EL763. Electrical and Electronic Parts
[EL763-2004/1/2004-58]

1. Scope

The criteria shall apply to parts of electrical and electronic equipments designed for use with a voltage rating not exceeding 1,000V for alternating current and 1,500V for direct current.

2. Definitions

2.1

“Ozone Depletion Potential (ODP)” refers to the value representing the relative impact of ozone depleting substances when the impact of CFC11 to ozone depletion is set to be 1.

2.2

“Organo-tin compounds” refer to organic compounds containing element of tin (Sn). These compounds subject to the criteria are tributyl tins (TBT) and triphenyl tins (TPT).

2.3

“Azodye stuffs” refer to a general term of dyestuff employing Azo (-N=N-) as an initiator. They are the compounds that can be reduced into the following amines.

CAS No.	Amines
92-67-1	4-aminodiphenyl
92-87-5	benzidine
95-69-2	4-chloro-o-toluidine
91-59-8	2-naphthylamine
97-56-3	o-aminoazotoluene
99-55-8	2-amino-4-nitrotoluene
106-47-8	p-chroloaniline
615-05-4	2,4-diaminoanisole
101-77-9	4,4’-diaminodiphenylmethane

91-94-1	3,3'-dichlorobenzidine
119-90-4	3,3'-dimethoxybenzidine
119-93-7	3,3'-dimethylbenzidine
838-88-0	3,3'-dimethyl-4,4'-diaminodiphenylmethane
120-71-8	p-cresidine
101-14-4	4,4'-methylene-bis-(2-chloroanilene)
101-80-4	4,4'-oxideaniline
139-65-1	4,4'-thiodianiline
95-53-4	o-toluidine
95-80-7	2,4-toluylenediamine
137-17-7	2,4,5-trimethylaniline
90-04-0	o-anisidine
60-09-3	4-aminoazobenzene

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to use of chemicals during the manufacturing process, the product shall comply with the following requirements.

3.1.1.1

Refrigerants and forming agent used for the parts shall have a corresponding factor of the ozone depletion potential (ODP) equal to zero.

3.1.1.2

Organic tin compounds (TBT, TPT) as a stabilizer shall not be used for the plastics of the parts.

3.1.1.3

As a raw material of the parts, asbestos shall not be used.

3.1.2

With respect to chemical substances use or recyclability of the parts in disposal stage,

the following requirements shall be satisfied.

3.1.2.1

As a raw material of the parts, lead (Pb), cadmium (Cd), mercury (Hg), and hexavalent chromium (Cr^{6+}) shall not be used, and the content of the substances shall comply with the flowing requirements. Exempted from this are the parts listed in the Annex.

Substances	Content [mg/kg]
lead (Pb)	≤ 1,000
cadmium (Cd)	≤ 100
mercury (Hg)	≤ 1,000
hexavalent chromium (Cr^{6+}) note	≤ 1,000

Note) Satisfying the total content of Cr^{+6} of 1,000 mg/kg or less shall be a sufficient proof of compliance

3.1.2.2

In case of flame retardants are used in the part, the following requirements shall be satisfied.

① PBBs (polybrominated biphenyls), PBDEs (polybrominated diphenylethers), or short-chain chlorinated paraffins (C= 10~13) whose chlorine concentration is 50% or more shall not be used.

② PBBs and PBDEs contained in the part shall comply with the following requirements. Exempted from this are

Class	Content [mg/kg]
PBBs	≤ 1,000
PBDEs	≤ 1,000

3.1.3

With respect to discharge of hazardous substances during the use stage, azo dyes shall not be used for the consistent-skin contacting parts.

Note) Parts are exempted from this requirement if the manufacture of the final products does not require this.

3.1.4

With respect to recyclability in disposal stage, plastic parts (weighing 25g or more and covering a flat surface of 200 mm^2 or more) shall be visibly marked with material identification to facilitate separation and collection in disposal.

3.2 Quality Criteria

3.2.1
If the safety standards in accordance with the Korean Safety and Control Act for the concerned part are available, the part shall comply with the standards.

3.2.2
If Korean Industrial Standards are available as a national standard of the product in question, it should satisfy the quality or performance criteria of the standard in question. However, items related to “3.1 Environmental Criteria” are excluded.

3.2.3
If no Korean Industrial Standards are available as a national standard of the product in question, it should satisfy the quality and performance standard according to the following sequence. However, the items related to “3.1 Environmental Criteria” are excluded. Also, if the E-Mark Certification Criteria Setting Committee determines that the applying criteria are not reasonable considering the characteristic of the product, it should satisfy the standards that were modified by the committee (test item, test method, standards, etc.).

3.2.3.1
National standards other than Korean Industrial Standards.

3.2.3.2
Overseas national standards or international standards regarding the product quality in question.

3.2.3.3
Standards of the organizations at home and abroad that are referred by the current E-mark target product and certification standard.

3.2.3.4

A private standard that is recognized as higher than the national standard in the industry of the product in question.

3.3 Information for Consumers

3.3.1

Indication of matters contributing to reasons (reduced harmful substances) for the certification of the concerned product

4. Test Methods

Certification Criteria				Test and Verification Methods
Environmental Criteria	3.1.1			Verification of submitted documents
	3.1.2	3.1.2.1		Verification of submitted documents and test report by an accredited testing laboratory in accordance with the following test methods • Cadmium (Cd), lead (Pb): 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) • Mercury (Hg): Atomic absorption spectrochemical analysis by using gold amalgamation method) and KS M 0016 (General rules for atomic absorption spectrochemical analysis) • Hexavalent chromium (Cr^{6+}): Ultraviolet spectrophotometric analysis by diphenylcarbazide and ultraviolet spectrophotometric analysis by lead acetate trihydrate • 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)
		3.1.2.2	①	Verification of submitted documents and inspection of the production site

			②	Verification of submitted documents and test report by an accredited testing laboratory in accordance with the KS M 0031 (General rules for gas chromatographic analysis) and KS M 0027 (General rules for analytical method in gas chromatography mass spectrometry)
	3.1.3~3.1.4			Verification of submitted documents and inspection of the production site
Quality Criteria	3.2.1			Test report by an accredited testing laboratory in accordance with the safety standards for electric appliances or certificate of equivalent
	3.2.2			• Test report by an accredited testing laboratory in accordance with the relevant standards or certificate of equivalent • Verification of submitted documents
Consumer Information				Verification of submitted documents

Note) Regarding 3.1.2 of the criteria, detailed test methods including pretreatment shall be specified in the test report, and the deliberation committee of Korea Eco-Label Certification will decide if the specified test methods are appropriate.

4.1 General Matters

4.1.1

One test sample shall be required for each applied product.

4.1.2

Test sample 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 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).

5. Reasons for Certification

“Reduced harmful substances”

<Annex>

Applications of hazardous substances, which are exempted from the requirements

Substances	Applications
lead	• Lead in cathode ray tube, electronic components, glass used for vacuum fluorescent lamps, melted glass, conductive paste • Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight, as a copper alloy containing up to 2% lead by weight • Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85% lead) • Lead contained in servers, storage and storage array systems • Lead in solders for network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunication • Lead in electronic ceramic parts • Lead in optical lens and optical filter • Lead used as a stabilizer in electroless gold plating and electroless nickel plating
cadmium	• Cadmium in devices for switching electrical network such as switch, relay, circuit breaker, etc. • Cadmium in fuse and • Cadmium in ceramic, glass and art colors • Cadmium in solder not exceeding 20mg/kg • Cadmium in electric contact, solder, fluorescent materials, Cds photocell, halophosphate fluorescent lamps • Cadmium in pigment used for toys • Cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations
mercury	• Mercury in compact fluorescent lamps not exceeding 5mg per lamp • Mercury in straight fluorescent lamps for general purpose not exceeding: - halophosphate 10mg - triphosphate with normal lifetime 5mg - triphosphate with long lifetime 8mg • Mercury in straight fluorescent lamps for special purposes • Mercury in incandescent bulbs
hexavalent chromium (Cr^{6+})	• Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators • Hexavalent chromium contained in inks and paints as a colorant • Hexavalent chromium contained in plating to prevent surface corrosion of steel plate

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.