

EL722. Recycled Rubber Products

[EL722-1993/5/2008-213]



1. Scope

The criteria shall apply to the products recycling waste rubbers as a raw material. However, products designated by special certification standards and products (rope, etc.) produced with only waste rubber without special process shall be excluded.

2. Definitions

2.1

“Rubber” refers to rubber products which include natural and synthetic rubber products, and the products like tires that additives or reinforcing agents are mixed with rubber to strengthen its capability.

2.2

“Waste Rubbers” refer to the ‘post-consumer waste rubbers’ and ‘pre-consumer waste rubbers’.

2.3

“Post-consumer waste rubbers” refer to the waste rubbers used and discharged after normal distribution processes.

2.4

“Pre-consumer waste rubbers” refer to the waste rubbers not used as normal materials due to scrap, etc. during the production. However, waste rubbers generated from the production and are used for the same process shall be excluded.

2.5

“Processed products” refer to the products manufactured by transforming rubber products which are produced with natural or synthetic rubbers as raw materials, and the products manufactured with rubber chips made by cutting rubber products into small pieces and with rubber powder made by pulverizing rubber products in the room

temperature or in low temperature.

2.6

“PAHs (polynuclear aromatic hydrocarbons)” generically refers to the aromatic hydrocarbons with 2 or more benzene rings.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to resource consumption in manufacturing stage, the products shall be satisfied following requirements.

3.1.1.1

The weight percentage of rubbers over the total raw materials shall be 50% or higher.

3.1.1.2

The waste rubbers over the total rubbers shall be 90% or higher. However, when compounding additional waste materials other than rubber, the weight excluding compounded waste materials from the total weight of the product, shall be regarded as the total weight of the product.

3.1.2

With respect to using chemical materials in manufacturing process, the material used in the product shall satisfy following criteria.

Note) This Criteria applies to products included in the scope of the following 'GR (Good Recycled Product)', crumb rubber and products to be used for physical contact. However, in the event that the application of this Standard cannot easily be determined, the environmental labeling certification commission's decision shall apply.

Standard No.	Standard Name	Standard No.	Standard Name
GR M 6004	Recycled rubber playground surfacing for children	GR M 6006	Recycled rubber general mats
GR M 6008	Recycled rubber shoes for pipelines	GR M 6012	Recycled rubber strips for road safety
GR M 6015	Recycled rubber tree grates	GR M 6018	Recycled rubber parking

			guards
GR M 6020	Recycled polyurethane rubber		

3.1.2.1

The product of harmful element shall be satisfied following criteria.

Item	Pb	Cd	Cr ⁶⁺	Hg
Criteria [mg/kg]	≤ 90	≤ 50	≤ 25	≤ 25

3.1.2.2

The content of PAHs contained in the product must be smaller than 10 mg/kg.

Note 1) 'PAHs' content is the sum of the following compounds' contents

CAS No.	Compounds	CAS No.	Compounds
192-97-2	benzo(e)pyrene	205-82-3	benzo(j)fluoranthene
83-32-9	acenaphthene	218-01-9	chrysene
208-96-8	acenaphthylene	53-70-3	dibenzo(a,h)anthracene
120-12-7	anthracene	206-44-0	fluoranthene
56-55-3	benzo(a)anthracene	86-73-7	fluorene
50-32-8	benzo(a)pyrene	193-39-05	indeno(1,2,3-c,d)pyrene
205-99-2	benzo(b)fluoranthene	91-20-3	naphthalene
191-24-2	benzo(g,h,i)perylene	85-01-8	phenanthrene
207-08-9	benzo(k)fluoranthene	129-00-0	pyrene

Note 2) The benzo(a)anthracene content should be less than 1 mg/kg, and this applies as of January 1, 2010.

3.1.2.3

The sum of benzene, toluene, ethylbenzene and xylene contents in the product must be less than 50 mg/kg. The content of benzene must be less than 1 mg/kg.

3.2 Quality Criteria

3.2.1

For recycled rubber (excluding powder), rubber powder from waste tire, safety separating guard for roads, paving materials for sidewalk, wall groove frames for the attachment of mold, boards for the protection of roadside trees, panels for sound

absorption on road, props for pipelines, the quality standards provided in KS M 6701 (Reclaimed Rubber), KS M 6710 (Rubber Powder of Waste Tire), KS M 6776 (Recycled Rubber Median Strip), KS M 6951 (Reclaimed Rubber Blocks), KS M 6952 (Rubber Mold for Grooved Wall), KS M 6953 (Rubber Flat for Tree Protection), KS M 6954 (Rubber Panel for Acoustic Use), and KS M 6955 (Rubber Shoe for Pipeline), shall be complied with.

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 Consumer information

Appropriate procedure for separate discharge and waste rubber content

4. Test Methods

Certification Criteria		Test and Verification Method
Environmental Criteria	3.1.1	Verification of submitted documents and actual location
	3.1.2	Test report of an accredited testing laboratory in accordance with the KS M 6956 (Harmful substance of measuring method of Recycled Rubber Powder)
Quality Criteria	3.2.1	Test report of an accredited testing laboratory in accordance with the KS M 6701 (Reclaimed Rubber), KS M 6710 (Rubber Powder of Waste Tire), KS M 6776 (Recycled Rubber Median Strip), KS M 6951 (Reclaimed Rubber Blocks), KS M 6952 (Rubber Mold for Grooved Wall), KS M 6953 (Rubber Flat for Tree Protection), KS M 6954 (Rubber Panel for Acoustic Use), KS M 6955 (Rubber Shoe for Pipeline) or certificate of equivalent
	3.2.2 ~ 3.2.3	Test report by an accredited testing laboratory in accordance with the applicable standards
Consumer Information		Verification of submitted documents

4.1 General Matters

4.1.1

As a general, one test sample for each applied product is required 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

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

“Use of recycled materials, Less harmful substance (confined to the relevant product)”

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.