Eco Mark Product Category No. 126

“ Paint Version2.0”
Certification Criteria (Draft)

—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 Japanese Architectural Standard Specifications
J. Automotive Repair Paints
K. Paints Not Listed in JIS or Industrial Paints

Established: May 1, 2007
Term of validity: April 30, 2012

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.

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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 Japanese Architectural Standard Specifications; K. Paints Not Listed in JIS or Industrial Paints;

(See the separate volume for J. Automotive Repair Paints.)

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1. Applicable Scope

The Certification Criteria cover paints that fall under A-I and K shown in Table 1 (including types of paints which are used by diluting in coating sites). However, spray (aerosol) types shall be excluded.

Table 1 Applicable scope of the present product category

Applicable category	Category name	Name	Standard No.
A	Lacquer	Nitrocellulose Lacquer"	JIS K 5331
		Lacquer Sealers	JIS K 5333
		Lacquer Undercoat	JIS K 5537
B	Resin Solvent Paints	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	JPMS 26→ 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 2658
		Calcium Plumbate Anticorrosive Paint"	JIS K 5629
		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
C	Resin Water-soluble Paints	Synthetic Resin Emulsion Paints, Glassy Type	JIS K 5660
		Synthetic resin emulsion paint	JIS K 5663
		Textured Paints (Synthetic Resin Emulsion Type)	JIS K 5668
		Synthetic Resin Putty	JIS K 5669
		Multicolor Paints	JIS K 5667
D	Paints for Road Surface Signs	Paints for Road Surface Signs	JIS K 5665
E	Other Paints (Oil-based Paints)	Ready Mixed Paints	JIS K 5511
		Oleoresinous Undercoats	JIS K 5591
F	Paints for Buildings	Liquid-applied Compounds for Waterproofing Membrane Coating of Buildings	JIS K 6021
		Coating Materials for Textured Finishes of Buildings	JIS K 6909
		Surface preparation materials for finishing	JIS K 6916
		Interior Floor Coating	JIS K 5970
G	Household Paints	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
H	Coating Powder	Powdery paint products not containing solvent components	
I	Paints conforming to Japanese Architectural Standard Specifications (JASS)	Aqueous Anticorrosive Paint	JPMS 21→ JISS 18M-111
J	Automotive Repair Paints (see the separate volume.)	Solvents and water-based paints used for automotive repair	
K	Paints Not Listed in JIS or Industrial Paints	Paints and industrial paint products which do not fall under A through J above.	

2. Certification Criteria and Certification Procedure

For certification of compliance to each criterion item, submit the attached certificate.

By the way, in the event that the product is the certified product of Product Category No. 126 “Paints Version 1” and is subject to reexamination under the present certification criteria, the certification procedures of 4-1.(3)-(7) and (12)-(15) of the applicable criterion items may be replaced by stating that there is no change in

the requirements and the existing certified product in the attached certificate.

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.

2-1. Environmental Criteria and Certification Procedure

(1) Aromatic hydrocarbon solvents (toluene, xylene, styrene, ethylbenzene, and benzene) shall not be added as a prescribed component in the amount more than the numerical value of Table 2.

For the liquid of one-liquid and one-powder type paint, the emulsion is not added in the amount more than the numerical value of the water-based paints and the solvent is not added in the amount more than the numerical value of the solvent paints.

For multiple-liquid type paints, the numerical value after mixing shall conform to Table 2.

For the paints of the type diluted at the coating site, the numerical value after diluting with the solvent and at the dilution ratio recommended by the manufacturer shall conform to Table 2.

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 (1%)
Water-based Paint	Emulsion paint:	Less than 1 g/l (0.1%)
	Others (Electrodeposited paint, etc.)	Less than 10 g/l (1%)

(2) As the prescription constituent ingredient of the product, do not add VOC (boiling point range: 23-260°C) more than the numerical value of Table 3. However, for products used for interior, do not add VOC more than the numerical value of V1. In addition, for the water-based paints which are used outdoors do not add VOC more than the numerical value of V2.

Table 3 Weight fraction of VOC component in the paint

Paint	Weight Fraction of VOC Component
Solvent-based Paint	200 g/l or less (20%)
Water-based Paint	V1 Less than 1 g/l

V1: Paint with most reduced VOC
V2: Refer to JPMA indoor environment paint target values

	V2	Less than 10 g/l (1%)

[Certification procedures of (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.
In multiple-liquid type paints, for aromatic hydrocarbon solvent and VOC, enter the content before mixing for each liquid, calculate at the mixture ratio, and submit the content of the mixed liquid. However, for products which is flexible in terms of mixture ratio (for example, add the curing agent at a ratio of 0.1-0.2 parts to 1 part of the base, adjust the mixture ratio in accordance with temperature, etc.), calculate at the mixture ratio of the conditions under which the aromatic hydrocarbon solvent and VOC contents become the maximum, and submit the content of the mixed liquid.
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 antirust 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 prescription constituent 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	Butyl benzyl phthalate
Mercury	Diethyl phthalate
Hexavalent chromium	Formaldehyde
Lead	Toluene
Arsenic	Xylene
Antimony	Ethylbenzene
Tributyltin	Styrene
Triphenyltin	Di-n-butyl phthalate
Alkylphenol	Tetradecane
Nonyl phenol	Di-2-ethylhexyl phthalate
4-octyl phenol	Acetaldehyde
Bisphenol-A	

[Certification procedure]
Submit the list which stipulates the addition or no-addition of applicable substances.

(5) Formaldehyde emission from paint film shall be 5 mg/hr/m^2 or less. However,

H. Coating Powder, paints that are outside the regulations by certification of Minister of Land, Infrastructure and Transportation, and paints listed to be outside the notification of Ministry of Land, Infrastructure and Transportation shall not be subject to the present item.

[Certification procedure]
Submit the test results prescribed in JIS Standards or certificate that the product is F**** class, or its copy. For the paint which is certified to be outside the regulations by Minister of Land, Infrastructure and Transportation, the test results may be replaced by submitting the documents which evidence the certification or its copy.

(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 plant 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 prescribed component, report to the effect.

[Certification procedure]
Submit a list that stipulates addition or no-addition of the applicable substance.

(8) The production process shall conform to relevant environment regulations and agreements on preventing air pollution, water contamination, noise, vibration, odor and emission of hazardous materials.

[Certification procedure]
Submit a certificate issued by a director of the plant where the product is manufactured, stating that the environmental regulations in the region in which the manufacturing plant is located have been observed for past 5 years since the application and the plant has not violated any of the regulations, etc.

(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 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, stating that the plant has been observing the regulations of the above laws for past 5 years and the plant has not violated any of the regulations, etc.

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

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

(11) Containers shall be lead-free metal cans of recyclable design. However, this item shall not be applied to powders of JIS A6909: Coating Materials for Textured Finishes of Buildings, JIS A6916: Surface preparation materials for finishing of F. Paints for Buildings as well as H. Coating Powders, etc. For G. Household Paints, the use of plastic inner bags shall be allowed.

[Certification procedure]
Specifically describe the material of containers used in the attached certificate.

2-2. Individual Environmental Criteria

(12) For B. resinous solvent-based paints, JIS K5516: Ready Mixed Paints (Synthetic resin type) and JIS K5572: Phthalic resin enamel, and for F. Paints for buildings, JIS A6916: Surface preparation materials for finishing, and recycled material (PET resin, glass, solvent, etc.) shall be used for H. Coating Powder.

[Certification procedure]
Enter the names of recycled materials used in the attached certificate and attach the material certificate issued by the recycled material supply business.

(13) G. Household paints shall have the paint odor index displayed on products in consideration of abnormal odors and pungent odors. By the way, for paints which are not classified in “G. Household Paints” but hope to have the odor index displayed, the display of the odor index shall be approved in the event that conformance to this item is confirmed pursuant to the certification procedure according to the Household Paints.

[Certification procedure]
Enter the odor index shown in the separate sheet in the attached certificate. And submit the displayed place of the paint odor index (near the Ecomark label) and the display content.

(14) For G. Household paints, the use of chemical substances shall be properly controlled. The Material Safety Data Sheet (MSDS) based on the PRTR Law shall be provided.

[Certification procedure]
Enter in the attached certificate that the paint manufacturing business is able to furnish MSDS upon request of the user.

2-3. Quality Criteria

(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 of the

evaluation items as the coating film prescribed in JIS K5981: Thermoplastic and Thermosetting Powder Coated Films.

Thermosetting Coating Powder:
- Scratching hardness: H4 or higher
  - Pencil scratch hardness: B or higher
- Attachment ability: A2 or higher
  - Cross-cut adhesion test: 4 or higher
- Falling-weight test: G1 or higher
  - DuPont method: 500g-30cm or higher

Thermoplastic Coating Powder:
- Corrosion resistance: S3 or higher, 240 hours or more
- Moisture resistance: R3 or higher, 150 hours or more
- Falling-weight test: F2 or more
  - Falling ball method: 80 cm or more

[Certification procedure]
Submit the test results of evaluation items.

To be established on May 1, 2007 (Version 2.0)
To be expired on April 30, 2012

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