

EL743. Recycled Construction Materials

[EL743-1993/8/2008-213]



1. Scope

The criteria shall apply to the civil engineering-construction materials made by using inorganic waste materials including waste lime-waste plaster-waste casting sand-waste lime powder that is generated in the manufacturing process of waste ceramic materials - such as construction waste material, waste glass, waste ceramic-waste tile - incineration residue, inorganic sludge and other products. However, the product for which separate certification criteria are specified shall be excluded.

2. Definitions

2.1

“Inorganic construction waste material” refers to the inorganic waste material (excluding metal) generated in constructing or removing construction work.

2.2

“Construction” refers to the facilities installation, maintenance, repair work, site developing work, machinery facility and other structure installation or break up.

2.3

“Incineration residue” refers to combustion ash and fly ash such as coal ash-briquette generated after the combustion of fuel.

2.4

“Inorganic sludge” refers to what separates powder-type inorganic substance released with waste water after cutting-abrasive works or what incinerates lake-sewage sludge or makes it melting slag.

2.5

“Waste material” refers to the ‘post-consumer waste material’ and ‘pre-consumer waste material.’

2.6

“Post-consumer waste material” refers to the material that finishes its purpose of use and is let out after passing through normal circulation stages.

2.7

“Pre-consumer waste material” refers to the unused material as a product that is generated in a form of scrap in the manufacturing process. However, the material that is generated in the manufacturing process and then used again as raw material in the same process is excluded.

2.8

“Usage rate of waste material” refers to the weight percentage of waste material amount among the raw materials that are used as products.

2.9

“Hot mix asphalt for pavement use” is the recycled hot mix asphalt made by combining the recycled asphalt concrete aggregate produced by spalling the mixed asphalt used in the substratum and surface of roads with virgin mix asphalt and recycling agents.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to the resource consumption in the manufacturing stage, the waste material usage rate shall satisfy the one of the following criteria.

3.1.1.1

The use rate of waste material shall be more than 40 weight% in case of firing processing products.

3.1.1.2

The use of waste material shall be more than 50 weight% in case of non-firing processing products.

3.1.1.3

Fly ash shall be used by more than 5 weight% in cement as a waste material.

3.1.1.4

The ratio of the waste materials used in hot mix asphalt for pavement use shall conform to the ratio for the use of recycled aggregate specified in GR F 4005 (recycled hot mix asphalt) as of the time of submitting the application for certification. However, the matters related to the block paving and curing of asphalt after delivery shall not be defined.

3.1.2

In relation to the emission of harmful substances, harmful substances, including heavy metals, in the products made of the designated waste materials as recycling materials shall conform to the following criteria.

Elements	Content [mg/L]	Elements	Content [mg/L]
cadmium (Cd)	< 0.3	hexavalent chromium (Cr ⁶⁺)	< 1.5
lead (Pb)	< 3	cyanide (CN ⁻)	< 1
copper (Cu)	< 3	organic phosphorus	< 1
arsenic (As)	< 1.5	trichloroethylene	< 0.3
mercury (Hg)	< 0.005	tetrachloroethylene	< 0.1

3.2 Quality Criteria

3.2.1

Cement shall satisfy the quality criteria of KS L 5211 (fly ash cement).

3.2.2

Hot mix asphalt for pavement use shall conform to the criteria for the standard mix(grannularity) and quality of GR F 4005 (recycled hot mix asphalt).

3.2.3

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.

3.2.4

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.).

3.2.4.1

National standards other than Korean Industrial Standards.

3.2.4.2

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

3.2.4.3

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

3.2.4.4

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

3.3 Consumer Information

Inorganic waste material usage rate

4. Test Methods

Certification Criteria		Test and Verification Methods
Environmental Criteria	3.1.1.1	Verification of submitted documents and actual location
	3.1.1.2	Test report by an accredited testing laboratory in accordance with test methods of processing waste material (test of eluting heavy metal)
Quality Criteria	3.2.1.1	Test report by an accredited testing laboratory in accordance with KS L 5211 (fly ash cement)

	3.2.1.2	Test report by an accredited testing laboratory in accordance with GR F 4005 (recycled heat asphalt mixtures)
	3.2.1.3~ 3.2.1.4	Test report by the relevant accredited testing laboratory or certificate of equivalent
Consumer Information		Verification of submitted documents

4.1 General Matters

4.1.1

One test sample shall be required for each applied product. However, if more than one test sample is needed, the former requirement may not be met.

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. However, details on the method of gathering samples of aggregate shall be in accordance with KS F 2501 (methods of gathering samples of aggregate)

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”

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.