

## **Stationery/Office Supplies Version1.4**

Minor Revision: April 28, 2006

### **1. Environmental Background**

Looking at the production of stationery/office supplies in Japan in the seven years between 1996, when the current Product Category No.112 “Paper Stationery” was established, and now (2003), pen and pencil manufacturing peaked in 2000. While ballpoint pens are on a downward trend, mechanical pencils and markers are staying constant. File binders are growing annually. Sales of pens and pencils in 2001 amounted to 147,324 million yen, and shipments of paper stationery amounted to 176,500 million yen.

The number of Eco Mark certified-stationery/office supplies products has been increasing markedly in Product Category No. 112 “Stationery” since it was first established in 1996. As of December 2002, 450 certified products were confirmed. The number of plastic stationery products certified in No.118 “Plastic Products Using Recycled Materials”, was about 560 as of December 2002. This amounts to about 1,000 products when added with paper stationery, equivalent to 20% of the 5,000 Eco Mark-certified products.

### **2. Applicable Products**

Other than “paper office supplies”, stationery/office supplies has been certified in Product Categories No.115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, Etc.” and No.118 “Plastic Products Using Recycled Materials”. Owing to the numerous opinions from consumers and stationery manufacturers that these products should be consolidated as one product category, and from the conclusion that Eco Mark product categories should be set by function, the criteria of these stationery related product categories have been integrated into one new product category, “Stationery/Office Supplies”.

The former Product Category No.112 “Paper Stationery” targeted paper stationery consisting of “stationery, paper products, office supplies and photographic supplies” based on the Standard Commodity Classification for Japan. As this new version of Product Category No. 112 no longer needs to limit materials to paper, the applicable products have been revised as “stationery, paper products, office supplies and photographic supplies” (excluding photographic supplies). The wrapping paper, packaging, and envelopes included in No.113 “Packaging Paper” have been included in this Product Category provided they are finished products. Wrapping paper, packaging, base paper for envelopes, and half-finished products will remain as applicable products of No.113 “Packaging Paper”.

Items that are not included in the above product categories but should be included such as Green Purchasing Law designated procurement items were added in Attachment 1 with comments. Ink sticks do not use recycled materials given in this category as raw materials and were therefore excluded. For OA cleaners, as the wet

cloth of these products is disposable, only containers were subject to the criteria. For electrical products such as electrical pencil sharpener, electrical eraser, and tape printing device, considering the need to take into account the safety of these products since they use electricity, it was decided that they would be reviewed as electronic products such as household products and were excluded from the scope of applicable products of this Product Category.

In addition, regarding “White line for ground”, it was judged by the Eco Mark Category/Criteria Establishing Committee that this product is considered to be the applicable product of this Product Category. However, since this product is powder, the product should be used for ground only in this Product Category.

### **3. Terminology**

#### **(1) Definition of terminology related to paper**

The definitions of “post-consumer waste paper” and “pre-consumer waste paper” were based on JIS Q14021, as well as those by the Japan Paper Association and Paper Recycling Promotion Center. According to the definitions of the two industry organizations, waste paper used as raw material for paper by paper manufacturers or their subcontractors without being shipped as products is not regarded as waste paper.

The Eco Mark Program excludes paper used by paper manufacturers or their subcontractors from the scope of “pre-consumer waste paper” regardless of whether they are shipped as products or not. Thus, there may be conflict with the definition of waste paper by the Japan Paper Association and Paper Recycling Promotion Center.

(Reference)

#### **Definition of post-consumer material in JIS Q 14021**

Defined as materials generated as products which cannot be used for their intended purpose by commercial, industrial, and other facilities as end users of materials and products disposed of by households. This includes materials returned from the distribution channel.

#### **Definition of pre-consumer material in JIS Q 14021**

Defined as materials removed from waste disposed of during the manufacturing process. Excludes products unsuitable for processing or polishing that can be reused in the process which generated these materials, scraps, etc.

#### **Recycling law for reuse of waste paper**

Japan Paper Association and Paper Recycling Promotion Center.

The “waste paper” specified by Article 1 of the detailed enforcement regulations of the Law for Promotion of Effective Utilization of Resources (1991 Cabinet Order No. 327, hereafter referred to as “the Cabinet Order”) to promote the use of recycled resources considered particularly necessary for the effective use of recycled resources in Article 2.1 of the recycling law for reuse of waste paper indicates paper, paper products, and products which are wholly or partially made of paper such as books, etc. which have been collected or disposed of after use or unused and can or may be usable as the raw

material for paper (includes types imported after collection).

It refers to paper generated at the plant or workshop of the paper manufacturer (hereafter referred to as “plant, etc.”) during the paper manufacturing process as well as paper generated during processing at the plant, etc. of the paper manufacturer (including processing by other subcontractors commissioned by the paper manufacturer before shipment of product). Waste paper used as raw material for paper by paper manufacturers without being shipped as products is not regarded as waste paper.

For the percentage of waste paper in the pulp mixture, in Product Category No. 112 “Paper Stationery” (hereafter referred to as Version1.0), it was set as “[(waste paper (before cutting) + purchased waste paper pulp)/(virgin pulp + waste paper (before cutting)+purchased waste paper pulp]”, according to the actual control method of paper manufacturers. In Product Category No. 112 “Stationery/Office Supplies Version1.0” (hereafter referred to as No.112 “Stationery/Office Supplies”), the waste paper percentage calculated by “waste paper pulp/(virgin pulp + waste paper pulp)” which complies with ISO standards was adopted.

The weight of pulp should be measured under the condition of 10% water content.

The whiteness test method was revised as the ISO whiteness (diffuse blue reflectance factor) in accordance with No.106 “Paper for Communication”. The traditional Hunter method, which is used continuously as the standard of this industry, is also applicable.

As for “Fluorescent Whitening Agents”, reference was made to “Fluorescent Whitening Agents” published by the Japan Dyestuff and Chemical Industry Association.

## (2) Definition of terminology related to wood

Definitions conform with those of No.115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version2.0”. (Refer to “3. Definition of Terminology” in Product Category No. 115 Interpretation.)

## (3) Definition of terminology related to plastic materials

Definitions conform to No.118 “Plastic Products Using Recycled Materials” (Established May 10, 2000). (Refer to “3. Definition of Terminology” in Product Category No. 115 Interpretation.)

#### 4. Certification Criteria

##### 4-1. Details of establishing environmental criteria

Chart for selecting environmental impact items at each stage of product life cycle was utilized in establishing these criteria, and after considering, from the standpoint of the environment, the environmental impact for the product lifecycle as a whole, impact items were selected which were thought to be important when establishing the certification criteria, and qualitative and quantitative criteria were set for those items.

Environmental impact items which were considered candidates for this Product Category No.112 “Stationery/Office Supplies” are as shown in the chart for selecting environmental impact items at each stage of product life cycle (denoted by X and XX in the chart). The items finally selected as environmental criteria are A-1, B-1, B-5, B-6, B-8, C-1, C-7, C-8, D-7, D-8, E-7, E-8, and F-7 (items marked by XX in the chart).

The blank columns are either not subject to the review or were reviewed in conjunction with other items. A detailed description of how the environmental criteria were prepared is provided below.

Table 1: Chart for Selecting Environmental Impact Items at Each Stage of Product Life Cycle

Environmental Impact Item	Product Life Stage					
	A. Resource extraction	B. Manufacturing	C. Distribution	D. Use/Consumption	E. Disposal	F. Recycling
1.Resource consumption	XX	XX	XX			X
2.Discharge of greenhouse gases		X	X			
3.Discharge of the ozone layer depleting substances						
4. Impact on eco systems	X				X	
5.Discharge of atmospheric pollutants		XX	X			
6.Discharge of water pollutants		XX				
7. Generation/disposal of wastes		X	XX	XX	XX	XX
8.Use/discharge of hazardous materials, etc.		XX	XX	XX	XX	
9.Other environmental impacts		X			X	

## **A. Resource Extraction Stage**

### **A-1 Resource consumption**

The following points were reviewed under this item:

- (1) Materials composing products
- (2) Percentage of waste paper in the pulp mixture in paper materials
- (3) Use of multiple materials
- (4) Certification system of sustainable forests
- (5) Reducing resource consumption

For (1), considering that stationery has been certified in Product Categories No.115 “Wooden products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc.” and No.118 “Plastic Products Using Recycled Materials” in addition to “Paper Stationery”, the main materials of products in this category were prescribed as paper, wood, and plastic. Although certain stationery goods are also made of metals and fiber, these materials were not included in this Product category this time, otherwise the scope of stationery products would be too broad and it would be difficult to cover all products under this Product Category. However, supposing that some products are Eco Mark certified and others are not, according to the materials of which they are composed, even though they may have the same functions, this may subsequently cause misunderstanding on the part of consumers that non-Eco Mark certified products have a high environmental impact. It is recognized that in the future, there will be a need to consider other materials as well starting from those that are used in high volume such as metals. Regarding waste egg shell, it is used as the main material and commercialized of chalk and white line for ground. Since these products are considered as the recycling product of the egg shell which is currently wasted, it was set to deal with chalk and white line for ground as recycled material.

Criteria for “B. Products made mainly of wood” in “4-1-2. Material criteria”, are based on items corresponding to “C. Living and cultural commodities” in Product Category No.115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, Etc. Version2.0”, and criteria for “C. Products made mainly of plastic materials” are based on items corresponding to “stationery” or “functional office supplies” of “A. Generally disposed products during disposal” in No.118 “Plastic Products Using Recycled Materials”. For waste wood and construction waste wood, though there was the opinion that these can be excluded since they are not used for the applicable products of this Product Category, it was on the other hand pointed out that products using these materials are actually manufactured or considered for production. In addition, from the need to promote the effective use of construction waste wood generated in massive volumes in accordance with the Construction Material Recycling Act, products made of waste wood or construction waste wood were included in the scope of this Product Category. Regarding plastic products, since it is difficult to contain high rate of recycled plastic for films which needs transparency, it was set that weight percentage of recycled plastic is 30% only for OHP films.

The criteria of “A. Products made mainly of paper” are based on No.106 “Paper for Communication Version2.0”, No.107 “Printing Paper Version2.0”, No.108

“Sanitary Paper Version2.0”. They were discussed and established based on social changes brought about by their establishment.

For (2), based on the opinion that consumers are seeking products with high waste paper pulp content, the percentage of waste paper in the pulp mixture of all products and that of paper were increased to 70% or more according to the waste paper pulp content of notebooks and ruled paper/drafting paper in paper stationery. However, for the photo album with plastic pockets, and congratulation or condolence product which is damaged its feeling by the high waste paper content rate, it was set that the waste paper pulp content rate is 50% and over, as same as Version 1.0. The percentage of waste paper in the pulp mixture of paper boards and cardboard boxes was set at 90% and 100% respectively, in accordance with the certification criteria of paper stationery. Waste paper pulp content was not applied to glassine, for which waste paper pulp cannot be used. In addition, in Version 1.0, 70% or more waste paper content rate was applied for the paper material other than paper boards and cardboard boxes. In Version 2.0, however, the waste paper content rate was raised in the total product weight, and it is necessary to consider the balance with the counting method for recycled material other than paper, so it ventured not to set waste paper content rate of the paper material other than paper boards and cardboard boxes. For wrapping paper, packaging, and envelopes, considering that strength is required in the applicable products of this Product Category due to the functions they serve, there were views that increasing the waste paper pulp content rate may increase the use or basic weight of the paper-strengthening agent used to complement strength, thus countering the reduction of environmental impact. For packaging bags, which particularly need strength, waste paper pulp content was set at 30% and above, deferring the criteria in No.113 “Packaging Paper Version 1.0”. On the other hand, content was raised to 40% and above for wrapping paper since these products required less strength. Regarding base paper for envelopes, as the most Eco Mark certified products have a content rate of more than 70%, it was deemed inappropriate to raise the standard of 40% in No.113 “Packaging Paper Version 1.0” up to 70%, though a high content rate can be set. Consequently, pulp content rate was set at over 50%. Regarding the 10% raise, however, it was discussed in the Eco Mark Category/Criteria Establishing Committee, and regarding the waste paper pulp content rate of envelopes, it was decided to collect the data related to it within a year after establishing it, and it will be re-examined. In addition, it was confirmed that present criteria of over 40% is applied until then, and there is a possibility to change the waste paper pulp content rate or to abolish envelopes as the target of Eco Mark.

**【Postscript associated with revision to Version1.4】**

Based on the confirmation by the Eco mark Category/Criteria Establishing Committee, the Eco Mark office collected new data and additionally discussed the decision of raising the current standard (40% or more) of the waste paper pulp content rate of envelopes. As a result, it was decided that further discussion is necessary for wide range of factors such as environmental burden in lifecycle and sustainable use of forest resources other than waste paper. This led to a conclusion that the waste paper pulp content rate of envelopes in the criteria remains as 40% or more and that the next review will be held (in 2008) to

discuss this issue by shelving the immediate resolution.

However, by changing the content rate calculation method from waste paper content rate to percentage of waste paper in the pulp mixture in this review, the actual content of waste paper may be higher by about five percentage points if the content is the same figure. In addition, it was assumed that paper is not contained in the handle of packaging bags and window portions of envelopes.

Considering that many bleached packaging paper products have a high waste paper to pulp ratio (8.7% of bleached products and 0.6% of non-bleached products have over 70% waste paper to pulp ratio), the proposal of raising the standard level for only bleached products and maintaining the same level for non-bleached products was reviewed. It was mentioned, however, that it would be difficult for consumers to differentiate between bleached and non-bleached products; consequently this proposal was not adopted.

For (3), since most stationery is often made of multiple materials, there is a need to clarify the scope of applicable products in this Product Category, and the scope of criteria. In this Product Category, certification criteria of the corresponding material were applied to products made of more than 70% paper, wood, or plastic materials. Even if any of these materials did not make up 70% of the whole product, they were taken up in this Product Category if the weight of the raw materials such as waste paper pulp, thinned wood, small-diameter wood, waste wood, construction waste wood, and recycled plastic material totaled more than 70%. In this case, criteria of the corresponding material were applied to the portion using the material (excluding items related to content rate of recycled materials, etc.).

Regarding the parts that wear out in use (replaceable in certain cases) including lead of mechanical pencil and glue, items of criteria were set, and it was decided to eliminate from the count target of product weight. In this case, there were some opinions that for correction tape and tape glue, separating base material is remaining in the product other than the part to be consumed by use, so this separating base material should not be counted as expendable part, and should be included in the product weight. However, currently, in the technological aspect, since recycled material can not be used for separating material, short roll would be in advantage in terms of the count of recycled material, if separating base material is included in the product weight. Although long roll could be used for longer period, it would be in disadvantage in terms of the count of recycled material. Consequently, it was decided that separating base material of correction tape and tape glue remaining to the product is regarded as expendable part, and is eliminated from the count target of product weight.

Regarding binding parts of filing product, metals and virgin material should be used for its strength. However, at the time of establishing "No.112 Paper Stationery", it was eliminated from the count target of product weight not to be disadvantage for the waste paper weight count including paper file. This criterion has followed the above understanding, and it has been decided that in any cases with use of any materials including wood and plastic, it is not included in the product weight to be fair.

For (4), there were comments that paper using wood pulp as a raw material other than waste paper should use wood produced from sustainably manageable forests, and therefore there is a need to select this item as a criterion to clarify the source of the raw material.

However, at this point, adjustments of domestic and international agreements on the criteria and certification systems of sustainably manageable forests that can be incorporated into Eco Mark criteria have not yet been carried out. Though criteria on wood from sustainably manageable forests are incorporated in eco labels for stationery, this applies only to the packaging paper of Nordic Swan (Scandinavia) and office use paper of Stichting Milieukeur (Netherlands). Considering that such criteria have yet to be established internationally, that there is no certification system in Japan, and that this criteria was not adopted during the review of the certification criteria of Eco Mark paper product categories No.106 “Paper for Communication Version 2.0”, No.107 “Printing Paper Version2.0”, and No.108 “Sanitary Paper Version2.0”, it was concluded that it is still early to incorporate this criteria.

However, based on the consensus acquired to approve wood produced from sustainably manageable forests as a raw material of pulp, it was concluded that the decision to select this item as a certification condition in the Eco Mark Program would be described in “1. Environmental Background”; at this point, it was not selected as a criterion. However, members voiced the need for further review of this item.

For (5), the need to set down criteria especially for plastic materials to promote the reduction of resource consumption, even if these resources were recycled materials, was voiced. However, considering the difficulty in setting criteria for this item, this item was not selected as a criterion.

**A-4 Impact on eco systems**

The following point was reviewed under this item:

(1) Protection of ecosystems during logging
---

This subject will not be described here because it was dealt with collectively in A-1 (4).

**B Manufacturing Stage**

**B-1 Resource consumption**

The following point was reviewed under this item:

(1) Coating of paper
----------------------

For (1), surface-coated paper is outstanding in that paper quality can be improved for printing, etc.; on the other hand, when converting waste paper into pulp, as coating materials become sludge, a reduction of the amount of coating used is



important in terms of reducing waste.

In Version1.0, coating of both sides was limited to 30 g/m<sup>2</sup>, but in this version, considering the need to ensure consistency with other paper product categories such as No.106 “Paper for Communication Version 2.0”and No.107 “Printing Paper Version2.0”, and that packaging paper is mostly printed only on one side and thus the restriction of coating amount on one side is important, criteria on the maximum coating amount allowed on one side was also set down together with the total permissible coating amount on both sides.

In addition, it was also decided that paper containing white pigment shall be considered non-coated paper.

#### B-2 Emission of greenhouse gases

The following point was reviewed under this item:

(1) Energy-saving and CO <sub>2</sub> emissions in the manufacturing stage
--

For (1), energy saving was reviewed though it was not selected as a criterion in “Paper Stationery”. In Product Category No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0”, the criterion “ Energy consumptions efforts must be carried out in manufacturing” was established. Furthermore, there were comments that criteria should be established considering that some international eco labels have criteria on the amount of energy saved and reduction of CO<sub>2</sub> emissions during the manufacturing stage.

However, for reasons that manufacturers are already implementing efforts to reduce energy consumption as part of cost reduction strategies, reduction efforts are also already being made for CO<sub>2</sub> emissions since Japan signed the Framework Convention on Climate Change, quantitative criteria such as No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0” lack effectiveness, concepts and calculation methods of energy consumption and CO<sub>2</sub> emission have yet to be established, quantitative criteria were deemed difficult to establish, and consequently this item was not selected as a criterion.

#### B-5 Exhaust of air pollutants

The following point was reviewed under this item:

(1) Air pollution shall be appropriately managed.
---

In Product Categories “Paper Stationery”, No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0” and No.118 “Plastic Products Using Recycled Materials”, it was determined that atmospheric pollutants discharged during paper production processes have reduced impact on the environment by strict compliance with related environmental regulations and agreement of environmental pollution control. This item was thus selected as a

critterion.

#### **B-6 Discharge of water contaminants**

The following point was reviewed under this item:

(1) Appropriate management of water pollution.

In Product Categories “Paper Stationery”, No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0”, and No.118 “Plastic Products Using Recycled Materials”, it was determined that water pollutants discharged during paper production processes have reduced impact on the environment by strict compliance with related environmental regulations and agreement of environmental pollution control. This item was thus selected as a criterion.

#### **B-7 Generation/disposal of wastes**

The following point was reviewed under this item:

(1) Devastation of scenery through illegal dumping of industrial wastes

(1) was not selected as a criterion considering that appropriate disposal of industrial wastes was already prescribed in laws on the processing of wastes and cleaning, and because it is difficult to control illegal dumping by manufacturers.

#### **B-8 Use and discharge of hazardous materials**

The following points were reviewed under this item:

(1) Hazardous materials  
(2) Paper whiteness  
(3) Printing ink  
(4) Azo dye  
(5) Chlorine gas bleaching in paper manufacturing process  
(6) Deinking and use of slime control in paper manufacturing

For (1), in Version1.0 of this Product Category, No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0”, and No.118 “Plastic Products Using Recycled Materials”, the observance of regulations, laws, and local agreements of the manufacturing plant was incorporated in the criteria. In addition, for reasons that the Law Concerning Reporting, etc. of Release to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR law) was established, thus setting down rules on the report of chemical substance release, and that criteria on the report level based on the PRTR law have been incorporated in paper product categories No.106 “Paper for Communication Version 2.0”, No.107 “Printing Paper Version2.0”, and No.108

“Sanitary Paper Version2.0”, criteria based on the PRTR law were also prescribed in this Product Category with the aim of promoting reduction of use. Specifically, it is now necessary to report the overuse of amount of standard in which reporting obligation was set by law in the overall product manufacturing process.

For (2), whiteness was taken up as a substitute index for reducing environmental impact in the paper manufacturing process in Version 1.0. During the review of Version 2.0, there were comments that since the whiteness of paper containing waste paper pulp depends on the content of paper with high whiteness degree, the current level of whiteness would continue even though this item was discontinued as a criterion. Of the products taken up in this Product Category, art paper, envelopes for giving cash as a gift on celebratory occasions, white and red envelopes (used for celebratory occasions in Japan), calligraphy paper, etc. are required whiteness in terms of product functions. If whiteness is to be set down as a criterion, the scope of the criteria can only be limited to notebooks. However, based on comments regarding the importance of regulations on whiteness for notebooks from the perspective of environmental education, and the need to ensure consistency with other paper product categories such as No.106 “Paper for Communication Version 2.0” and No.107 “Printing Paper Version2.0”, whiteness was continuously applied as a criterion for non-coated paper and white notebooks using paper boards. However, whiteness in this item refers to inner papers of notebooks. The criterion is approximately 70% and below, and  $\pm 3\%$  of error is approved in paper manufacturing process management.

For (3), printed paper products are included in Product Category No.120 “Paper Printed Matters”. The printing ink of paper printed matter is required to conform to items on this type of ink in Product Category No.102 “Offset Printing Ink” and other types of ink to items 4-1(1)-(7) to 4-2(10) of No.102. Considering that sophisticated printing techniques rarely performed using paper printed matter will be included in this Product Category, compliance with criteria on printing ink was selected as a criterion in this category like in “Paper Printed Matters”.

For (4), this item was studied together with item D-8 (2) and shall thus be omitted here.

For (5), despite the fact that dioxin measures are being addressed by switching chlorine gas bleaching to the use of chlorinated compounds in the current paper manufacturing process, considering that this item has been selected as a criterion in international eco labels, efforts are being made by the paper manufacturing industry to realize ECF (non-chlorine bleaching) by the end of 2004, in addition to the importance of establishing consistency with other paper product categories such as No.106 “Paper for Communication Version 2.0”, No.107 “Printing Paper Version2.0”, etc., this item was selected as a criterion. However, enforcement was postponed for one year because ECF efforts are apparently carried out on a small scale, and behind schedule for certain packaging paper manufacturers.

(6) was reviewed in product categories No.106 “Paper for Communication Version 2.0”, No.107 “Printing Paper Version2.0”, and No.108 “Sanitary Paper Version2.0”. Considering the difficulty in setting down quantitative criteria on the amount used, the submission of documents describing the discharge of chemical substances based on the PRTR law was adopted as an incentive for reducing the use of all chemical

substances. Equally in this Product Category, the need for reports on the usage of designated chemical substances based on the PRTR Law described in (1) was confirmed.

#### **B-9 Other environmental impacts**

The following point was reviewed under this item:

(1) Reuse of wastewater in the paper manufacturing process

For (1), The promotion of waste water reuse to promote the effective use of water resources was proposed. Considering that the paper manufacturing industry uses massive quantities of water in nature and has already been promoting effective use of water resources for a long time now, this item was not selected as a criterion.

#### **C Distribution Stage**

##### **C-1 Resource consumption**

The following point was reviewed under this item:

(1) Packaging forms which enable the product to be reused or recycled (single-material construction, degradability)

For (1), in Version 1.0 of this Product Category and No. 115 “Wooden Products Using Waste Wood, Thinned-Out Wood, Small-Diameter Logs, etc. Version 2.0”, consideration of resource saving and ease of recycling was recognized as important for reducing environmental impact, and this item was therefore selected as a criterion. Similar reviews were carried out for Version2.0, and as a result, this item was selected as a criterion.

##### **C-2 Emission of greenhouse gases**

The following point was reviewed under this item:

(1) Reduction of energy consumption and environmental impact in the transportation stage

In Version1.0 of this Product Category, considering it difficult to establish criteria on alternative distribution methods with less CO2 emissions, this item was not selected as a criterion. In the review of Version2.0, there were comments of the need to reduce energy consumption and environmental impact by transportation using vehicles running on green energy.

However, considering that green energy is not defined in the Eco Mark Program, quantification is required in order to establish this item as a criterion, and in inventory analysis using the general quantification method LCA (life cycle assessment), making an accurate forecast is difficult due to the need for many

assumptions; this item is not only an issue related to product category, and thus it is necessary to review it for the entire Eco Mark Program, also, adequate efforts are already being made by the paper manufacturing industry such as consideration to packaging and packing, modal shift, and joint delivery, etc. Therefore, this item was not selected as a criterion.

However, since this item holds considerable significance for such problems as exhaust gas created by truck transportation, it was selected as an item to be further considered.

#### **C-5 Exhaust of air pollutants**

The following point was reviewed under this item:

(1) Reduction of environmental impact in the transportation stage

(1) shall be omitted here since it was studied with item C-2(1) and the details are the same.

#### **C-7 Generation/disposal of waste**

The following points were reviewed under this item:

(1) Packaging forms which enable the product to be reused or recycled  
(2) Impact of incineration

(1) shall be omitted here since it was studied with item C-1(1) and the details are the same.

For (2), though the Law for Promoting Sorted Collection and Recycling of Containers and Packaging mandates recycling of paper and plastic packaging, most are actually disposed of as general waste and incinerated. Consequently, this item was selected as a criterion due to the importance of giving consideration to reduction of impact during incineration.

#### **C-8 Use and discharge of hazardous materials**

The following point was reviewed under this item:

(1) Use of halogens and organic halogenides in plastic packaging material

(1) was selected as a criterion from the viewpoint of reducing harmful substances during disposal.

### **D Use and Consumption Stage**

#### **D-7 Generation and disposal of wastes**

The following point was reviewed under this item:

**(1) Considerations for long term use**

For (1), it is important that long-term use of products be considered for reducing waste. Many of the products under this Product Category have expendable parts such as the ink of ballpoint pens, lead of mechanical pencils, and staples. Since long-term use of products can be realized by informing users that these parts are refillable, this item was selected as a criterion.

Regarding long term use of products other than refilling and replacing expendable parts, due to the difficulty in establishing consistent criteria, this aspect was not included in the criteria.

**D-8 Use and discharge of hazardous materials**

The following points were reviewed under this item:

- (1) Printing ink**
- (2) Azo dye**
- (3) Chlorine gas bleaching in paper manufacturing process**
- (4) Gum and adhesive**
- (5) Harmful substances in expendable parts such as ink and adhesive**
- (6) Organic solvents in expendable parts such as ink**

(1) shall be omitted here since it was studied with item B-8(3) and the details are the same.

For (2), this item was reviewed for reasons that it may be used in products in this product category, and that it has been selected as a criterion in other paper product categories such as No.106 "Paper for Communication Version 2.0", No.107 "Printing Paper Version2.0", and No.108 "Sanitary Paper Version2.0", etc.

Considering the need to establish consistency with other product category criteria, it was decided that restrictions will be imposed on the azoic pigments generating the amines listed in Attachment 2. In the German regulations on sundries which applies to this item, "detection of amines exceeding 30 mg per 1 kg of material" serves as the criteria for determining generation of amines. This item was therefore accordingly selected as a criterion. Azo dye in this item refers to the dye used in the process of paper manufacturing.

(3) shall be omitted here since it was studied with item B-8(5) and the details are the same.

For (4), considering that prohibited chemical substances are prescribed in detail in foreign eco labels, this item was reviewed. Concrete matter was studied with item B-8 (5). In addition, for water-soluble and water-dispersible adhesives, this is the subject matter of waste paper recycling, and it shall be omitted here since it was studied with item F-7 (2) and the details are the same.

(5) was reviewed because heavy metals such as chrome are used in the ink of ballpoint pens, and many of the products covered by this Product Category are used by children. Considering the risk of accidentally swallowing the ink of fountain pens

or water soluble markers, lead of pencil, color pencils, and mechanical pencils, crayons, etc., and that JIS EN71-3 (UK Regulations "Safety of Toys") prescribes regulations on harmful substances, this item was selected as a criterion including the ink of ballpoint pen not listed by JIS, cream to help turn over the leaves more easily, correction tape, liquid ink, and adhesives used in adhesive tape and labels.

For (6), considering the influence of organic solvents on the human body, organic solvents prohibited from use in JIS S 6037 "Markers" were prohibited from use even for products using correction fluid and expendable ink.

For (7), in No.118 "Plastic Products Using Recycled Materials", standard value of one of the following three criteria should be satisfied so far; These three criteria are 1) Notice No.46 of Environment Agency, 2) 88/378/EEC EN71-3, and 3) Notice No. 370 of Ministry of Health and Welfare. For this item, in the process of switching to the Product Category "Stationery/Office Supplies", as same as the consumption part and adhesive, considering the effect on human body by accidental swallowing, the unification of various criteria by adopting 88/378/EEC EN71-3 will be carried out in the future. (Currently, for this item, only the case to take new Eco Mark in this Product Category is applied. )

#### D-9 Other environmental impacts

The following point was reviewed under this item:

(1) Use of fluorescent whitening agent for paper
--

For (1), in Version1.0, although there were comments that florescent whitening agents are considered unnecessary chemicals in terms of product function, it was decided that prohibiting use will impede the use of waste paper. The approval of use not going over excessive levels was therefore established as a criterion. In the review of Version2.0 criteria, there were comments that restrictions more rigid than Version1.0 are unnecessary considering that no carcinogenic chemical substances are used, and that use is limited to the minimal required level in other paper product categories such as No.106 "Paper for Communication Version 2.0" and No.107 "Printing Paper Version2.0". It was decided that adjustments would be made to conform to these product categories. This item was established as a criterion that mandates reporting of use of the concerned substance, with the hope of manufacturers voluntarily reducing use.

#### E. Disposal Stage

##### E-4 Impact on eco systems

The following point was reviewed under this item:

(1) Use of biodegradable plastics in plastic materials
--

(1) was reviewed given that the Law on Promoting Green Purchasing incorporates

envelopes using recycled plastic materials for windows and plastic materials made of plant matter. However, considering that the Eco Mark Program does not take biodegradability as an evaluation scale, the mixture of biodegradable plastics sharply reduces the quality of recycling material, biodegradable plastics are basically disposable, and that there are no studies clarifying the impact on the ecosystems of massive disposal of biodegradable plastics, the use of organic materials cannot be guaranteed to reduce environmental impact. Consequently, this item was not selected as a criterion.

#### **E-7 Generation/disposal of wastes**

The following points were reviewed under this item:

- |  |
|--|
| <ul style="list-style-type: none"><li>(1) Sorting of materials</li><li>(2) Use of biodegradable plastics</li></ul> |
|--|

For (1), since most of the products undertaken in this Product Category are made of multiple materials, it is important that these component materials can be sorted to promote appropriate disposal of used products and recycling. This item was therefore selected as a criterion.

(3) shall be omitted here since it was studied with item E-4(1) and the details are the same.

#### **E-8 Use/discharge of hazardous materials**

The following points were reviewed under this item:

- |   |
|---|
| <ul style="list-style-type: none"><li>(1) Printing ink</li><li>(2) Azo dye</li><li>(3) Chlorine gas bleaching in paper manufacturing process</li><li>(4) Use of halogens in plastic materials</li></ul> |
|---|

(1) shall be omitted here since it was studied with item B-8(3) and the details are the same.

(2) shall be omitted here since it was studied with item D-8(2) and the details are the same.

(3) shall be omitted here since it was studied with item B-8(5) and the details are the same.

For (4), products of this Product Category correspond to stationery and functional office supplies under “products generally disposed” of No.118 “Plastic Products Using Recycled Materials”, and products using halogens such as vinyl chloride were excluded from certification due to the potential of generating dioxin in inappropriate incineration. In this Product Category, plastic materials are prohibited from being added with resins made of halogens and halogenides as prescription constituents.

#### **E-9 Other environmental impacts**

The following points were reviewed under this item:



- |  |
|--|
| (1) Labeling of disposal, disassembly, and sorting methods<br>(2) Use of composite materials |
|--|

For (1), there were comments on the need to label the disassembly method to enable appropriate separation and sorting during product disposal. However, considering that some products are difficult to disassemble and some products lack space for such labeling, it was deemed difficult to require labeling. This item was therefore not selected as a criterion.

(2) shall be omitted here since it was studied with item F-7(1) and the details are the same.

## **F Recycling Stage**

### **F-1 Consumption of resources**

The following point was reviewed under this item:

- |                                   |
|-----------------------------------|
| (1) Recovery and recycling system |
|-----------------------------------|

(1) was reviewed based on the hope that product recovery and establishment of recycling systems can help reduce environmental impact such as resource consumption, etc. However, since the recovery of stationery is a recent effort, and it is still too early to set down the establishment of recovery systems as a criterion, this item was not selected as a criterion.

### **F-7 Generation/disposal of waste**

The following points were reviewed under this item:

- |   |
|---|
| (1) Ease of recycling<br>(2) Consideration of recycling adhesive labels |
|---|

For (1), "Paper Stationery" seeks prohibition of the use of contraindications designated by the Paper Recycling Promotion Center to promote the recycling of waste paper; certification criteria for paper in this Product Category also adopted this prohibition. However, use was allowed only for the surface processing of filing products aimed at long-term storage such as files. Long-term storage means a document storage time of ten years at public organizations.

Though plastics are excellent recycling materials, no system for recovering plastic materials is available. In addition, since stationery needs to use various types of plastics in terms of performance and quality, material labeling may not be provided due to lack of space, thus appropriate sorting and recycling may be difficult. For these reasons, the criteria for material labeling prescribed in No.118 "Plastic Products Using Recycled Materials" were adopted in this Product Category. However, no criteria regarding ease of recycling were established.

For (2), considering that organic solvent type adhesives used for adhesive labels and resin processed release paper impede the recycling of paper used for this purpose, the use of recyclable adhesives (completely removal types) and release paper was discussed to be selected as a criterion. However, it is difficult to evaluate appropriately, because standard for the test method to evaluate water-solubility of these adhesive has not established so far. In addition, the difficulty of disposal is dependent on the facility of paper manufacturer. For completely removal adhesives, it has been used practically for tack labels, but not for sticky note, two-sided tape, book-binding tape. Therefore, as same as Version 1.0, the criteria have been currently set to use water-soluble and water-dispersible adhesives, and not to suffocate waste paper recycling. If the test method to evaluate water-solubility of adhesives in waste paper recycling is standardized in the future, criteria items will be set for the concrete capability at that time. Currently, water-soluble products including completely removal adhesives and water-dispersible adhesives are approved. "Water-soluble" here refers to the dispersible property in water (or alkaline water solution) in the process of dissociation.

In addition, for release paper, "Recyclable release paper" has been adopted, which uses clay-coated paper and glassine paper for base materials instead of laminate paper made of polyethylene, and is recyclable. However, for recyclable release paper, it is difficult to use waste paper currently. Therefore, from the aspect of promoting to use waste paper, release paper (release base material) containing waste paper and recycled plastic has been adopted, though it is not suitable for recycling.

\*) Completely removal adhesives/ Recyclable release paper

Reference: "Introduction of Recyclable Paper Products (Recyclable seal, Recyclable release paper)" Pamphlet (The Paper Recycling Promotion Center/[The Japan Federation of Printing Industries](#))