4. Test Methods

| Certification Criteria | | Test and Verification Methods | | |
|---------------------------|-----|-------------------------------|-------------------------------------|--|
| Environmental Criteria | 3.1 | | Verification of submitted documents | |
| | 3.2 | 3.2.1 | | 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 |
| | | 3.2.2 | 3.2.2.1 | Verification of submitted documents or food industry book '7. a tool and a criterion-standard of container packing, 3. an experimental method, 6. an experimental method of metal goods, 2) elution experiment' |

| | | | | |
|----------------------|--|-------|---------|---|
| | | | 3.2.2.2 | Verification of submitted documents or test report by an accredited testing laboratory in accordance with the ISO 6509 (Corrosion of metals and alloys- Determination of dezincification resistance of brass) |
| | | 3.2.3 | | Verification of submitted documents |
| Quality Criteria | | | | Test report by an accredited testing laboratory in accordance with the certificated standards of water-meters or certificate of equivalent |
| Consumer Information | | | | Verification of submitted documents |

4.1 General Matters

4.1.1

One test sample for each applied product is required in principle with the exception that more than one test sample is necessary.

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 method of the data – Part 1: Statistical description of the data).

5. Reasons for Certification

“Less harmful substances for body, Design for environment”

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.