

EL727. Biomass Synthetic Resin Products

[EL727-2013/2/2013-132]



1. Scope

The criteria shall apply to products formed and manufactured with synthetic resins containing monomers derived from biomass, which is a renewable resource (hereinafter referred to as “formed product”) and the forming raw material required to manufacture it (hereinafter referred to as “forming raw material”). However, products containing natural high molecule such as starch, cellulose and wood flour, and products with separate certification criteria shall be excluded.

2. Definitions

2.1

“Biomass” refers to bio organic resources that have not gone through lipid formation or fossilization.

2.2

“Phthalate plasticizer” refers to a plasticizer used to give flexibility to synthetic resins such as PVC, or used as a solvent for liquid chemical products. It is a compound classified as 1,2- benzenedicarboxylic acid.

2.3

“Nanomaterials” refer to materials defined in KS A ISO TS 27687 (Nanotechnologies - Terminology and Definitions For Nano-objects - Nanoparticle, Nanofibre and Nanoplate).

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

Consumption of resources and energy in the entire process of a product shall meet the following criteria.

3.1.1.1

Of the total carbon content of forming material, the content of carbon derived from biomass shall be 20 % or higher by weight.

3.1.1.2

Forming raw material shall account for at least 70 % by weight of a formed product.

3.1.1.3

Carbon emissions of forming raw material in the entire process shall be lower than those from raw material manufactured from fossil fuel. Ecolabel Certification Deliberation Committee may determine the appropriateness of the selection of comparative products to the application product.

3.1.2

The following criteria shall be met in respect to the use of chemical materials in the course of production or the discharge of hazardous materials in the use of products.

3.1.2.1

Lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr⁶⁺) and their compounds and organotin compounds (TBT, TPT) shall not be used as additives, and the harmful elements contained in a product shall meet the following criteria.

Item	Arsenic (As)	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Hexavalent chromium (Cr ⁶⁺)	Copper (Cu)	Nickel (Ni)	Zinc (Zn)
Criteria [mg/kg]	25 or less	50 or less	0.5 or less	0.5 or less	150 or less	200 or less	25 or less	500 or less

3.1.2.2

PBBs (polybrominated biphenyls), PBDEs (polybrominated diphenyl ethers), TBBPA (tetrabromobisphenolA), and HBCD (hexabromocyclododecane)^{Note)} shall not be used as charring agents.

Note) If the content of bromide in the total bromide (Br) content test is 30 mg/kg or less, the criteria shall be regarded to have been met.

3.1.2.3

Nanomaterials shall not be used as additives or surface treatment agents for product processing.

3.1.2.4

Phthalate plasticizer shall not be used.

3.1.2.5

For container, apparatus and packing products in contact with food or food ingredients, or products in contact with human skin, the following compounds shall not be used as the raw material of resin.

- a) The following chemical substances according to UN GHS (globally harmonized system of classification and labeling of chemicals)

Note 1) If light sources made of plastic resins are used for products using electricity and power supply, the following criteria shall be met.

Note 2) For each list of substances, EU REGULATION (EC) No. 1272/2008 ANNEX VI part 3 (HARMONIZED CLASSIFICATION AND LABELING TABLES) shall tentatively apply.

• Toxic substances:

H300 : fatal if swallowed

H301 : toxic if swallowed

H304 : may be fatal if swallowed and enters airways

H310 : fatal in contact with skin

H311 : toxic in contact with skin

H330 : fatal if inhaled

H331 : toxic if inhaled

H370 : causes damage to organs

H371 : may cause damage to organs

H372 : causes damage to organs

H373 : may cause damage to organs

• Carcinogenic, mutagenic and reprotoxic substances :

H340 : may cause genetic defects

H341 : suspected of causing genetic defects

H350 : may cause cancer

H350i : may cause cancer by inhalation

H351 : suspected of causing cancer

H360F : may damage fertility

H360D : may damage the unborn child

H360FD: may damage fertility, may damage the unborn child

H360Fd : may damage fertility, suspected of damaging the unborn child

H360Df : may damage the unborn child, suspected of damaging fertility

H361f : suspected of damaging fertility

H361d : suspected of damaging the unborn child

H362 : may cause harm to breast-fed children

• Allergies substances :

H334 : may cause allergy or asthma symptoms or breathing difficulties if inhaled

b) The materials that fall under “Group 1”, “Group 2A” and “Group 2B”, which are categories for carcinogenic substances defined by the International Agency for Research on Cancer (IARC). However, carbon black and titanium dioxide (TiO₂) shall be excluded.

3.2 Quality Criteria

3.2.1

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.

3.2.2

If no Korean Industrial Standards are available as a national standard of the product in question, it should satisfy the quality and performance criteria according to the following sequence. However, the items related to “3.1 Environmental Criteria” are excluded. Also, if the Eco-label 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, reference values, etc.).

3.2.2.1 National standards other than Korean Industrial Standards.

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

3.2.2.3 Standards of the organizations at home and abroad that are referred by the current Eco-label target product and certification standard.

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

3.2.3

Packing material that is used for primary packing of food shall meet “the Criteria for the Manufacturing of Apparatus, Container and Package Products” according to Article 9, Section 1 of 「the Food Sanitation Act」, and the criteria for “the Standard of Apparatus, Container and Packing and

3.3 Consumer Information

3.3.1

Marking of the content of carbon derived from biomass at the bottom of the single information marking type design in accordance with the method stipulated in Annex 4.

3.3.2

Marking of the matters on the certification reasons (response to climate change, reduction in toxicity to ecosystem, etc.) to which the relevant product contributes in the stage of consumption.

3.3.3

Marking of the information to prevent the product from being misunderstood as a biodegradable resin product and induce appropriate collection and recycling

4. Test Method

Criteria Item	Test and Verification Method
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Envir. Criteria	3.1.1	3.1.1.1	Test reports of authorized institute according to ASTM D 6866 (Standard Test Methods for Determining the Bio-based Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis) or CEN/TS 16137 (Plastics-Determination of Bio-based Carbon Content).
		3.1.1.2	Verification of submitted documents
		3.1.1.3	Documents submitted according to “Attached Table 2. EM702. Calculating and Evaluating Method of GHG(GreenHouse Gas) Emissions of Products Derived From Biomass” or an equivalent or higher verification method
	3.1.2	3.1.2.1	Verification of submitted documents and the test report of authorized institute according to KS M 0016 (General Rules for Atomic Absorption Spectrochemical Analysis) and KS M 0032 (General Rules for ICP Emission Spectrochemical Analysis)
		3.1.2.2	Verification of submitted documents or the test report of authorized institute according to the following test method (or one equivalent to it) <ul style="list-style-type: none"> ▪ PBBs, PBDEs: KS C IEC 62321 (Electric and Electronic Products – Measurement of the Content of 6 Regulated Substances (Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs, PBDEs)) ▪ TBBPA, HBCD: KS M 1072 (Quantitative Method for Bromide Charring Agent of High Molecular Substance) ▪ Total Bromide (Br): KS M 0180 (Test Methods for Halogen (F, Cl, Br) and Sulfur by Ion Chromatograph Detection after Oxidation Thermohydrolysis)
		3.1.2.3~5	Verification of submitted documents
Quality Criteria		Test report of authorized institutes according to the relevant standards or a certificate for equivalent or higher standard	
Consumer Information		Verification of submitted documents	

4.1 General Matters

4.1.1

The number of test samples shall be one sample a product applied in principle. However, in case that more than one sample is required, it shall make an exception.

4.1.2

Test sample shall be collected at random by eco-label certification body from products on the 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 of data – Part 1: Statistical presentation of data).

5. Certification Reasons:

“Response to climate change and reduction in toxicity to ecosystem”

[Common Criteria]

1. The candidate products for Korea Eco-Label shall comply with the following regulations with regard to the appropriate processing of environmental contaminants that occur in the process of manufacturing or service operation, including air contaminants, water contaminants, waste and harmful chemical substances.
 - 1.1 A person who violates any environment-related law or agreement applicable in the region where his or her factory or operating establishment is located within one year prior to the date of application may not apply for Korea Eco-Label certification. For violations other than the ones subject to penalties, however, a person may apply for the certification after completion of any action for the violation.
 - 1.2 A person who has obtained Korea Eco-Label certification must comply with the environment-related laws and agreements applicable in the region where the factory or operating establishment is located during the certification period. If any violation against penal provisions is found during the certification period, however, the certification may be canceled, and for violations other than the ones against penal provisions, the certification may be suspended until the relevant action is completed.
2. In principle, the “consumer information” specified in the certification standards by product shall be marked in a way not to be removed easily on the surface of the product. If it is impossible or undesirable to mark it on the surface of a product, the

information shall be marked on another appropriate part of a product where consumers will notice it, including product packaging, a guidebook, an instruction or etc. For services, however, the consumer information shall be, in principle, marked on the internal and external areas of a building where the service is provided. If it is impossible or undesirable to mark it on the internal or external area of a building, however, it shall be marked on an appropriate part where consumers can notice it, including a contract, statement of delivery, letter of guarantee or brochure.

3. A person who has applied for, or obtained approval for, use of Korea Eco-Label on a product shall comply with the Fair Labeling and Advertising Act in order to establish fair trade order and protect consumers, and if they violate the law, their application for certification may be rejected or their certification may be canceled.
4. Unless otherwise specified, the various specifications cited in the certification criteria by product shall be the latest ones at the time of application for certification.
5. If application of the standards for quality in accordance with the certification criteria by product is deemed as inappropriate, the President of Korea Environmental Industry & Technology Institute (hereinafter referred to as KEITI president) may establish and operate the quality criteria for the product after deliberation committee review or expert consultation.