Eco Mark Product Category No.131
"Products for Civil Engineering Version 1.20" Certification Criteria
Category G. Materials for temporary structures

Japan Environment Association
Eco Mark Office

1. Purpose of Establishing Certification Criteria

In civil engineering/construction-related business that is implemented as part of social infrastructure development, ripple effects in the economy are expected, but at the same time a significant environmental load is imposed on the natural environment of the oceans, rivers and land as well as the living environment. New forms of civil engineering-/construction-related business based on the principles of the "Basic Environmental Law," such as through harmonization with the natural environment, formation of a good living environment, prevention of global warming by improving energy efficiency, etc., are therefore being explored.

In addition to these kinds of environmental conservation efforts, it was also determined that in the civil engineering/construction-related business it is necessary to promote the control of waste generation (reduction), secondary uses (reuse) and recovery for further use (recycling) in accordance with the "Waste Disposal and Public Cleansing Law," the "Basic Law for Establishing a Recycling-Based Society," the "Law Concerning Promotion of the Procurement of Eco-friendly Goods and Services by the State and Other Entities (Green Procurement Law)" and the "Law for Recycling Materials for Construction (Construction Recycling Law)." Furthermore, independent efforts by civil engineering/construction enterprises for reduction of the environmental load, the "Guidelines for Green Procurement in the Construction Industry" were formulated in 2002.

In Japan's material balance, the proportion attributable to civil engineering and construction-related business accounts for approximately 40% of new resources (2002 White Paper on a Recycling-Oriented Economic System; FY2001 Major Construction Materials Demand Forecast), approximately 20% of industrial wastes and approximately 40% of wastes collected at final landfill sites (2002 Environmental White Paper). It can therefore be expected that an environmentally-sound materials cycle to promote reduction, reuse and recycling will have a major impact on the structure of society.

The load placed on elements of the environment by the civil engineering and construction-related business varies according to many environmental factors such as the site of the business and the methods and types of materials used. As the environmental load may be reduced by applying Eco Mark Product Certification to construction materials, one of the factors affecting this, the Eco Mark Certification Criteria for newly applied products, shall be established to certify such materials as 'construction products' after organizing and integrating them with products that are already certified.

The new certification criteria, in addition to minimizing the consumption of new materials and the generation of wastes on the basis of using recycled materials, as has been recommended, and taking into consideration the reduced use of hazardous substances, energy saving, the impact on the ecosystem, etc., that are intended to reduce the environmental load imposed by construction work and long-term use, both of which may be characteristic of construction products, aim at the same time to achieve a symbiotic relationship with nature by creating a secondary natural environment. The concept of the life cycle of materials and products will be introduced into the evaluation, taking into consideration the life stage when the construction work is commenced as a construction product, and as many concrete environmental load items as possible have been selected.

2. Applicable Scope

Scaffolding, landing bridges, etc.: Lining board, Temporary road mat, Road mat
Molds: Round/rectangular molds, Decorative form

3. Terminology

Terms for the common standard

Recycle	Materials recycling only; energy recovery (thermal recycling) is not included.
Recycling	Collecting used materials and putting them into recycling processes for the purpose of reuse, recycle, energy recovery, production of gas or oil, blast furnace reduction, or production of chemical raw materials for coke-oven
Recycled materials	Post-consumer materials or pre-consumer materials, or a combination of these. However, this product category shall include thinned wood, less useful wood, slag resulting from industrial activities, etc., in recycled materials.
Pre-consumer materials	Materials or rejected products generated from a disposal route in a product manufacturing process, excluding those that are recycled within the same process (plant).
Post-consumer material	Material or product which was disposed of after being used as a product
Standard mixture amount	The percentage of recycled materials of each material that is used to manufacture products (as % by mass), and calculated as follows and regulated on a material-by-material basis: Standard mixture amount = recycled materials/each material
Disposable product	Products that are not intended for repeated use in a field in which durable products exist for repeated use as proper materials.

Prescribed constituents	Material components added for the intended purpose of giving certain characteristics to the products. Impurities that are technically unavoidable in the manufacturing process are not included.
Waste rubber	Post-consumer materials and pre-consumer materials obtained from used tires, tubes, etc.
Construction sludge	Construction sludge prescribed in the "Appropriate Disposal of Waste Produced from Construction Work" (Kansantasu No. 26, June 11, 2001).

Terms for paper

Waste paper	Collected post-consumer waste paper and pre-consumer waste paper.
Post-consumer waste paper	Used paper generated in shops, offices, or households.
Pre-consumer waste paper	Paper diverted from the waste stream during the processing stage at facilities which use paper for material such as paper processing factories, paper products factories, printing and bookbinding plants. However, if waste paper resulting from the paper making process in a plant or works of a party (hereinafter referred to as "paper manufacturer") that conducts business related to the paper manufacturing industry (hereinafter referred to as "plants, etc.") or those resulting when processing, etc. is performed in the plants, etc. of the paper manufacturer (including the case in which the paper manufacturer has other contractor to conduct processing through commissioning of the product before its shipment) is not shipped as a product, and used as raw material for papers by the paper manufacturer, they shall not be treated as waste paper (from "Regarding operation of ministry ordinances, etc. defining matters that should be criteria for judgment on use of waste paper of those who conduct business related to the paper manufacturing industry" of the Ministry of International Trade and Industry dated December 24, Heisei 3 (1991).
Percentage of waste paper in the pulp mixture	Weight percentage of waste pulp in pulp contained in product. Expressed by (waste paper pulp) / (virgin pulp + waste paper pulp) x 100 (%). However, the weight of the pulp is measured under the condition of containing 10% moisture. In addition, waste sheets shall not be included in the denominator and numerator, respectively, of the calculating formula of waste paper pulp combination rate.

Terms for wood

Reused/Unused wood	Indicates the following: forest thinnings, waste wood, construction waste wood, and less useful wood.
Thinned-out log	Wood produced from a reduction in the density of the tree type that is the objective of management based on the intensity of the forest stand
Waste wood	Used wood (used packing materials, etc.), remainder materials generated in wood processing plants (shavings generated in plywood/lumber plants, etc., low quality chips not used as raw materials for paper, etc.), and wood and wooden materials such as trimmed branches, bark, etc.
Construction waste wood	Wood and wooden materials disposed of as waste during construction work such as from the dismantling of buildings, construction of new buildings, building extensions, renovations, and construction related to other work.
Less useful wood	Abandoned lumber in the forest, shrubs, tree roots, wood obtained from lumber damaged by disease, pests, disasters, bent or small diameter logs, etc. Also includes bamboo cut down in bamboo groves for the purpose of maintenance and management in environment preservation. Small diameter logs measuring less than 14 cm in diameter corresponding to “a” or “b” below must be certified as forests sustainably managed by an independent third party or public organization. a. Small diameter logs from logs felled from natural forests. b. Small diameter logs from logs produced by clear cutting, patch logging, and strip logging in plantation forests.
Waste plant fiber	Agricultural residues generated during harvesting and the manufacturing process such as rice hulls, and used packaging materials such as jute bags, etc.
Wooden part	Actual wood (including plant fibers)

Terms for glass

Glass cullet	Waste glass used as materials for making new glass and given recycling treatment (sorting, removal of foreign matter, etc.).
Percentage of glass cullet usage	The rate of the total amount of glass material used in a product, which is calculated as follows and all materials shall be expressed by mass: Glass cullet/total amount of glass material (per product)

Terms for plastic

Plastics:	Materials composed of a single or multiple polymers, plus additives, fillers, etc. that are added to the polymer(s) to give it (them) specific characteristics.
Recycled plastic:	Plastic materials composed of post-consumer materials and pre-consumer materials.
Plant-based plastic	Plastic made of bio-based synthetic polymer whose materials are plant. This certification criteria covers polyethylene (PE), polyethylene terephthalate (PET), polylactic acid (PLA) and polytrimethylene terephthalate (PTT).
Bio-based synthetic polymer	"Biobased synthetic polymer" defined in ISO 16620-1 3.1.4 (original: polymer obtained through chemical and/or biological industrial process(es) wholly or partly from biomass resources).
Bio-based synthetic polymer content rate	Content rate of biomass resources in bio-based synthetic polymer which is included in a product (or a designated portion by certification criteria). Means bio-based synthetic polymer content (Original sentence: bio-based synthetic polymer content : amount of bio-based synthetic polymer present in the product) defined by ISO 16620-1 3.1.5

4. Certification Criteria and Certification Procedure

Any certification verifying conformity with the criteria shall be signed by the applicant and submitted.

4-1. Environmental Criteria and Certification Procedure

4-1-1. Common criteria and certification procedure

(1) In manufacturing the applied product, related environmental laws and regulations and pollution control agreement (hereinafter referred to as the "Environmental Laws, etc.") must be followed with respect to air pollution, water contamination, noise, offensive odor, and emission of hazardous substances in the area where the plant performing the final manufacturing process is located.

In addition, the state of compliance with the Environmental Laws, etc. for the past five years from the date of application (whether there is any violation) must be reported. If there is any violation, proper remedies and preventive measures shall have been already taken, and the related Environmental Laws, etc. must thereafter be followed appropriately.

[Certification Procedure]
With respect to the compliance with the Environmental Laws, etc. in the area where the plant performing the final manufacturing process is located, a certificate issued by the representative of the business of manufacturing the

applied product or the relevant plant manager (entry or Attachment of a list of names of the Environmental Laws, etc.) must be submitted.
In addition, the applicants shall report whether there is any violation in the past five years, including a violation subject to administrative punishment or administrative guidance, and if there is, the following documents in a and b must be submitted:

a. With respect to the fact of violation, guidance documents from administrative agencies (including order of correction and warning) and copies of written answers (including those reporting causes and results of correction) to such documents (clearly indicating a series of communication);
b. Following materials (copies of recording documents, etc.) concerning the management system for compliance with the Environmental Laws, etc. in 1)-5):
   1) List of the Environmental Laws, etc. related to the area where the plant is located;
   2) Implementation system (organization chart with roles, etc.);
   3) Bylaws stipulating retention of recording documents;
   4) Recurrence prevention measures (future preventive measures)
   5) State of implementation based on the recurrence prevention measures (check results of on-site inspection, etc. as compliance condition).

4-1-2. Material criteria and certification procedure

The constituents of the products shall conform to the following criteria for the respective materials. In this regard, the relevant criteria for the materials shall not be applicable to minor attachments (minor parts necessary for the functioning of the product, such as screws, adhesives, etc.).

A. Wood

(2) For products using lumber from dismantled buildings (wood and wooden materials disposed in dismantling), materials subject to preservatives, termicides, and pesticides shall be differentiated and eliminated. The content of harmful substances in these products shall meet the requirements for hexavalent chromium and arsenic given in Attached Table 5, which is provide by the detailed enforcement regulations (December 26, 2002, Environment Ministry Ordinance No. 29) of the Soil Pollution Control Law.

[Certification Procedure]
Documents certifying that wood from dismantled buildings is sorted in use or not used (work manual, workflow, etc.) shall be submitted. If using such waste wood from dismantled buildings, results of tests performed by a third party testing centers or public institutions shall be submitted.

(3) Wood preservatives shall be approved by the Japan Wood Preserving Association.

[Certification Procedure]
The use of wood preservatives shall be described in the Application Form for Eco

Mark Certification for details. A document stating the reasons for their use and certifying that the preservative agents have been approved by the Japan Wood Preserving Association shall be submitted.

(4) If paper (virgin pulp) and wood are used as the material, the raw wood shall be harvested in legally appropriate procedure consistent with the forest laws of timber producing countries or regions. However, this item is not applicable for waste wood, construction waste wood or less useful wood.

[Certification Procedure]
A certificate shall be submitted to prove that the timber whose legality has been verified* in accordance with "Guideline for Verification on Legality and Sustainability of Wood and Wood Products" of Forestry Agency has been in custody to be separated by the applicant or the paper manufacturer and is supplied to the applied products. At the same time, the applicant or the paper manufacturer who issues the above certificate shall submit any of the following certificates:

1) Certificate that the applicant or the paper manufacturer has been assessed and authenticated by the CoC (Chain of Custody) Certification System;
2) Certificate of the authorized company (that guarantees the association member's adequate way of supplying wood and wood products verified with legality, etc.); and
3) Code of management practice which stipulates the way of custody to manage wood and wood products verified with legality (the method in the case that the timber verified with legality only is handled. The same applies to hereunder), retention of certificates for a predetermined period, etc.

In the event that Item 2) or 3) above is chosen and the certificate is submitted, the applicant who issues the above-mentioned certificates or the material supplier shall publicly announce through its web site the code of management practice prescribed by the association concerned in the case of Item 2) and shall prescribe and publicly announce through its website the code of management practice concerning the scheme to assess and guarantee the system for separative management, document management for retention of certificates for a predetermined period, etc. in the case of Item 3).

*Confirm the certificate issued by the related company closest in commercial process, which at least verifies that wood and wood products they supply are with legality and under separative custody management.

B. Plastics

(5) Plastic additives shall follow positive lists specified by the industry's own standards. As for the elution of harmful substances, the plastics shall conform to the standards concerning elution of harmful substances that are set forth in Attached Table 4 of the enforcement regulation of the Soil Contamination Countermeasures Law (2002 Ministerial Order No. 29 of the Ministry of the Environment) with respect to cadmium, lead, hexavalent chromium, arsenic, mercury, selenium,

among the specified hazardous substances listed therein. In lieu of the requirements of the Enforcement Regulation of the Soil Contamination Countermeasures Law, conformance of the Product to the standards concerning hazardous substances set forth in ISO 8124-3 may be accepted. In the case of using flame retardant, the product shall have no flame retardant of Polybrominated biphenyl (PBB), Polybrominated diphenylether (PBDE) or short-chain chlorinated paraffin (the number of chained C is 10 to 13 and contained chloride concentration is 50% or over) added as formulated components. In addition, (Pb)-based chemical compounds, cadmium (Cd)-based chemical compounds, tributyl tin compound (TBT), triphenyl tin compound (TPT), dibutyl tin compound (DBT), diphenyl tin compound (DFT), and monophenyl tin compound (MFT) shall not be added as prescribed constituents.

[Certification Procedure]
To show that the plastic resin (including recycled plastics) and plastic additives meet the requirement on the harmful materials, a certificate issued by the raw materials supplier, or a certificate describing the results of tests carried out by an independent testing institution shall be submitted. In cases where no raw materials contain any of the corresponding chemical substances as a prescribed constituent, a document prepared by the raw materials supplier and the applicant that proves there is no content of the chemical substance shall be acceptable..

(6) In case of the product which is added the plastics containing halogen in polymer backbones as prescribed constituents, at least 70% of the plastic part of the Product after use shall be recovered. Furthermore, at least 70% of such recovered plastic parts shall be directed to material recycling. However, this item is not applicable to the product with 20 years or more of the average length of year to use, even if the product uses plastics containing halogen.

[Certification Procedure]
Whether this criteria applies to the Product or not shall be stated in the Attached Certificate, and, if affirmative, a document ensuring that proper recovery and recycling will be made at the time of Product disposal, or continuous use of 20 years and more shall be submitted.
Eco Mark Office reserves the right to ask the reports on the recovery ratio (or to conduct audit) after the conclusion of the license agreement, for which the Applicant assumes the obligation to cooperate.

C. Glass cullet

(7) As for the elution of harmful substances from glass cullet, the product shall conform to the standards concerning elusion of harmful substances that are set forth in Attached Table 4 of the enforcement regulation of the Soil Contamination Countermeasures Law (2002 Ministerial Order No. 29 of the Ministry of the Environment) with respect to cadmium, lead, hexavalent chromium, arsenic, mercury, selenium, boron and fluorine among the specified hazardous substances

listed therein. In addition, if waste glass is used as a raw material, color of cullet to be used (solid color, brown, etc.) shall also be reported.

[Certification Procedure]
A certificate shall be submitted describing the results of tests carried out by an independent testing institution or a public institution. If waste glass is used as a raw material, usage of solid color cullets, brown cullets or those in any other color shall also be reported.

D. Other materials

(8) The Product that is made of gypsum board recycled from the waste generated in connection with building demolition shall be made free of products that are known to have contained asbestos, arsenic, or cadmium through the process of sorting and removal. On the subject of specific waste gypsum boards to be eliminated, the Applicant should refer to "On the Inclusion of Asbestos in Gypsum Boards) published by the Gypsum Board Industry Association, "Proper Handling of Hazardous Substances and the Like Associated with Building Demolition and the Like" published by the Construction By-products Recycling Promotion Conference, and other pertinent documents.

No analysis shall be required if the Product is made of gypsum board that is recycled from the waste coming out of the manufacturing process of gypsum board processing plants or generated at a new building construction site, because the recycled material does not contain asbestos.

[Certification Procedure].
Applicants shall enter the conforming condition to this item in the attached certificate. In the event that products which have turned out to have contained asbestos, arsenic, and/or cadmium are separated and removed, applicants must report the specific separation and removal methods. Incidentally, in the case of judgment by analytical examinations, applicants must determine that more than 0.1% of six types of asbestos including Tremolite are not contained by the methods that conform to "JIS A1481: Determination of asbestos in building material products" (2008) shown in the Instruction Letter No. 0821002 of the Labour Standards Bureau of the Ministry of Health, Labour and Welfare dated August 21, 2006 "On the Analysis Method of Asbestos Content in Building Materials."

(9) For a product using construction sludge as a raw material, the conditions for discharging construction sludge and acceptance criteria for checking soil property shall be defined with reference to "Construction Sludge Recycling Manual" (Written and edited by Public Works Research Institute in December 2008), and only inorganic sludge that were subjected to appropriate treatment shall be used. Any construction sludge that does not conform to the environmental quality standards for soil based on the Environmental Basic Law and the content standard of specified toxic substances based on the Soil Contamination Countermeasures Law shall not be used unless it is subjected to proper processing

so that it can conform to these standards.

[Certification Procedure]
Conformance to this item shall be stated in the attached certificate. A material describing conditions for receiving construction sludge, content and flow of treatment shall be submitted.

4-1-3. Individual product criteria and certification procedure

(10) As for products, the total mass of recycled materials given in Table 1 shall be 70% or more of the entire product mass. At the same time, each recycled material shall conform to the standard mixture rate given in Table 1.

However, as for products in which the total mass of concretes and plastics is 50% or more of the entire product mass, the total mass of recycled materials shall be 50% or more. At the same time, each product shall conform to the standard mixture rate given in Table 1.

The total mass of recycled plastic of plastic mold shall be 50% or more of the entire product mass and the standard mixture rate for each material in Table 1 is not applicable for it.

The total mass of recycled materials shall be 20% or more of the entire product mass for a temporary road mat and a road mat which contains recycled rubber as main material, and the standard mixture rate for each material in Table 1 is not applicable for it.

The product in which plant-based plastic is used may satisfy 4-1-3.(11) instead of 4-1-3.(10).

Table 1　Recycled materials usable as materials for temporary structures

<table>
<tr><th>Materials</th><th colspan="2">Recycled material</th><th>Standard mixture rate (as % by mass)</th></tr>
<tr><td rowspan="3">Concrete</td><td>Aggregates</td><td>Aggregates satisfy Category-C Certification Criteria 4-1-2.A.(2)</td><td rowspan="3">The concrete parts shall satisfy one of the following (1)to(3)
(1) $\frac{\text{Weight of recycled materials in concrete}}{\text{Weight of concrete}} \times 100 \geqq 50$
(2) $\frac{\text{Weight of recycled materials in aggregates}}{\text{Weight of aggregates}} \times 100 \geqq 50$
(3) $\frac{\text{Total weight of recycled materials in cement and concrete admixture}}{\text{Total weight of cement + concrete admixture}} \times 100 \geqq 50$</td></tr>
<tr><td>Cement</td><td>Cement satisfy Category-C Certification Criteria 4-1-2.B.(6)and(7)</td></tr>
<tr><td>Concrete admixture</td><td>Concrete admixture satisfy Category-C Certification Criteria 4-1-2.C.(11)</td></tr>
<tr><td>Plastics</td><td colspan="2">Recycled plastics</td><td>Recycled plastics/total plastics×100≧50[25]</td></tr>
</table>

Glass	Glass cullet	Glass cullet/total glass material×100＝100
Wood, wooden materials	Reused/unused wood, waste plant fiber	(Forest thinnings and small-diameter logs + waste wood + less useful wood + waste plant fiber)/total wooden materials × 100 = 100
Paper	Waste paper pulp	Waste paper pulp/pulp×100=100 [Waste paper pulp/pulp × 100 ≥ 95 (Mixture rate for mold without using release agent)]
Rubber	Recycled rubber	Recycled rubber/total rubber×100=100[50]

Note 1: The percentage mass of wooden parts means the mass ratio of the product or each material in an air dried state*1 or at the point of constant weight*2 at a temperature of 20±2ºC and humidity of 65±5%.

*1: Indicates leaving in a well-ventilated room for seven days or more.

*2: Change is less than 0.1% when the weight is measured every 24 hours.

Note 2: As for recycled plastics, the combined use of recycled polymers and virgin polymers shall be permitted. Products using post-consumer materials as raw materials shall be permitted if the mass ratio of the plastics composed of post-consumer materials conforms to the requirement in [ ] given in the table.

Note 3:As for recycled rubber, products using post-consumer materials as raw materials shall be permitted if the mass ratio of the recycled rubber composed of post-consumer materials conforms to the requirement in [ ] given in the table.

[Certification Procedure].
A raw materials certificate issued by the supplier shall be attached. In addition, the types of recycled materials, the proportional content of recycled materials and materials other than recycled materials and control procedures shall be stated in the product weight certificate.

(11) A product in which plant-based plastic is used shall meet all the requirements listed in a) to c) below. However, when the criteria item 4-1-3.(10) is selected, this item shall not apply.

a) The bio-based synthetic polymer content in the entire product mass (plastic parts) shall be 10% or higher, and the mass ratio of the plant-based plastic / synthetic fiber shall be 25% or higher.

b) The Applicant shall have the understanding of the supply chain from cultivation of plant materials to manufacturing of plant-based plastic (raw resin). Each process shall conform to the checklist in the Appendix 4.

c) The Applicant shall have confirmed by the life cycle assessment (LCA) that for the plant-based plastic (raw resin), greenhouse gas emissions (CO_2 conversion) from raw material procurement to discarding/recycling does not increase, when compared with conventional resin that is to be replaced. Note that if any increase in the emissions is offset by the reliable carbon offset (such as purchasing clean electric power, etc.), the applied product shall also conform to this item.

[Certification Procedure]
a) A certificate indicating the calculated content of biobased synthetic polymers in the product (plastic parts) shall be submitted. For the plant-based plastic (raw resin) thereof, measurement results of the biobased synthetic polymer

content calculated with the method specified in ISO 16620-3, using measurement results of the biobased carbon content and element composition by the 14C method specified in ISO 16620-2 or ASTM D6866 shall be mentioned. Should there be any deviation of 10% or higher between the measurement results and the content of biobased synthetic polymer in the standard, a description of a reason(s) therefor shall also be included. The measurement results of the biobased carbon content shall be submitted as an attached document.

In addition, for appropriate maintenance of the content of biobased synthetic polymer after certification, any of the following certificates issued by a raw resin supplier (including a dealer) shall be submitted.

- An explanatory document stating that measurements of the content of biobased carbon will be regularly carried out, and that measurement results can be disclosed as per a request of the Eco Mark Office; and
- A certificate that the Applicant has been audited or certified by a third party for management of the content of the biobased synthetic polymer.

b) Certificates issued by a raw resin supplier (including a dealer) indicating the supply chain (flow diagram, etc. and including purification, fermentation, etc.) from the cultivation area (country, state, city, etc.) to manufacturing of plant-based plastic (raw resin), and status of conformance to the Attachment shall be submitted.

c) Results of the LCA assessment of the plant-based plastic (raw resin) shall be submitted (reference to the existing paper, etc. is acceptable). If carbon offset is adopted, data describing content of the carbon offset and reliability shall be submitted together.

(12) As for the elution of harmful substances, the product shall conform to the standards concerning elusion of harmful substances that are set forth in Attached Table 4 of the enforcement regulation of the Soil Contamination Countermeasures Law (2002 Ministerial Order No. 29 of the Ministry of the Environment) with respect to cadmium, lead, hexavalent chromium, arsenic, mercury, selenium, boron and fluorine among the specified hazardous substances listed therein. However, this item shall not apply to metal portions such as steel products, etc. Slags may be tested by JIS K0058-1 “Test methods for chemicals in slags”. The materials listed in the 4-1-2A-C and paper shall be in accordance with the 4-1-2 and can be omitted.

[Certification Procedure].
A certificate to indicate no addition of chromium, cadmium, and arsenic as the prescribed constituents shall be submitted.

(13) As for the content of harmful substances, the product shall conform to the standards concerning content of harmful substances that are set forth in Attached Table 5 of the enforcement regulation of the Soil Contamination Countermeasures Law (2002 Ministerial Order No. 29 of the Ministry of the Environment) with

respect to cadmium, lead, hexavalent chromium, arsenic, mercury, selenium, boron and fluorine among the specified hazardous substances listed therein. However, metal portions such as steel products, etc. may be confirmed by other test methods, etc. Slags may be tested by JIS K0058-2 "Test methods for chemicals in slags. The materials listed in the 4-1-2A-C and paper shall be in accordance with the 4-1-2 and can be omitted.

[Certification Procedure].
A certificate shall be submitted describing the results of tests carried out by an independent testing institution or public institution. With respect to metals, the content of hazardous substances may be proved by test results, ingredient table, etc. by manufacturers, and others.

(14) The products shall not have chromium, cadmium or arsenic added as prescribed constituents.

[Certification Procedure].
A certificate to indicate no addition of chromium, cadmium, and arsenic as the prescribed constituents shall be submitted.

(15) The products shall not be of a disposable type.
However, if they are "disposable products" as defined above, in the cases where a collection and recycling system after disposal has been established and such products are actually recycled, this requirement is not applicable. For products with recycled pulp comprising magazines, corrugated boards, and mountings and book-cover paper referred to in the recycled paper standard quality specification list compounded as main recycled material, this item shall not apply in the event that a system for collecting and recycling the products after use is established and the products are actually recycled.

[Certification Procedure].
It shall be specifically explained and described as to whether the product corresponds to a disposable product, as described in 2-1-9 E-1 Materials for Temporary Structures in the Application Form for Certification and Use of the Eco Mark. In cases that require verification that a system for collection and recycling after disposal has been established, materials including an explanatory document shall be submitted.

(16) Information regarding Certification Criteria 4-1-3. (12) and (13) shall be made available.

[Certification Procedure].
The document to be used at the time of information provision shall be submitted (a draft is acceptable).

4-2. Quality Criteria and Certification Procedure

(17) As for quality requirements for the products, safety shall be confirmed through in-house standards based on official test methods.

[Certification Procedure].
A certificate shall be submitted verifying that based on in-house standards, safety has been confirmed.

5. Product Classification, Indication and Others

(1) The products shall be classified according to each applicable product in "2. Applicable Scope" (Attached table 1) and brand of the product. The product is not classified by size or color; provided that products made of different materials shall be applied separately.

(2) Regarding products which correspond to designated procurement items under the "Act on Promotion of Procurement of Eco-friendly Goods and Services by the State and Other Entities (Green Purchasing Law)", conformity status for evaluation criteria will be announced on the website of the Eco Mark Office.

(3) In principle, Eco Mark shown as below shall be indicated on the product main body. The licensees of Eco Mark Utilization Contract who own the Eco Mark products shall also be allowed to use the indication and the certification number as before.

(Note for the indication)

*For indicating the logo, Eco Mark certification number (eight-digit number) or the name of the licensee using the logo shall be appeared.

* Such expression as "Eco Mark product" can be used following the 2.(2) of the Guide to Eco Mark Usage.
"Eco Mark product", "#Eco Mark", "www.ecomark.jp", "Eco Mark Certificate"

* If a licensee makes an environmental claim of the Eco Mark certified products associating with the Eco Mark logo, please comply with the "Environmental Labeling Guidelines" of the Ministry of the Environment of Japan.
(https://www.env.go.jp/policy/hozen/green/ecolabel/guideline/)

* The Guide to Eco Mark Usage shall be followed for any cases not listed above.
(https://www.ecomark.jp/office/guideline/guide/)

January 15, 2005	Established
February 23, 2005	Revised (4-1-3.L(75)、(76))
May 13, 2005	Revised (4-1-3. (35)、(94), 5-1-3.(73))
September 8, 2005	Revised (Terminology)
April 28, 2006	Revised
October 19, 2006	Revised
February 9, 2007	Revised

April 13, 2007	Revised
October 5, 2007	Extension of Expiration date
February 14, 2008	Extension of Expiration date
June 9, 2008	Revised
August 21, 2008	Revised
May 1, 2009	Revised
November 4, 2009	Revised
March 1, 2011	Revised (5.Indication, Version1.14)
June 15, 2012	Revised (4-1.(4),deletion of 5.(2)(3) Version1.15)
February 1, 2013	Revised (Version1.16)
February 1, 2014	Extension of Expiration date
December 1, 2014	Revised (Category F, Version1.17)
March 1, 2018	Revised (4-1-2.(4), Version1.18)
August 10, 2018	Revised (Category E-J, addition of 5.(2)(3) Version 1.19)
January 7, 2019	Extension of Expiration date
April 1, 2022	Revised (Category E, J: Version 1.20)
January 31, 2026	Expiration date

The Certification Criteria for the Product Category will be revised when necessary.

Attached table 2 -- Omitted --

Attached table 3 Criteria and certification for thinned out wood and less useful wood

If using thinned wood as the material, a certificate of origin that includes information on the place of production, type of tree, and year of planting shall be submitted with photographs of the forest concerned (showing clearly that the forest stand has been thinned). The thinning percentage and how many times the forest stand has been thinned, including the most recent thinning shall also be indicated if possible.

If using less useful wood, the following information shall be submitted. At the same time, official documents stating that the forest has been certified as sustainable by a third party shall be submitted.

- Type of forest (natural or man-made, etc.), place of production, type of tree, and year of tree planting if man-made forest.
- Under what conditions was the wood produced (damaged by disease/pests, damaged by disaster, bent or narrow trees, etc.). For small diameter log, indicate logging method and tip end diameter.

If small-diameter wood of less useful wood is used, and if it applies to a or b described below, a document certifying that forests were certified as sustainable by a third party as listed in the table below shall also be submitted.

a. Small diameter logs from logs felled from natural forests.
b. Small diameter logs from logs produced by clear cutting, patch logging, and strip logging in plantation forests.

Table Requirements for Forest Certification

Certification criteria	- While balancing economical, ecological, and social benefits, the criteria shall comply with Agenda 21 and Statement of Principles on Forests, and observe related international agreements and conventions.
	- Including solid requirements, the criteria shall promote sustainable forests.
	- Recognized both domestically and internationally, the criteria shall be recommended as part of the process opened to participation by ecological, economical, and social stakeholders.
Certification system	- Certification systems shall have high transparency, maintain nation-wide or international reliability, and can verify requirements.
Certification body	- With fairness and high reliability, certification organizations and groups shall be able to verify that requirements are satisfied, convey the results, and able to execute requirements effectively.

If using bamboo as the raw material in less useful wood, certificates indicating the following information and photographs/maps of the surroundings of the bamboo grove shall be submitted.

- Type of bamboo, place of production, surrounding conditions, and description that logging is carried out for the purpose of appropriate maintenance and management in environment preservation, as well as management plans and quantity.

Attached Table 4 Checklist of Traceability of Plant-based Plastic (Raw Resin)

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
1	Prevention of global warming, conservation of the natural ecosystem	Hasn't the farm land where plants are cultivated been converted from forests in the recent ten years?	Farm land	□Yes/ □No	□Confirmed the laws and regulations concerning the land conversion for the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □Others (Describe specifically.):
2	Conservation of the ecosystem	If the Applicant uses the genetically engineered crop as a raw material, has the Applicant assessed ensuring of safety?	Farm land	□Yes/ □No/ □Not applicable (Not used)	□Confirmed the laws and regulations concerning genetically engineered crop on the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □Others (Describe specifically.):

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
3	Prevention of land acidification/nutrient enrichment/water contamination	Has the Applicant gained the understanding of usage conditions of fertilizers/agricultural chemicals in the main cultivation area of plants? Isn't any agricultural chemical regulated under the "Stockholm Convention on Persistent Organic Pollutants" (POPs Treaty) used?	Farm land	□Yes/ □No	□Confirmed the laws and regulations concerning fertilizers/agricultural chemicals on the site □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □Others (Describe specifically.):
4	Appropriate water usage	Has the Applicant gained the understanding of usage conditions of water in the main cultivation area of plants?	Farm land	□Yes/ □No	□Confirmed the laws and regulations concerning usage of water (limits on the amount of water) on the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □Others (Describe specifically.)

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
5	Use of recycled resources, avoidance of competition for food	If recycled resources are available as a part of crude raw materials of plant-based plastic (raw resin) on the site, did the Applicant preferentially use them?	Raw resin	□Yes/ □No/ □Not applicable (Not available)	Name of recycled resource in use [ ] Generated amount/percentage of recycled resources [ ]
6	Prevention of global warming	Has the Applicant gained the understanding of the processing status of biogas (such as methane) having a high global warming potential that is generated in the course of reaction of plant-based ethanol in the manufacturing plant for the main crude raw material?	Crude raw material manufacturing plant	□Yes/ □No	□Gained the understanding of the actual condition of the site through on-site investigation or hearings. □Others (Describe specifically.) [ ]
7	Utilization of non-fossil energy sources and renewable energy sources	If a plant is newly set up in the course of cultivation to raw resin manufacturing, did the Applicant utilize as many non-fossil energy sources (for example, bagasse or biogas) or renewable energy sources as possible?	Manufacturing plant	□Yes/ □No	Energy name and method of utilization [ ]
8	Legal compliance	Is discharged water in the plant controlled in accordance with the laws and regulations of the region, etc., where the plant for manufacturing the plant-based plastic (raw resin) is located?	Resin manufacturing plant	□Yes/ □No	Attach data describing the control of discharged water of the plant