

# Eco Mark Product Category No.126

## “Printing Ink Version 2.4”

### Certification Criteria

#### Applicable Scope

- A. Lacquer,
- B. Resin Solvent Paints,
- C. Resin Water-soluble Paints,
- D. Paints for Road Surface Signs,
- E. Other Paints (Oil-based Paints),
- F. Paints for Buildings,
- G. Household Paints,
- H. Coating Powder,
- I. Paints conforming to the Japanese Architectural Standard Specification,
- J. Automotive Refinish Paint
- K. Paints Not Listed in JIS or Industrial Paints

Established: December 18, 2007

Term of validity: April 30, 2017

Japan Environment Association

Eco Mark Office

NOTE: This document is a translation of the criteria written in Japanese. In the event of dispute, the original document should be taken as authoritative.

## Eco Mark Product Category No. 126

### “Paint Version 2.3”

#### Certification Criteria

- A. Lacquer, B. Resin Solvent Paints,  
 C. Resin Water-soluble Paints, D. Paints for Road Surface Signs,  
 E. Other Paints (Oil-based Paints), F. Paints for Buildings,  
 G. Household Paints, H. Coating Powder,  
 I. Paints conforming to the Japanese Architectural Standard Specification,  
 K. Paints Not Listed in JIS or Industrial Paints  
 (Please refer the additinal volume for J. Automotive Refinish Paint)

Japan Environment Association  
 Eco Mark Office

#### 1. Purpose of Establishing Criteria

Omitted

#### 2. Applicable Scope

This product category applies to paints prescribed in A to I, and K in Table1. (including the type of solvent paints which are used diluted in painting jobs. ). However, spray (aerosol) types shall be excluded.

**Table1 Applicable Scope on this category**

|          |                             |   |            |
|----------|-----------------------------|---|------------|
| <b>A</b> | <b>Lacquer</b>              | Nitrocellulose Lacquer                          | JIS K 5331 |
|          |                             | Lacquer Sealers                                 | JIS K 5533 |
|          |                             | Lacquer Undercoat                               | JIS K 5535 |
| <b>B</b> | <b>Resin Solvent Paints</b> | Anticorrosive Paint for General Use             | JIS K 5621 |
|          |                             | Red-lead Anticorrosive Paint                    | JIS K 5622 |
|          |                             | Lead Suboxide Anticorrosive Paint               | JIS K 5623 |
|          |                             | Basic Lead Chromate Anticorrosive Paint         | JIS K 5624 |
|          |                             | Ready Mixed Paints (Synthetic Resin Type)       | JIS K 5516 |
|          |                             | Phosphoric Acid Anticorrosive Paint (tentative) | JIS K 5674 |
|          |                             | Phthalic Resin Enamel                           | JIS K 5572 |
|          |                             | Lead Cyanamide Anticorrosive Paint              | JIS K 5625 |
|          |                             | Zinc Chromate Anticorrosive Paint               | JIS K 5627 |
|          |                             | Red-lead Zinc Chromate Anticorrosive Paint      | JIS K 5628 |
|          |                             | Calcium Plumbate Anticorrosive Paint            | JIS K 5629 |

|                                  |   |  |              |
|----------------------------------|---|--|--------------|
| <b>B</b>                         | <b>Resin Solvent Paints</b>   | Aminoalkyd Resin Paint   | JIS K 5651   |
|                                  |   | Vinyl Chloride Resin Enamel  | JIS K 5582   |
|                                  |   | Vinyl Chloride Resin Primer  | JIS K 5583   |
|                                  |   | Acrylic Resin Enamel   | JIS K 5654   |
|                                  |   | Epoxy Resin Paint  | JIS K 5551   |
|                                  |   | Epoxy Resin Micaceous Iron Oxide Paint                                   | JIS K 5555   |
|                                  |   | Tar Epoxy Resin Paint  | JIS K 5664   |
|                                  |   | Polyurethane Resin Paint for Architecture                                | JIS K 5656   |
|                                  |   | Polyurethane Resin Paint for Steel Structures                            | JIS K 5657   |
|                                  |   | Chlorinated Rubber Paint   | JIS K 5639   |
|                                  |   | Cashew Resin Paints  | JIS K 5641   |
|                                  |   | Cashew Resin Undercoats  | JIS K 5646   |
|                                  |   | Aluminium Paint  | JIS K 5492   |
|                                  |   | Phenolic Resin Type Micaceous Iron Oxide Paint                           | JIS K 5554   |
|                                  |   | Etching Primer   | JIS K 5633   |
|                                  |   | Fluoro Resin Paint for Architecture                                      | JIS K 5658   |
|                                  |   | Fluoro Resin Paint for Steel Structures                                  | JIS K 5659   |
|                                  |   | Zinc Rich Primer   | JIS K 5552   |
|                                  |   | High Build Type Zinc Rich Paint  | JIS K 5553   |
|                                  |   | Non aqueous dispersion acrylic paint                                     | JIS K 5670   |
| Safety Colored Fluorescent Paint | JIS K 5673  |  |              |
| <b>C</b>                         | <b>Resin Water-soluble Paints</b>   | Synthetic Resin Emulsion Paints, Glassy Type                             | JIS K 5660   |
|                                  |   | Synthetic resin emulsion paint and sealer                                | JIS K 5663   |
|                                  |   | Textured Paints (Synthetic Resin Emulsion Type)                          | JIS K 5668   |
|                                  |   | Synthetic Resin Putty  | JIS K 5669   |
|                                  |   | Multicolor Paints  | JIS K 5667   |
| <b>D</b>                         | <b>Paints for Road Surface Signs</b>  | Traffic Paint  | JIS K 5665   |
| <b>E</b>                         | <b>Other Paints (Oil-based Paints)</b>  | Ready Mixed Paints   | JIS K 5511   |
|                                  |   | Oleoresinous Undercoats  | JIS K 5591   |
| <b>F</b>                         | <b>Paints for Buildings</b>   | Liquid-applied Compounds for Waterproofing Membrane Coating of Buildings | JIS A 6021   |
|                                  |   | Coating Materials for Textured Finishes of Buildings                     | JIS A 6909   |
|                                  |   | Surface preparation materials for finishing                              | JIS A 6916   |
|                                  |   | Interior Floor Coating   | JIS K 5970   |
| <b>G</b>                         | <b>Household Paints</b>   | Household Paint for Wood and Metal                                       | JIS K 5962   |
|                                  |   | Household Varnish for Interior Wooden Floor                              | JIS K 5961   |
|                                  |   | Household Paint for Interior Wall  | JIS K 5960   |
| <b>H</b>                         | <b>Coating Powder</b>   | Powdery paint products not containing solvent components.                |              |
| <b>I</b>                         | <b>Paints conforming to the Japanese Architectural Standard Specification</b> | Aqueous Anticorrosive Paint (tentative)                                  | JASS 18M-111 |

|          |  |   |
|----------|--|---|
| <b>J</b> | <b>Automotive Refinish Paint</b>                     | (Separate volume)   |
| <b>K</b> | <b>Paints Not Listed in JIS or Industrial Paints</b> | Paints that do not fall into categories A to K above and other industrial paint products. |

### 3. Terminology

Omitted

### 4. Certification Criteria and Certification Procedure

To show conformance to the individual criteria item, the respective Attached Certificates shall be submitted.

In the event re-examination under the present Certification Criteria is sought for a product that is already certified in the Product Category No.126 "Paints Version1", the certifications procedures for 4-1.(3)-(7), and (12)-(15) may be substituted by filling in necessary items on the Attached Certificate and declaring further therein that no alternations have been made to the product already certified.

General principle: The manufacturer shall submit the document (a copy of ISO9001 certificate) to the effect that the material is purchased in conformity to the provisions of ISO9001-2000 7.4.1 Purchasing Process, or for the equivalent content, the manufacturer shall submit the certificate to the effect that; a. the manufacturer shall ensure that purchased product conforms to the matters prescribed in the present certification criteria; b. the manufacturer shall evaluate and select suppliers based on their ability to supply product in accordance with the applicant's requirements; and c. criteria for selection, evaluation and re-evaluation have been established.

#### 4-1. Common Environmental Criteria and Certification Procedure

(1) As product formulation ingredients, no aromatic hydrocarbon-based solvents (toluene, xylene, styrene, ethyl benzene or benzene) shall have been added more than the numerical value of Table 2.

For liquid of one-liquid & one-powder type paint, the emulsion shall be treated in accordance with water-based paints, and the solvent shall be treated in accordance with solvent paints.

In the case of multiple components-type paints, the mixed product shall conform to this criterion.

In the case of type of paint which is used by diluting at the coating site, the product diluted in accordance with the manufacturer recommendations for

solvents and dilution ratio shall conform to this criterion.

**Table 2 Weight fraction of aromatic hydrocarbon solvent in the paint**

| Paint               | Weight Fraction of Aromatic Hydrocarbon Solvent |                  |
|---------------------|---|------------------|
| Solvent-based Paint | Less than 10 g/l                                |                  |
| Water-based Paint   | Emulsion paint:                                 | Less than 1 g/l  |
|                     | Others (Electrodeposited paint, etc.):          | Less than 10 g/l |

- (2) VOC components (boiling point range: 23-260°C) are not added in the paint as the formulation ingredients more than the numerical value of Table 3. However, products used for interior shall conform to the V1 value. Water-based paint used for exterior shall conform to the V2 value.

**Table 3 Ratio of VOC components in paints**

| Product type        | Weight Fraction of VOC Component |                  |
|---------------------|----------------------------------|------------------|
| Solvent-based Paint | 200 g/l or less                  |                  |
| Water-based Paint   | V1                               | Less than 1 g/l  |
|                     | V2                               | Less than 10 g/l |

[Certification procedure for (1) and (2)]

Submit the paint ingredient table (entry table A) issued by the paint manufacturing business or test results provided in ISO11890-1 or ISO11890-2. In the event that there is an allowance in the addition rate of aromatic hydrocarbon solvent and VOC, submit the data of the maximum value.

With respect to multiple component-type paints and paints which are diluted at the coating site, state the contents of aromatic hydrocarbon-based solvents and VOCs before mixing, and submit the contents table of the mixed liquid by computation from the mixing ratio. In the event the mixing ratio is not accurately known (such as if it says “use 0.1 to 0.2 of hardening agent against 1 of main product” or “adjust mixing ratio according to temperature”), submit the ingredient table of the mixed liquid by computation using the mixing ratio that gives the highest contents of aromatic hydrocarbon-based solvents and VOCs.

For the types of paints which are used by diluting at the coating site, submit the indicated portion of the operating instructions, product labels, or brochures which state the manufacturer’s recommended solvents and dilution rate, such as “when the manufacturer’s recommended solvent is used, this paint is designed to be coated at the dilution rate of ○○%. Use by observing the dilution rate.”

- (3) The preservatives (including antifungal agent) contained in the product shall be

less than 0.5% of the total product weight.

[Certification procedure]

Enter in the attached certificate whether or not the preservatives are added. In addition, submit MSDS and CAS registration No. of the preservatives.

- (4) As the formulation ingredients of the product, chemical substances shown in Table 4 shall not be added.

**Table 4 Chemical substances whose use is restricted in paints**

|                     |                           |
|---------------------|---------------------------|
| Cadmium             | 4-octylphenol             |
| Mercury             | Bisphenol-A               |
| Hexavalent chromium | Butyl benzyl phthalate    |
| Lead                | Diethyl phthalate         |
| Arsenic             | Formaldehyde              |
| Antimony            | Di-n-butyl phthalate      |
| Tributyltin         | Tetradecane               |
| Triphenyltin        | Di-2-ethylhexyl phthalate |
| Alkylphenol         | Acetaldehyde              |
| Nonyl phenol        |                           |

[Certification procedure]

Submit the list which stipulates the addition or no-addition of applicable substances.

- (5) The emissions of formaldehyde from the paint shall be less than  $5\mu\text{g/hr/m}^2$ . This criterion shall not apply to H. Coating Powder, or paints authorized as falling outside the scope of regulations by the Ministry of the Land, Infrastructure, Transport and Tourism, or paints which are not listed in Notification No. 1113-1115 by the Ministry of the Land, Infrastructure, Transport and Tourism.

[Certification procedure]

Submit a result of tests by methods prescribed in specific JIS criteria documents certifying to be labeled F\*\*\*\* grade, or copies of such documents. For materials and products authorized as falling outside the scope of regulations by the Ministry of Land, Infrastructure, Transport and Tourism, documents certifying this or copies of such documents can be submitted in place of test results.

- (6) Products shall be free of any use of specified chlorofluorocarbon (CFC5s) set

forth in Table 5 as halogenated hydrocarbons, other CFCs, carbon tetrachloride, trichloroethane and alternatives for chlorofluorocarbon (in this event, hydrochlorofluorocarbon)

[Certification procedure]

Submit the certificate issued by a director of the plant that manufactures the products stating the use or no-use of the applicable substance.

**Table 5 Halogenated hydrocarbons whose use is restricted**

|                             |                            |                               |
|-----------------------------|----------------------------|-------------------------------|
| CFC5s                       | Trichlorofluoromethane     | Dichlorotetrafluoroethane     |
|                             | Dichlorodifluoromethane    | Chloropentafluoroethane       |
|                             | Trichlorotrifluoroethane   |                               |
| Other CFCs                  | Chlorotrifluoromethane     | Pentachlorotrifluoropropane   |
|                             | Pentachlorofluoromethane   | Tetrachlorotetrafluoropropane |
|                             | Tetrachlorodifluoroethane  | Trichloropentafluoropropane   |
|                             | Heptachlorofluoropropane   | Dichlorohexafluoropropane     |
|                             | Hexachlorodifluoropropane  | Chloroheptafluoropropane      |
|                             | Carbon Tetrachloride       |                               |
|                             | 1,1,1-Trichloroethane      |                               |
| HCFC                        | Dichlorofluoromethane      | Dichloropentafluoropropane    |
|                             | Chlorodifluoromethane      | Chlorohexafluoropropane       |
|                             | Chlorofluoroethane         | Pentachlorofluoropropane      |
|                             | Tetrachlorofluoroethane    | Tetrachlorodifluoropropane    |
|                             | Trichlorodifluoroethane    | Trichlorotrifluoropropane     |
|                             | Dichlorotrifluoroethane    | Dichlorotetrafluoropropane    |
|                             | Chlorotetrafluoroethane    | Chloropentafluoropropane      |
|                             | Trichlorofluoroethane      | Tetrachlorofluoropropane      |
|                             | Dichlorodifluoroethane     | Trichlorodifluoropropane      |
|                             | Chlorotrifluoroethane      | Dichlorotrifluoropropane      |
|                             | Dichlorofluoroethane       | Chlorotetrafluoropropane      |
|                             | Chlorodifluoroethane       | Trichlorofluoropropane        |
|                             | Chlorofluoroethane         | Dichlorodifluoropropane       |
|                             | Hexachlorofluoropropane    | Chlorotrifluoropropane        |
|                             | Pentachlorodifluoropropane | Dichlorofluoropropane         |
| Tetrachlorotrifluoropropane | Chlorodifluoropropane      |                               |
| Trichlorotetrafluoropropane | Chlorofluoropropane        |                               |

- (7) In the event that the product has the first-class designated chemical substance in “Law concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law)” added as a formulation ingredients, report to the effect.

[Certification procedure]

Submit a list that stipulates addition or no-addition of the applicable substance.

- (8) 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]

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 (organizational chart with roles, etc.);
- 3) Bylaws stipulating retention of recording documents;
- 4) Recurrence prevention measures (future preventive measures);
- 5) State of implementation based on recurrence prevention measures (result of checking of the state of compliance, including the result of onsite inspection).

- (9) The Company shall strictly abide by provisions of laws concerning handling of chemical substances, such as “Poisonous and Deleterious Substances Control Law” and “Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances”.

[Certification procedure]

Submit a certificate issued by a director of the plant where the product is manufactured or by the applicant, stating that the above-mentioned laws have been duly observed and not violated. The above-mentioned Japanese laws shall also apply to products manufactured outside Japan.

- (10) As the information on proper handling of paints, precautions for handling and storage shall be clearly manifested in MSDS, and operating instructions, product labels, or brochures.

[Certification procedure]

Submit MSDS concerning handling and storage precautions of the applicable paints, and operating instructions, product labels, or brochures.

- (11) Containers shall meet either one of the following conditions.

- a. Containers shall be returnable.
- b. Containers shall be lead-free metal cans of recyclable design.
- c. Containers are collected and recycled.

However, this item does not apply to “F. painting for construction”, specifically, JIS A 6909 “Coating materials for textured finishes of buildings” and JIS A 6916 “Surface preparation material for finishing”, and any powder materials including “H. powder paint”. Regarding to the “G. Household paints”, inner bags made from plastic are approved to use.

[Certification procedure]

- a. Submit a document that explains the returnable system.
- b. State in the attached certificate that the container is a lead-free metal can.
- c. Submit a document that explains the collection/recycling system.

#### 4-2. Individual environmental criteria and Certification Procedure

- (12) For B. resinous solvent-based paint JIS K 5516 “Ready Mixed Paints (Synthetic Resin Type)”, JIS K 5572 “Phthalic Resin Enamel”, JIS A 6916 “Surface preparation materials for finishing” of F. Paints for Buildings and H. Coating Powder shall use recycled materials (PET resin, glass, solvent, etc).

[Certification procedure]

The material certification issued by the supplier of recycled material shall be attached.

- (13) G. Household paints shall give consideration to abnormal odors and pungent

odors in paintwork and be labeled with paint odor index on the product. For the paint which is not classified in “G. Household paints”, and expects to indicate the paint odor index on the product, it will be approved to indicate the paint odor index if it is confirmed the compatibility with this item based on the certification procedure according to household paints.

[Certification procedure]

The odor index indicated in the attachment shall be indicated in the attached certificate. Also the indicated location of the paint odor index (near the Eco Mark label) and details indicated shall be submitted.

- (14) For G. household paints, use of chemical substances shall be properly controlled. The Material Safety Data Sheet (MSDS) shall be provided in accordance with the PRTR Law.

[Certification procedure]

The MSDS issued by the paint manufacturer shall be submitted.

#### 4-3. Quality Criteria and Certification Procedure

- (15) The product quality shall be fully controlled in the manufacturing process. Items for which measurement methods are prescribed in JIS standards shall be measured by the prescribed measurement methods.

[Certification procedure]

Submit a certificate that the product conforms to the applicable quality standard. In addition, submit a certificate issued by a director of the plant where the product is manufactured, stating that quality control is fully practiced in the production process and the plant has not violated any of the regulations, etc.

In the event that there is no JIS standard which is applicable to the product, submit the performance certificate based on the in-house standard.

- (16) The quality of H. coating powder shall satisfy the following performance as a coating film specified in JIS K 5981 “Thermoplastic and Thermosetting Powder Coating Films”.

##### Thermosetting Coating Powder

Surface hardness: H4 or over, pencil hardness B or over

Attachment ability: A2 or over, checker board rating 8 or over

Shock proof: G1 or over, DuPont shock rating 500 g 30 cm or over

##### Thermoplastic Coating Powder

Salt water spray resistance: S3 or over, 500 hrs or over

Moisture resistance: R3 or over, 120 hrs or over

Shock resistance: F2 or over, Izod impact test 80 cm or over

[Certification procedure]

Results of the test for each evaluation item shall be submitted.

## 5. Product Classification, Indication and Others

Omitted

Established: April 13, 2007 (Version 2.0)

Revised: June 8, 2007 (Version 2.1)

Revised: June 9, 2008 (Version 2.2)

Revised: August 21, 2008 (Version 2.3)

Revised: March 1, 2011 (Version 2.4, 5.(2))

Term of Validity: April 30, 2017

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