Green Label Product Paper

(TGL-8-R2-11)

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Paper
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1. Background

Paper consumption for Thailand is increasing every year. On average, each Thai person uses about 55 kilogram of paper per year. Every ton of paper produced is an equivalent to using 17 trees. It also requires about 1,000 Kilowatt per hour of electricity or equivalent to 1,300-1,500 kilogram of husks as a bio-fuel and 30-40 kilogram of natural gas including 100 ton of clean water combined. Moreover, paper production make use of Chlorine to bleach paper pulp, which releases harmful wastes into the environment. Recycling paper or pulp made from agricultural residues can reduce the use of forest resources, decrease waste from paper, save electricity and water as well as reduce production costs.

Therefore, the development of Green Label for paper product aims to promote recycling of paper to reduce the use of forest resources, decrease waste from paper, save electricity and water as well as reduce production costs.

2. Scope

Green Label for paper product criteria includes recycled paper produced from recycling paper pulp or pulp made from agricultural residues, which are divided into 5 categories as follows:

2.1 Sanitary paper: limited to toilet tissue paper, table napkins, paper towels, and facial tissue.

2.2 Paper and cardboard for packaging: limited to coated cardboard box, uncoated cardboard box, corrugated fiberboard, and Kraft paper.

2.3 Printing and writing paper: limited to printing paper, writing paper, paper for continuous forms, xerographic paper, and mimeograph paper.

2.4 Other types of paper: limited to gypsum liner boards.

2.5 Fine paper products: limited to notebooks, envelopes, file holder, folder box, box file, corrugated fiberboard box, cardboard box, paper bag, paper cones and tubes, gift cards, and calendars.

3. Definitions

Recycled pulp refers to pulp made from post-consumer waste paper and agricultural residues, except for pre-consumer waste paper.

Virgin pulp refers to pulp made from unprocessed fiber which extracted from softwoods, such as pine, or from non-wood plants, such as bamboo, hemp.

Agricultural residues pulp refers to pulp made from agricultural residues or harvesting wastes and agricultural processing wastes intended for disposal or for energy generation by means of waste incineration. These wastes are properly treated as raw material for pulping.

Post-consumer waste paper refers to paper products that have reached the hands of the customers.

Consumer refers to a purchaser or a person who purchases service from a business or a person who gets offering or convincing to buy goods or service from a business. This includes a person who purchases goods or service legally without payment.

Pre-consumer waste paper refers to defected paper generated during the paper production and processing within plants before reaching the consumers (both dry broke and wet broke, but excluding dry broke and wet broke made from 100% recycled pulp). As such, pre-consumer waste paper also includes occurrence of defected papers as a result of transportation or distribution, in which the defected paper can no longer be used to fulfill its function[1].

Agricultural residues refers to agricultural residues intended for disposal or for energy generation by means of waste incineration. These are capable of collecting and treating as raw material for production process instead of pre-processed material aimed to use in recycling or in production process.

Toilet tissue refers to soft and wrinkly paper that can easily absorbs water, but becomes easily macerated when coming into contact with water. It is suitable for cleaning.

Paper towel refers to wrinkly paper made from white or other colored pulp, consisting of one or many layers. The paper is soft, thick and water absorbent and does not easily disintegrate when coming into contact with water.

Facial tissue refers to wrinkly paper made form bleached pulp, which may contain other colors, consisting of two plies. Facial tissue is soft, water absorbent, and does not break easily when wet.

Table napkins refers to wrinkly paper made from pulp, which may be white or other colors or with printed images. Table napkins are soft, thick, water absorbent, and does not break easily when wet.

Boxboard refers to multi-layered cardboards with one side of the surface being suitable for printing.

Coated boxboard refers to boxboards with color coated pigments and binder covering the surface for smoothness.

[1] The defected paper that can no longer fulfill its function refers to the paper that cannot be reuse according to suppliers' and distributors' objectives, which are to distribute or sell the product.

Uncoated boxboard refers to boxboards with no color coated pigments and binder.
Corrugating medium refers to paper that will be corrugated to give it wavy ridges to make the corrugated medium.

Corrugated medium refers to corrugated paper that will form the middle layer between the linerboard and corrugated fiberboard.

Corrugated fiberboard refers to paper that consists of at least 1 sheet of corrugated medium attached to at least 2 linerboards.

Cardboard refers to boxboard and cardboard suitable for printing on one side or two sides including graybeard for making notebook cover or folder cover.

Linerboard or facing refers to papers that are attached to the corrugated fiberboard. This type of paper has even surface, easily glued, and suitable for printing.

Kraft paper refers to paper that is suitable for wrapping products, can be made into bags or surfaces of corrugated fiberboard.

Paper used for bags refers to paper used to make one layer bag.

Printing and writing paper refers to paper material intended for use in printing or writing.

Printing paper refers to paper material suitably used for general commercial printing.

Writing paper refers to paper material suitably used for writing purpose without ink leakage.

Newsprint refers to paper material made from mechanical pulp or recycled pulp commonly used for printing newspaper.

Xerographic paper refers to paper used for photocopying machine to print photocopied documents and other printed matters.

Paper for continuous forms refers to paper sheets used to print information or other documents by impact printers. This type of paper has perforations on both sides to fit into the impact printers' sprocket, resulting in continuous page-by-page printing.

Carbonless paper refers to paper coated with pigment on one or both sides which transfers images or letters onto the copying sheet below by pressure from writing or typing.

Paper for gypsum liner board refers to paper produced to make gypsum liner board.

Notebook refers to a product produced by binding pond paper (for writing) together into a notebook with a cover for writing purposes.

Envelope refers to document package made of paper or other square-shaped materials by folding three sides together and glued it, leaving one side as an envelope flap.

Folder refers to a cover of documents by folding once or many times to protect documents (loose paper) with no binding inside.

File refers to folder with binders inside to hold the paper inside.

Suspension file folder or hanging file folder refers to folder or file with hanging function to hang on a rack in metal cabinet.

Paper folder refers to paper encasing the documents with or without binders.

Storage box for folder refers to square-shaped corrugated box suitable for storing folders with or without box covering.

Box file refers to corrugated box shaped vertically with no covering.

Corrugated box refers to corrugated packaging box with covering

Individual package refers to a box made from cardboard. It is the primary packaging used to package in units for added value in commercial use.

Paper bag refers to a bag made of paper with bottom and top covering and in some bags, there's a handle.

Paper cones and tubes refers to the core roll made from paper shaped into a cone or a tube and it is used for rolling paper.

Gift cards refers to cards used to express good wishes, happiness, and success to the receiver. It can be made from printing paper or writing paper.

Calendar refers to a template for checking days, months, and years, which can be made from printing paper or writing paper.

4. Sanitary paper products criteria

4.1 Toilet tissue paper

4.1.1 General criteria

4.1.1.1 The product shall have the following general characteristics and desirable properties:

(1) General characteristics

Each toilet tissue roll shall not have more than 10 defects on the product as listed in 1.1 to 1.5

(1.1) Cuts, tears, or holes that cut through both layers of the toilet tissue; or cuts, tears, or holes that cut through one layer with a surface area of 5 mm^2 or more.
(1.2) Foreign matters in the toilet tissue roll.
(1.3) Folds, not including folds in the first and last 10 sheets of toilet tissue.
(1.4) Uneven color, which can be spotted by sight, on each sheet of toilet tissue.
(1.5) Uneven perforations between sheets of tissue such that when pulled, the toilet tissue sheets do not separate themselves along the perforations.

(2) Other desirable properties as shown in table 1.

Table 1: Other desirable properties for toilet tissue

No.	Properties	Requirements		Testing Methods According to TIS 214*
		One ply	Two plies	
1	Standard weight (g/m^2) shall be no less than	16.0	28.0	Article 8.2
2	Flushability	No wet strength agent added	No wet strength agent added	self-declaration
3	Amount of ashes shall be no less than (%)	4.0	4.0	Article 8.5
4	Acidity and alkalinity	5.5 to 8.5	5.5 to 8.5	Article 8.6
5	Tensile strength (Newton per 25mm. width) shall be no less than - Machine direction - Cross-machine direction	 3.00 1.00	 3.00 1.20	Article 8.7
6	Stretch Test shall be no less than (%) - Machine direction	 12	 12	Article 8.7

Note * Thai Industrial Standard for toilet tissue (TIS 214-2530) is under revision. Once the revised standard is published in the Royal Thai Government Gazette, the required properties of the toilet tissue shall be in accordance with the industrial standard declared in the latest issue of the Royal Thai Government Gazette.

(3) Packaging
Each toilet tissue roll or each packing unit shall be properly wrapped in paper or other appropriate materials.

(4) Symbols and labels
Each toilet tissue roll or packing unit shall at least bear numbers, letters, or symbols indicating the following details in clear view:
(4.1) The words ‘toilet tissue’
(4.2) Type
(4.3) Size of the tissue sheet (width x length) in centimeters
(4.4) Length of the entire toilet tissue roll in meters and indicate the amount contained in one package (if applicable)
(4.5) Name and address of manufacturer or manufacturing factory or brand name
(4.6) Instructions for use and suggestions for use (if applicable)

(4.7) Date, month, and year of manufacture
(4.8) Country of manufacture
In the event that foreign languages are used, they shall correspond to the Thai contents specified above.

4.1.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

4.1.2 Environmental criteria

4.1.2.1 The finished product shall comprise of no less than 100% by weight of recycled pulp and agricultural residuals pulp.

4.1.2.2 Water use for production shall not exceed 45 cubic meters per ton for fresh water that feeds into production process.

4.1.2.3 Product properties shall meet the requirements as follows;

(1) Heavy metals
- acceptable level of lead < 2 ppm
- acceptable level of cadmium < 2 ppm
- acceptable level of chromium hexavalent < 1 ppm
- acceptable level mercury <2 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

4.1.2.4 Prohibited substances during production
- Chlorine gas (Cl_2)
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- Halogen as a component in bleaching pulp process
- Ethylenediamine tetraacetic acid (EDTA)
- Alkylphenol ethoxylates (APEOs)
- Halogenated hydrocarbons
- Formaldehyde

4.1.2.5 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper packaging
- Linerboard shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper products for linerboard except individual package.
- Corrugated paper shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for corrugated paper.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

4.1.3 Verification procedure

4.1.3.1 Manufacturer shall submit test result for General criteria and Environmental criteria according to TISI for toilet tissue, TIS 214.

4.1.3.2 Manufacturer shall submit proven evidence that the product is produced from recycled pulp and/or agricultural residues pulp of no less than 100% by weight. This evidence shall be signed by authorized personnel from the manufacture and submit to Green Label officer.

4.1.3.3 Manufacturer shall submit proven evidence that freshwater used for production process does not exceed 45 cubic meters. The proven evidence shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.1.3.4 Manufacturer shall submit test results for heavy metals as follows:
(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321
or recognized international or national standards

4.1.3.5 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

4.1.3.6 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

4.1.3.7 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 4.1.2.4. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.1.3.8 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling on plastic

types used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.1.3.9 For linerboard, manufacturer shall present Green Label certification for paper used as linerboard or present test results that conform to Environmental criteria for paper used as linerboard.

4.1.3.10 For corrugated paper, manufacturer shall present Green Label certification for corrugated paper or present test results that conform to Environmental criteria for corrugated paper.

4.1.3.11 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

4.2 Paper Towels

4.2.1 General criteria

4.2.1.1 Products shall meet the following general characteristics and other desirable properties:

(1) General characteristics

Each roll or pack of paper towels shall not have more than 5 defects as listed in 1.1 to 1.5

(1.1) Cuts, tears, or holes that cut through both layers at the same place on the paper towel or if it is present on either one of the layers with a surface area of 5 square millimeters or more.

(1.2) Foreign matters in the paper towel roll or pack

(1.3) Uneven color, which can be spotted by sight, on each paper towel

(1.4) For paper towel rolls, uneven perforations such that when pulled, the paper towel does not tear along the perforations

(1.5) For paper towel sheets, the sheets are not folded into boxes in such a way that makes it easy to pull them out for use sheet by sheet

(2) Other desirable properties

Table 2: Other desirable properties for hand towels and kitchen towels (roll-type, and sheet-type)

No.	Properties	Requirements		Testing Methods
		Hand Towels (1-ply and 2-plies types)	Kitchen Towels (2-plies type)	
1	Standard weight (g/m^2) shall be no less than	30/35	40	TIS 214
2	Amount of ashes shall be no more than (%)	4.0	4.0	TIS 214
3	Acidity and alkalinity	5.5 to 8.5	5.5 to 8.5	TIS 214
4	Tensile strength (Newton per 25mm. width) shall be no less than - Machine direction - Cross-machine direction	 6.6/7.5 1.4/2.5	 8.5 2.8	TIS 215
5	Stretch Test shall be no less than (%) - Machine direction	10.0	10.0	TIS 215
6	Tensile strength when wet (Newton per 25mm. width) shall be no less than - Machine direction	2.0/2.2	2.2	TIS 215

Note * Thai Industrial Standard for hand towels (TIS 239-2530) is under revision. Once the revised standard is published in the Royal Thai Government Gazette, the required properties of the hand towels shall be in accordance with the industrial standard declared in the latest issue of the Royal Thai Government Gazette.

(3) Packaging

(3.1) Each paper towel roll or packing unit shall be properly wrapped in paper or other appropriate materials.

(3.2) The number of sheets of paper towels in each package shall be no less than the number stated on the label.

(4) Symbols and labels

Each paper towel roll or package shall at least bear numbers, letters, or symbols, indicating the following details in clear view:

(4.1) The words ‘paper towel’

(4.2) Type

(4.3) Size of the paper towel sheet (width x length) in centimeters

(4.4) Length of the entire paper towel roll in meters and amount contained in one package (if applicable)

(4.5) Name and address of manufacturer or manufacturing factory or brand name.

(4.6) Instructions for use and suggestions for use (if applicable)

(4.7) Date, month, and year of manufacture

(4.8) Country of manufacture

In the event that foreign languages are used, they shall correspond to the Thai contents specified above.

4.2.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

4.2.2 Environmental criteria

4.2.2.1 The finished product shall comprise of 100% by weight of recycled pulp and/or agricultural residues pulp.

4.2.2.2 Water used in the production process shall not exceed 45 cubic meters per ton, especially freshwater that feeds into the production process.

4.2.2.3 Product properties shall meet the requirements as follows;

(1) Heavy metals
- acceptable level of lead < 2 ppm
- acceptable level of cadmium < 2 ppm
- acceptable level of chromium hexavalent < 1 ppm
- acceptable level mercury <2 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

4.2.2.4 Prohibited substances during production
- Chlorine gas (Cl_2)
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- Halogen as a component in bleaching pulp process
- Ethylenediamine tetraacetic acid (EDTA)
- Alkylphenol ethoxylates (APEOs)
- Halogenated hydrocarbons
- Formaldehyde

4.2.2.5 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper packaging
- Linerboard shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper products for linerboard except individual package.

- Corrugated paper shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for corrugated paper.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

4.2.3 Verification procedure

4.2.3.1 Manufacturer shall submit test result for General criteria and Environmental criteria according to TISI for paper towel, TIS 239.

4.2.3.2 Manufacturer shall submit proven evidence that the product is produced from recycled pulp and/or agricultural residues pulp of no less than 100% by weight. This evidence shall have company stamp and signed by authorized personnel from the manufacturer and submit to Green Label officer.

4.2.3.3 Manufacturer shall submit proven evidence that freshwater used for production process does not exceed 45 cubic meters. The evidence shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.2.3.4 Manufacturer submit test results for heavy metals as follows:

(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321

or recognized international or national standards

4.2.3.5 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

4.2.3.6 Manufacturer shall submit test result for AOX (adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

4.2.3.7 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 4.2.2.4. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.2.3.8 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling on plastic types used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.2.3.9 For linerboard, manufacturer shall present Green Label certification for paper used as linerboard or present test results

that conform to Environmental criteria for paper used as linerboard.

4.2.3.10 For corrugated paper, manufacturer shall present Green Label certification for corrugated paper or present test results that conform to Environmental criteria for corrugated paper.

4.2.3.11 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

4.3 Table Napkins

4.3.1 General criteria

4.3.1.1 The product shall meet the following general characteristics and other desirable properties:

(1) General characteristics

For Grade 1 table napkins, no more than 6% of napkins in each package shall contain the defects listed in 1.1 to 1.3. For Grade 2 table napkins, no more than 10% of napkins in each package shall contain the defects listed in 1.1 to 1.3.

(1.1) Tears or holes with an area of more than 5 square millimeters

(1.2) Foreign matter in the table napkins package

(1.3) Uneven color on each sheet of table napkin that is visible by sight

(2) Other desirable properties of the product shall be in accordance with Table 3

Table 3: Other desirable properties for table napkins

No.	Properties	Requirements				Testing Methods
		Grade 1		Grade 2		
		1 ply	2 plies	1 ply	2 plies	
1	Standard weight (g/m^2) no less than	15.0	25.0	15.0	25.0	TIS 214
2	Water absorptiveness (second per 0.1 m^3 water) no more than	10.0	10.0	10.0	10.0	TIS 240 no. 8.3
3	Amount of ashes < (%)	4.0	4.0	4.0	4.0	TIS 214
4	Acidity and alkalinity	5.5 to 8.5	5.5 to 8.5	5.5 to 8.5	5.5 to 8.5	TIS 214
5	Tensile strength (Newton per 25mm. width) shall be >					TIS 215
	- Machine direction	2.7	4.7	2.7	4.7	
	- Cross-machine direction	0.6	1.0	0.6	1.0	
6	Stretch test > (%)					TIS 215
	- Machine direction	6.0	6.0	6.0	6.0	
7	Tensile strength when wet (Newton per 25mm. width) shall be >					TIS 215
	- Machine direction	0.7	1.2	-	-	

Note Thai Industrial Standard for table napkins (TIS 240-2530) is under revision. Once the revised standard is published in the Royal Thai Government Gazette, the required properties of the table

napkins shall be in accordance with the industrial standard declared in the latest issue of the Royal Thai Government Gazette.

'Grade 1 table napkins' refers to regular table napkins which have a higher resistance when pulled while the napkin is wet than Grade 2 table napkins.
'Grade 2 table napkins' refers to mini table napkins which have low resistance when pulled while the napkin is wet.

(3) Packaging
(3.1) Each grade of table napkin shall be properly wrapped with suitable wrapping material.
(3.2) Each grade of table napkin shall contain no less than the number of napkins stated on the label for each pack.

(4) Symbols and labels
Each pack of table napkin shall at least bear numbers, letters, or symbols indicating the following details in clear view:
(4.1) The words 'table napkin'
(4.2) Type
(4.3) Size of the napkin (width x length) in centimeters
(4.4) Length of the entire roll in meters and the amount contained in one package (if applicable)
(4.5) Name and address of manufacturer or manufacturing factory or brand name.
(4.6) Instructions for use and suggestions for use (if applicable)
(4.7) Date, month, and year of manufacture
(4.8) Country of manufacture
In the event that foreign languages are used, they shall correspond to the Thai contents specified above.

4.3.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

4.3.2 Environmental criteria

4.3.2.1 The finished product shall comprise of 100% by weight recycled pulp and/or agricultural residues pulp.

4.3.2.2 Water used in the production process shall not exceed 45 cubic meters per ton, especially freshwater that feeds into the production process.

4.3.2.3 Product properties shall meet the requirements as follows;
(1) Heavy metals
- acceptable level of lead < 2 ppm
- acceptable level of cadmium < 2 ppm
- acceptable level of chromium hexavalent < 1 ppm
- acceptable level mercury <2 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
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2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

4.3.2.4 Prohibited substances during production

- Chlorine gas (Cl_2)
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- Halogen as a component in bleaching pulp process
- Ethylenediamine tetraacetic acid (EDTA)
- Alkylphenol ethoxylates (APEOs)
- Halogenated hydrocarbons
- Formaldehyde

4.3.2.5 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper packaging

- Linerboard shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper products for linerboard except individual package.
- Corrugated paper shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for corrugated paper.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

4.3.3 Verification procedure

4.3.3.1 Manufacturer shall submit test result for General criteria and Environmental criteria according to TISI for table napkin, TIS 240.

4.3.3.2 Manufacturer shall submit proven evidence that the product is produced from recycled pulp and/or agricultural residues pulp

of no less than 100% by weight. This evidence shall have company stamp and be signed by authorized personnel from the manufacture and submit to Green Label officer.

4.3.3.3 Manufacturer shall submit proven evidence that freshwater use for production process does not exceed 45 cubic meters. The evidence shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.3.3.4 Manufacturer submit test results for heavy metals as follows:

(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321

or recognized international or national standards

4.3.3.5 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

4.3.3.6 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

4.3.3.7 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 4.3.2.4. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.3.3.8 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling on plastic types used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.3.3.9 For linerboard, manufacturer shall present Green Label certification for paper used as linerboard or present test results that conform to Environmental criteria for paper used as linerboard.

4.3.3.10 For corrugated paper, manufacturer shall present Green Label certification for corrugated paper or present test results that conform to Environmental criteria for corrugated paper.

4.3.3.11 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

4.4 Facial Tissue

4.4.1 General criteria

4.4.1.1 The product shall have the following general characteristics and desirable properties:

(1) General characteristics

Each box or pack of facial tissue shall consist of not more than 5% of the defects listed in 1.1 to 1.3.

(1.1) Cuts, tears, or holes that cut through both layers of the facial tissue; or cuts, tears, or holes that cut through one layer with a surface area of 5 square millimeters or more.

(1.2) Foreign matters in the facial tissue box or pack.

(1.3) Uneven color, which can be spotted by sight.

(2) Other desirable properties of the product shall be in accordance with Table 4.

Table 4: Other desirable properties for facial tissue

No.	Properties	Requirements	Testing Methods
1	Standard weight (g/m^2) no less than	25	TIS 214
2	Cleanliness (1) Dirty area (mm^2/m^2) no more than (2) Dirt specks ($specks/m^2$)	 8 30	TIS 214
3	Amount of ashes < (%)	2.0	TIS 214
4	Acidity and alkalinity	5.5 to 8.5	TIS 214
5	Tensile strength (Newton per 25mm. width) > - Machine direction - Cross-machine direction	 3.30 0.65	No. 8.8
6	Stretch test > (%) - Machine direction	 12	No. 8.8
7	Tensile strength when wet (Newton per 25mm. width) > - Machine direction	 0.58	No. 8.9

Note Thai Industrial Standard for facial tissue (TIS 215-2530) is under revision. Once the revised standard is published in the Royal Thai Government Gazette, the required properties of the facial tissue shall be in accordance with the industrial standard declared in the latest issue of the Royal Thai Government Gazette.

(3) Packaging

(3.1) Facial tissues of the same size should be packaged in paper boxes or properly wrapped in plastic or other appropriate material. The number of facial tissues in each box or pack shall be no less than the number listed on the label.

(3.2) Same sized small boxes or packs of facial tissues should be packaged in appropriate wrapping material, and packaged into a bigger package, with each big pack containing no less than the stated amount on the label.

(4) Symbols and labels

Each pack or box of facial tissue shall at least bear numbers, letters, or symbols indicating the following details in clear view:

(4.1) The words 'facial tissue'
(4.2) Size of the tissue sheet (width x length) in centimeters
(4.3) The number of sheets and amount contained in one big package
(4.4) Name and address of manufacturer or manufacturing factory or brand name.
(4.5) Instructions for use and suggestions for use (if applicable)
(4.6) Date, month, and year of manufacture
(4.7) Country of manufacture
In the event that foreign languages are used, they shall correspond to the Thai contents specified above.

4.4.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

4.4.2 Environmental criteria

4.4.2.1 The finished product shall comprise more than 50% by weight of recycled pulp and/or agricultural residues pulp.

4.4.2.2 Water used in the production process shall not exceed 35 cubic meters per ton, especially freshwater that feeds into the production process.

4.4.2.3 Product properties shall meet the requirements as follows;

(1) Heavy metals
- acceptable level of lead < 2 ppm
- acceptable level of cadmium < 2 ppm
- acceptable level of chromium hexavalent < 1 ppm
- acceptable level mercury <2 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

4.4.2.4 Prohibited substances during production
- Chlorine gas (Cl_2)

- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- Halogen as a component in bleaching pulp process
- Ethylenediamine tetraacetic acid (EDTA)
- Alkylphenol ethoxylates (APEOs)
- Halogenated hydrocarbons
- Formaldehyde

4.4.2.5 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper packaging

- Linerboard shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper products for linerboard except individual package.
- Corrugated paper shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for corrugated paper.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

4.4.3 Verification procedure

4.4.3.1 Manufacturer shall submit test result for General criteria and Environmental criteria according to TISI for facial tissue, TIS 215.

4.4.3.2 Manufacturer shall submit proven evidence that the product is produced from recycled pulp and/or agricultural residues pulp of no less than 50% by weight. This evidence shall be signed by authorized personnel from the manufacture and submit to Green Label officer.

4.4.3.3 Manufacturers shall submit proven evidence that freshwater use for production process does not exceed 35 cubic meters. The evidence shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.4.3.4 Manufacturer submit test results for heavy metals as follows:

(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321

or recognized international or national standards

4.4.3.5 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

4.4.3.6 Manufacturers shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method

defined in ISO 9562 or other acceptable and equivalent standards.

4.4.3.7 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 4.4.2.4. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.4.3.8 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling on plastic types used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

4.4.3.9 For linerboard, manufacturer shall present Green Label certification for paper used as linerboard or present test results that conform to Environmental criteria for paper used as linerboard.

4.3.3.10 For corrugated paper, manufacturer shall present Green Label certification for corrugated paper or present test results that conform to Environmental criteria for corrugated paper.

4.3.3.11 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5. Paper and cardboards suitable for packaging criteria

5.1 Coated Boxboard

5.1.1 General criteria

5.1.1.1 The product shall be certified to the Thai Industrial Standard for printing cardboards, TIS 283 or pass the quality tests specified in the said industrial standard or be certified to a recognized national standard or higher standard or recognized international standards such as ISO.

5.1.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.1.2 Environmental criteria

5.1.2.1 The finished product shall comprise more than 70% by weight of recycled pulp and/or agricultural residues pulp.

5.1.2.2 Product properties shall meet the requirements as follows;

(1) Heavy metals

- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm
- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury <4 ppm

(2) Concentration of each Aromatic amine compound derived from Azo-dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

5.1.2.3 Prohibited substances during production

- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

5.1.2.4 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper packaging

- Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.
- Corrugated paper shall be Green Label certified according to Green Label paper criteria or have passed the criteria for corrugated paper.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.1.3 Verification procedure

5.1.3.1 Quality testing shall be in accordance with the Thai Industrial Standard for Printing Paperboards, TIS 283 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

5.1.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 70% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

5.1.3.3 Manufacturer submit test results for heavy metals as follows:

(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321

or recognized international or national standards

5.1.3.4 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

5.1.3.5 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

5.1.3.6 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 5.1.2.3. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.1.3.7 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.1.3.8 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

5.1.3.9 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5.2 Uncoated Boxboard

5.2.1 General criteria

5.2.1.1 The product shall be certified to the Thai Industrial Standard for printing paperboards, TIS 283 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher recognized international standards such as ISO.

5.2.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.2.2 Environmental criteria

5.2.2.1 Recycled pulp and/or agricultural residues waste shall comprise no less than 70% by weight of the finished product.

5.2.2.2 Product properties shall meet the requirements as follows;

(1) Heavy metals
- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm
- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury < 4 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

5.2.2.3 Prohibited substances during production
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

5.2.2.4 Packaging

(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(2) Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.2.3 Verification procedure

5.2.3.1 Quality testing shall be in accordance with the Thai Industrial Standard for Printing Paperboards, TIS 283 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

5.2.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 70% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

5.2.3.3 Manufacturer submit test results for heavy metals as follows:

(1) mercury amount, test according to IEC 62321

(2) lead amount, test according to IEC 62321

(3) cadmium amount, test according to IEC 62321

(4) chromium hexavalent, test according to IEC 62321

or recognized international or national standards

5.2.3.4 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

5.2.3.5 Manufacturers shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

5.2.3.6 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 5.2.2.3. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.2.3.7 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.2.3.8 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

5.2.3.9 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5.3 Corrugating medium

5.3.1 General criteria

5.3.1.1 The product shall be certified to the Thai Industrial Standard for corrugating medium, TIS 321 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.

5.3.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.3.2 Environmental criteria

5.3.2.1 The finished product shall comprise of 100% recycled pulp and/or agricultural residues pulp by weight.

5.3.2.2 Product properties shall meet the requirements as follows;

(1) Heavy metals
- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm
- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury < 4 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

5.2.2.3 Prohibited substances during production
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

5.2.2.4 Packaging
(1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
(2) Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.
(3) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.3.3 Verification procedure

5.3.3.1 Quality testing shall be in accordance with the Thai Industrial Standard for Corrugating Medium, TIS 321 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

5.3.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 100% by weight. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer, and submit to Green Label officer.

5.3.3.3 Manufacturer submit test results for heavy metals as follows:
(1) mercury amount, test according to IEC 62321
(2) lead amount, test according to IEC 62321
(3) cadmium amount, test according to IEC 62321
(4) chromium hexavalent, test according to IEC 62321
or recognized international or national standards

5.3.3.4 Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized national or international standards.

5.3.3.5 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method

defined in ISO 9562 or other acceptable and equivalent standards.

5.3.3.6 Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in 5.3.2.3. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.3.3.7 For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

5.3.3.8 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

5.3.3.9 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5.4 Kraft Paper

Kraft paper can be divided into four types:

(1) Shopping paper bag, suitable for making paper bags with handles.

(2) Multiwall sack paper, suitable for making bags designed to bear heavy weight or withstand strong forces.

(3) Liner boards, suitable for making the surface of the corrugated medium. Two quality types exist:
- Grade 1
- Grade 2

5.4.1 Shopping Paper Bags

5.4.1.1 General criteria

(1) The product shall be certified to the Thai Industrial Standard for Kraft Paper, TIS 170 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.

(2) Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.4.1.2 Environmental criteria

(1) The finished product shall comprise of 100% recycled pulp and/or agricultural residues pulp by weight.

(2) Product properties shall meet the requirements as follows;

(2.1) Heavy metals

- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm
- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury <4 ppm

(2.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(2.3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(3) Prohibited substances during production

- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

(4) Packaging

- Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
- Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.
- Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy

metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.4.1.3 Verification procedure

(1) Present quality testing in accordance with the Thai Industrial Standard for Corrugating Medium, TIS 170 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

(2) The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 100% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

(3) Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321

or recognized international or national standards

(4) Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or international standards or recognized national. The document shall be signed by authorized personnel of the manufacturer.

(5) Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

(6) Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in Environmental criteria 5.4.1.2 (3). The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(7) For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(8) For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

(9) Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5.4.2 Multiwall Sack Paper

5.4.2.1 General criteria

(1) The product shall be certified to the Thai Industrial Standard for Kraft Paper, TIS 170 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.

(2) Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.4.2.2 Environmental criteria

(1) The finished product shall comprise of 50% of recycled pulp and/or agricultural residues pulp.

(2) Product properties shall meet the requirements as follows;

(2.1) Heavy metals

- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm
- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury <4 ppm

(2.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(2.3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(3) Prohibited substances during production
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

(4) Packaging
- Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
- Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.
- Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

  (Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.4.2.3 Verification procedure

(1) Present quality testing in accordance with the Thai Industrial Standard for Kraft paper, TIS 170 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

(2) The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 50% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

(3) Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321

  or recognized international or national standards

(4) Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or international standards or recognized national standards. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(5) Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.
(6) Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in Environmental criteria 5.4.2.2 (3). The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
(7) For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
(8) For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.
(9) Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent; and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

5.4.3 Linerboard

5.4.3.1 General criteria

(1) The product shall be certified to the Thai Industrial Standard for Kraft Paper, TIS 170 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.
(2) Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5.4.3.2 Environmental criteria

(1) The finished product shall comprise of 50% recycled pulp and/or agricultural residues pulp by weight.
(2) Product properties shall meet the requirements as follows;
(2.1) Heavy metals
- acceptable level of lead < 100 ppm
- acceptable level of cadmium < 20 ppm

- acceptable level of chromium hexavalent < 100 ppm
- acceptable level mercury <4 ppm

(2.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(2.3) Acceptable level of AOX (adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(3) Prohibited substances during production
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A
- Fluorescent whitening agents (FWAs) or optical brightening agent (OBA)
- phthalates

(4) Packaging
- Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
- Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.
- Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

  (Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

5.4.3.3 Verification procedure

(1) Present quality testing in accordance with the Thai Industrial Standard for Kraft paper, TIS 170 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

(2) The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 50% by weight. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer, and submit to Green Label officer.

(3) Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321

or recognized international or national standards

(4) Manufacturer shall submit test results for Azo-based dyes in the product according to test methods defined in EN 14362 or recognized international or national standards. The document should be signed by authorized personnel of the manufacturer.

(5) Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

(6) Manufacturer shall submit letter of declaration for compliance that the production process did not use prohibited substances as defined in Environmental criteria 5.4.3.2 (3). The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(7) For plastic packaging, manufacturer shall submit letter of declaration for compliance to confirm the labeling for the type of plastic used according to TISI standards for recycled plastic TIS. 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(8) For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

(9) Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods defined in ISO 3856-1 or ASTM D 3335 for lead; ISO 3856-4 or ASTM D 3335 for cadmium; ISO 3856-5 for chromium hexavalent;

and ISO 3856-7 or ASTM D 3624 for mercury or other equivalent standards.

6. Printing and Writing Paper Criteria

6.1 Printing and Writing Paper

6.1.1 Uncoated printing and writing paper

6.1.1.1 General criteria

(1) Other desirable properties for printing and writing paper shall be in accordance with Table 9.

Table 9: Other desirable properties for printing and writing paper

No.	Characteristics	Requirements												Test methods
		Standard paper weights (grams per square meter)												
		50	60	70	80	90	100	120	150	180	210	230	240	250	
1	Grammage tolerance (%) ≤	± 5									± 10				ISO 536
2	Moisture content (%) ≤	10													ISO 287
3	Tensile strength: MD (kN/m) ≥	2.9		3.4			4.2		5.6		7.2				ISO 1924 part 2
	Tensile strength: CD (kN/m) ≥	1.5		1.9			2.4		3.3		4.4				
4	Brightness (%) ≥	70							75						ISO 470 Part 1
5	Opacity (%) ≥	77							90						ISO 471
6	Water absorptiveness at 45s (g/m^2) ≤	30							35						ISO 535

(2) Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

6.1.1.2 Environmental criteria

(1) The finished product shall comprise of 40% recycled pulp and/or agricultural residues pulp by weight.

(2) Prohibited substances during production

(2.1) Prohibited substances

- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

(2.2) Acceptable level of pentachlorophenol (PCP) is less than 0.15 mg/kg

(3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(4) Product properties shall meet the requirements as follows;

(4.1) Acceptable level of heavy metals are as follows:
- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(4.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(5) Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

(6) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

6.1.1.3 Verification procedure

(1) Manufacturer shall submit property tests result according to Table 9

(2) Manufacturer shall submit evidence that the product is composed of more than 40% by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer, and submit to Green Label officers.

(3) Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 2.1 on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(4) Manufacturer submit test results for pentachlorophenol (PCP) in the product according to testing method defined by ISO 15320 or international standards or equivalent nationally accepted standards.

(5) Manufacturer shall submit test result for AOX (adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

(6) Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321 or recognized international or national standards

(7) Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards

(8) For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

(9) Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods as follows:
(9.1) For mercury, use ISO 3856-7 or ASTM D 3624
(9.2) For lead, use ISO 3856-1 or ASTM D 3335
(9.3) For cadmium, use ISO 3856-4 or ASTM D 3335
(9.4) For chromium hexavalent, use ISO 3856-5 or recognized international or national standards

6.1.2 Coated printing and writing paper

6.1.2.1 General criteria

(1) Other desirable properties for printing and writing paper shall be in accordance with Table 10.

Table 10: Other desirable properties for printing and writing paper

No.	Characteristics	Requirements									Test methods
		Standard paper weights (grams per square metre)									
		80	85	90	105	120	140	160	200	250	
1	Grammage tolerance (%) ≤	± 10									ISO 536
2	Moisture content (%) ≤	10									ISO 287
3	Brightness (for white paper and coated side only) (%) ≥	75									ISO 2470 Part 1
4	Opacity (%) ≥	85			90		95				ISO 2471
5	Gloss of paper (for gloss coated paper only) (%)≥	50									TAPPI T 480
6	Smoothness (Bekk-s) ≥										
	Gloss coated paper	1000				500			80		ISO 5627
	Matt coated paper	200				100			60		
7	Surface strength of paper (IGT tester) on each side and direction (N/m) ≥	15									IGT information leafletW31

(2) Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

6.1.2.2 Environmental criteria

(1) The finished product shall comprise of 40% recycled pulp and/or agricultural residues pulp by weight.

(2) Prohibited substances during production

(2.1) Prohibited substances

- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

(2.2) Acceptable level of pentachlorophenol (PCP) is less than 0.15 mg/kg

(3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(4) Product properties shall meet the requirements as follows;

(4.1) Acceptable level of heavy metals are as follows:

- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(4.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(5) Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

(6) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals

include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

6.1.2.3 Verification procedure

(1) Manufacturer shall submit property tests result according to Table 10.

(2) Manufacturer shall submit evidence that the product is composed of more than 40% by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer, and submit to Green Label officers.

(3) Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 2.1 on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(4) Manufacturer submit test results for pentachlorophenol (PCP) in the product according to testing method defined by ISO 15320 or international standards or equivalent nationally accepted standards.

(5) Manufacturer shall submit test result for AOX (adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

(6) Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321

or recognized international or national standards

(7) Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards

(8) For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

(9) Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods as follows:

(9.1) For mercury, use ISO 3856-7 or ASTM D 3624

(9.2) For lead, use ISO 3856-1 or ASTM D 3335

(9.3) For cadmium, use ISO 3856-4 or ASTM D 3335

(9.4) For chromium hexavalent, use ISO 3856-5

or recognized international or national standards

6.2 Paper for Continuous Forms

6.2.1 General criteria

6.2.1.1 Other desirable properties for paper for continuous forms shall be in accordance with Table 11.

Table 11: Other desirable properties for paper for continuous forms

No.	Characteristics	Requirements							Test methods
		Type of printing paper				Carbonless paper			
		1 layer			2,3,4 and 5 layers	Top sheet	Middle sheet	Bottom sheet	
		Standard paper weights (grams per square metre)							
		100	80	60	50	55	50	50	
1	Grammage tolerance (%) ≤	± 5							ISO 536
2	Moisture content (%) ≤	10							ISO 287
3	Tensile strength: MD (kN/m) ≥	2		2.4	2.3	2.35	2		ISO 1924 part 2
4	Smoothness of paper on usable side (Bekk method) (s) ≥	20				-	-	-	ISO 5627
5	Surface strength of paper (Number of wax pick on each surface side) ≥	10A				10A			TAPPI T 459
6	Brightness (white paper only) (%) ≥	75		70					ISO 2470 Part 1

6.2.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

6.2.2 Environmental criteria

6.2.2.1 Recycled pulp and/or agricultural residues pulp shall comprise no less than 40% by weight of the product.

6.2.2.2 Prohibited substances during production

(1) Prohibited substances
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

(2) Acceptable level of pentachlorophenol (PCP) is less than 0.15 mg/kg

6.2.2.3 Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

6.2.2.4 Product properties shall meet the requirements as follows;

(1) Acceptable level of heavy metals are as follows:
- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm

- chromium hexavalent of less than 100 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

6.2.2.5 Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

6.2.2.6 Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

6.2.3 Verification procedure

6.2.3.1 Manufacturer shall submit property tests result according to Table 11.

6.2.3.2 Manufacturer shall submit evidence that the product is composed of more than 40% by weight from recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer, and submit to Green Label officers.

6.2.3.3 Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 6.2.2.2 (1) on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

6.2.3.4 Manufacturer submit test results for pentachlorophenol (PCP) in the product according to testing method defined by ISO 15320 or international standards or equivalent nationally accepted standards.

6.2.3.5 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

6.2.3.6 Manufacturer submit test results for heavy metals as follows:

- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321
  or recognized international or national standards

6.2.3.7 Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards.

6.2.3.8 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

6.2.3.9 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods as follows:

(1) For mercury, use ISO 3856-7 or ASTM D 3624
(2) For lead, use ISO 3856-1 or ASTM D 3335
(3) For cadmium, use ISO 3856-4 or ASTM D 3335
(4) For chromium hexavalent, use ISO 3856-5
or recognized international or national standards

6.3 Xerographic Paper

6.3.1 General criteria

6.3.1.1 The product shall be certified with the Thai Industrial Standard for xerographic paper, TIS 1054 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.

6.3.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

6.3.2 Environmental criteria

6.3.2.1 Recycled pulp and/or agricultural residues pulp shall comprise of no less than 40% by weight of the product.

6.3.2.2 Prohibited substances during production

(1) Prohibited substances
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

(2) Acceptable level of pentachlorophenol (PCP) is less than 0.15 mg/kg

6.3.2.3 Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

6.3.2.4 Product properties shall meet the requirements as follows;

(1) Acceptable level of heavy metals are as follows:
- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

6.3.2.5 Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

6.3.2.6 Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

6.3.3 Verification methods

6.3.3.1 Manufacturer shall present TIS certification for xerographic paper standard TIS 1054 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

6.3.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 40% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

6.3.3.3 Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 6.3.2.2 (1) on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

6.3.3.4 Manufacturer submit test results for pentachlorophenol (PCP) in the product according to testing method defined by ISO

15320 or international standards or equivalent nationally accepted standards.

6.3.3.5 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

6.3.3.6 Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321
  or recognized international or national standards

6.3.3.7 Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards.

6.3.3.8 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

6.3.3.9 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods as follows:
(1) For mercury, use ISO 3856-7 or ASTM D 3624
(2) For lead, use ISO 3856-1 or ASTM D 3335
(3) For cadmium, use ISO 3856-4 or ASTM D 3335
(4) For chromium hexavalent, use ISO 3856-5
or recognized international or national standards

6.4 Newsprint

6.4.1 General criteria

6.4.1.1 The product shall be certified with the Thai Industrial Standard for newsprint, TIS 758 or pass the quality tests specified in the said industrial standard or be certified to a nationally equivalent standard or higher industrial standards or recognized international standards such as the ISO.

6.4.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

6.4.2 Environmental criteria

6.4.2.1 Recycled pulp and/or agricultural residues pulp shall comprise no less than 100% by weight of the product.

6.4.2.2 Prohibited substances during production
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)

- bisphenol-A

6.4.2.3 Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

6.4.2.4 Product properties shall meet the requirements as follows;

(1) Acceptable level of heavy metals are as follows:
- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

6.4.2.5 Paper used for packaging shall be Green Label certified according to Green Label paper criteria or have passed the Environmental criteria for paper product used for packaging.

6.4.2.6 Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

6.4.3 Verification method

6.4.3.1 Manufacturer shall present TIS certification for newsprint standard TIS 758 or present test results that conforms to the TIS criteria or to other nationally equivalent standards or higher standards or to other internationally recognized standards such as ISO.

6.4.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 100% by weight. The document shall be certified by authorized personnel and submit to Green Label officer.

6.4.3.3 Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 6.4.2.2 on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

6.4.3.4 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

6.4.3.5 Manufacturer submit test results for heavy metals as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321
  or recognized international or national standards

6.4.3.6 Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards.

6.4.3.7 For paper packaging, manufacturer shall present Green Label certification for paper used for packaging or present test results that conform to Environmental criteria for paper used for packaging.

6.4.3.8 Manufacturer shall submit test results for paints or pigments used for printing on packaging or labeling on packaging according to test methods as follows:
(1) For mercury, use ISO 3856-7 or ASTM D 3624
(2) For lead, use ISO 3856-1 or ASTM D 3335
(3) For cadmium, use ISO 3856-4 or ASTM D 3335
(4) For chromium hexavalent, use ISO 3856-5
or recognized international or national standards

7. Gypsum Liner Boards Criteria

7.1 General criteria

7.1.1 Other desirable properties for gypsum liner boards shall be in accordance with Table 12.

7.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

Table 12: Other desirable properties for gypsum liner boards

Properties	Type								Testing Method
	face				back				
	Standard weight (g/m^2)				Standard weight (g/m^2)				
	150	160	170	180	150	160	170	180	
1. Grammage tolerance shall be no more than (%)	±3	±3	±3	±3	±3	±3	±3	±3	ISO 536
2. Tensile strength shall be no less than (Kilo-Newton/m.)									
- Machine direction	7.5	8	8.5	9	7	7.5	8	8.5	ISO 1924/2
- Cross-machine direction	3	3	3	3	3	3	3	3	
3. Air resistance (seconds per 100 cm^3)	40 to 100	40 to 100	40 to 100	40 to 100	40 to 100	40 to 100	40 to 100	40 to 100	ISO 5636/5
4. Water absorptiveness at 1 minute shall be no more than (g/m^2)	30	30	30	30	30	30	30	30	ISO 535

Properties		Type								Testing Method
		face				back				
		Standard weight (g/m^2)				Standard weight (g/m^2)				
		150	160	170	180	150	160	170	180	
5. Moisture content shall be no more than (%)	Front sheet	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	ISO 287
	Back sheet	11	11	11	11	11	11	11	11	

7.2 Environmental criteria

7.2.1 The finished product shall comprise of 100% recycled pulp or agricultural residues pulp.

7.2.2 Prohibited substances during production

- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

7.2.3 Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

7.2.4 Product properties shall meet the requirements as follows;

(1) Acceptable level of heavy metals are as follows:

- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

7.2.5 Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

7.3 Verification method

7.3.1 Testing for desirable properties shall be in accordance with Table 12.

7.3.2 The manufacturer shall submit to Green Label officers evidence indicating the percentage of recycled pulp used and/or agricultural residues pulp of 100% by weight. The document shall be certified by authorized personnel of the manufacturer and submit to Green Label officer.

7.3.3 Manufacturer shall submit letter of declaration for compliance that production process conforms to Environmental criteria 7.2.2 on prohibited substances. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

7.3.4 Manufacturer shall submit test result for AOX (Adsorbable organic halogen) in the product according to test method defined in ISO 9562 or other acceptable and equivalent standards.

7.3.5 Manufacturer submit test results for heavy metals as follows:

- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321
- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321

or recognized international or national standards

7.3.6 Manufacturer shall submit test results for Azo-based dyes in the product according to testing method defined by EN 14362 or international standards or equivalent nationally accepted standards.

7.3.7 For plastic packaging, manufacturer shall submit letter of declaration for compliance confirming labeling on plastic packaging, specifying the plastic type on the packaged product according to TIS 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8. Fine Paper Products Criteria

1) Fine paper products for office supplies include envelopes, files, notebooks, and box file
2) Other fine paper products includes corrugated paper, cardboard box, paper bag, card, calendar, and paper cone and tube.

8.1 Files, notebooks, envelopes, corrugated box

8.1.1 General criteria

8.1.1.1 The product shall be certified with TIS standards in table 13 or passed the quality tests of the said TIS standards in table 13 or passed the equivalent national standards or higher than TIS standards or recognized international standards such as ISO.

Table 13. TIS for paper products

No.	TIS	Name of standard
1	TIS 145	Student notebook
2	TIS 380	Size of envelope
3	TIS 550	Corrugated paper box
4	TIS 1115	Files

8.1.1.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

8.1.2 Environmental criteria

8.1.2.1 Raw materials for the product shall conform to the following criteria:

1) Folders

1.1) Paper folder with no paper inside shall be made from Green Label certified paper or passed the applicable green label criteria for the specific paper.

1.2) Paper folder with paper inside

1.2.1) Paper used to make folder cover shall composed of 100% by weight of recycled pulp and/or agricultural by-product pulp.

1.2.2) Covering of folder cover

- External and internal covering for folder cover shall use paper certified with Green Label or passed the quality test for the applicable Green Label for the specific paper.
- If plastic material is used, then it shall not contain phthalate.

1.2.3) Folder spine

- paper used for folder spine shall be from 100% by weight of recycled pulp and/or agricultural residues pulp.
- paper used for folder spine shall be Green Label certified or passed the applicable criteria for the specific paper.
- if plastic is used, then it shall not contain phthalate.

1.3) If spine pocket is made from plastic, then it shall not contain phthalate.

2) Hard cover notebook

2.1) Notebook cover

- If a hard cover notebook weights more than 600 gram per square meter, it shall be made from 100% by weight of recycled pulp and/or agricultural residues pulp.
- If a hard cover notebook weights between 230 to 600 gram per square meter, it shall be made from 40% by weight of recycled pulp and/or agricultural residues pulp.

2.2) Paper inside the notebook

Paper shall be Green Label certified or passed the applicable criteria for paper used as paper inside the notebook.

2.3) Notebook cover materials

- If plastic is used as an external and internal cover material, then it shall not contain phthalate.

- If paper is used as an external and internal cover material, then the paper shall be Green Label certified or passed the applicable criteria for paper used as covering materials.

3) Soft cover notebook
   3.1) Paper used for the cover shall be Green Label certified or passed the applicable criteria for paper used as paper cover.
   3.2) Paper inside the notebook shall be Green Label certified or passed the criteria for paper used as paper inside the notebook.
4) Envelope shall be made from Green Label certified paper or passed the applicable criteria for the specific paper.
5) Corrugated paper box
   5.1) Corrugated paper shall be Green Label certified or passed the applicable criteria for corrugated paper.
   5.2) Linerboard shall be Green Label certified or passed the applicable criteria for the specific paper.

8.1.2.2 Paints or pigments used for printing on product shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

8.1.2.3 Adhesive used shall have the following properties:
1) Organic solvents free
2) Formaldehyde free

8.1.2.4 Packaging
- Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
- Paper packaging shall be Green Label certified according to Green Label criteria for corrugated paper box or passed the applicable Environmental criteria for corrugated paper box.
- Paints or pigments used in printing on the packaging or for labelling on packaging shall not contain heavy metals include lead, mercury, cadmium, and chromium.
  (Note: Heavy metal amount per color used on a dry basis occurring as a result of contamination or impurity in combination shall not exceed 100 ppm)

8.1.3 Verification procedure

8.1.3.1 Manufacturer shall submit applicable TIS certification as presented in Table 13or results of quality testing conforming to the standard or passed equivalent national standards or higher industrial standards or recognized international standards such as ISO.

8.1.3.2 Folder manufacturer
1) Paper folder with no paper inside

Manufacturer shall submit Green Label certification for applicable paper material or submit test results conforming to Green Label criteria for applicable paper material. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2) Paper folder with paper inside

2.1) Folder cover

Manufacturer shall submit letter of declaration for compliance as evidence that paper used for folder cover is composed of 100% by weight of recycled pulp or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2.2) Covering materials for folder cover

2.2.1) For paper covering material for external and internal folder cover, manufacturer shall submit Green Label certification for applicable paper or submit test results conforming to applicable Green Label criteria. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2.2.2) For plastic covering material for external and internal folder cover, manufacturer shall submit letter of declaration for compliance that the plastic contains no phthalate. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2.3) Folder spine

2.3.1) For paper used for folder spine, the manufacturer shall submit letter of declaration for compliance to confirm that folder spine is composed of 100% by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2.3.2) Materials for covering folder spine

- Manufacturer shall submit letter of declaration for compliance confirming materials used for covering folder spine is made of Green Label certified paper or passed the criteria for applicable paper. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
- Manufacturer shall submit letter of declaration for compliance confirming that

plastic used for covering folder spine contains no phthalate. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

3) Manufacturer shall submit letter of declaration for compliance confirming plastic used for pocket spine contains no phthalate. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.1.3.3 Notebook manufacturer

1) Hard cover notebook

1.1) Notebook cover

- If the notebook weights more than 600 gram per square meter, the manufacturer shall submit certified document confirming the notebook cover contains 100%by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
- If the notebook weights between 230 to 600 gram per square meter, the manufacturer shall submit certified document confirming the noteboook cover contains 100% of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

1.2) For notebook inside paper, the manufacturer shall submit Green Label certification for applicable paper used for inside paper or submit test results that conform to criteria for applicable paper for inside paper.

1.3) Covering materials for notebook cover

- For paper covering external and internal cover, the manufacturer shall submit Green Label certification for applicable product or results of criteria for applicable paper product.
- For plastic covering external and internal cover, the manufacturer shall submit letter of declaration for compliance confirming non-existent of phthalate in the plastic cover. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

2) Soft cover notebook

2.1) For paper covering, the manufacturer shall submit Green Label certification for applicable paper product or submit test results conforming to the criteria for paper covering. The document shall be stamped with

the company hallmark and signed by authorized personnel of the manufacturer.

2.2) For notebook inside paper, the manufacturer shall submit Green Label certification for applicable paper product used as inside paper or submit test results conforming to criteria for applicable paper product used as notebook paper. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.1.3.4 Manufacturer of envelopes shall submit Green Label certification for applicable paper product or submit test results conforming to criteria for applicable paper product for envelope. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.1.3.5 Manufacturer of corrugated paper box

1) Manufacturer shall submit Green Label certification for corrugated paper or submit test results conforming to criteria for corrugated paper. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
2) Manufacturer shall submit Green Label certification for linerboard or submit test results conforming to Green Label criteria for linerboard. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.1.3.6 Manufacturer shall submit test results of heavy metal in paints or pigments used for printing on product as follows:

1) mercury amount, test according to ISO 3856-7 or ASTM D 3624
2) lead amount, test according to ISO 3856-1 or ASTM D 3335
3) cadmium amount, test according to ISO 3856-4 or ASTM D 3335
4) chromium hexavalent, test according to ISO 3856-5 or equivalent standards or national standards

8.1.3.7 Manufacturer shall submit letter of declaration for compliance that adhesives used for the product contains no organic solvent and formaldehyde. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.1.3.8 Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

8.1.3.9 Paper packaging shall be Green Label certified according to Green Label criteria for corrugated paper box or pass the Environmental criteria for corrugated paper box.

8.1.3.10 Manufacturer submit test results of heavy metals in paints or pigments used in printing on the packaging or for labeling on packaging as follows:

1) mercury amount, test according to ISO 3856-7 or ASTM D 3624
2) lead amount, test according to ISO 3856-1 or ASTM D 3335
3) cadmium amount, test according to ISO 3856-4 or ASTM D 3335
4) chromium hexavalent, test according to ISO 3856-5 or equivalent standards or national standards

8.2 Storage box for folders, box file, individual package, paper bag, gift cards, and calendar

8.2.1 General criteria

8.2.1.1 Product shall be made from Green Label certified paper according to criteria for paper product or pass the test for applicable criteria.

8.2.1.2 Production, transportation, and waste disposal shall be in accordance with all applicable government acts and regulations.

8.2.2 Environmental criteria

8.2.2.1 Storage box for folders

1) The core material used shall be made from 100% by weight of recycled pulp and/or agricultural residues pulp.
2) Paper used for external and internal covering shall be Green Label certified or passed test results for applicable Green Label paper product.
3) Plastic used for external and internal covering shall not contain phthalate.

8.2.2.2 Paints or pigments used for printing on product shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

8.2.2.3 Adhesive shall have the following properties:

1) Organic solvents free
2) Formaldehyde free

8.2.2.4 Packaging

1) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.
2) Paper packaging shall be Green Label certified according to Green Label criteria for corrugated paper box or pass the Environmental criteria for corrugated paper box.
3) Paints or pigments used in printing on the packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and chromium.

(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

8.2.3 Verification procedure

8.2.3.1 Manufacturer shall submit Green Label certification for applicable paper product or present test results conforming to the applicable criteria for the paper product. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.2.3.2 Manufacturer of box file:

1) Manufacturer shall submit letter of declaration for compliance to confirm that paper used for spine is made of 100% by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
2) For paper covering external an internal cover, the manufacturer shall submit Green Label certification for applicable paper or submit test results conforming to the applicable criteria for paper product. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
3) For plastic covering external and internal cover, the manufacturer shall submit letter of declaration for compliance confirming that plastic product does not contain phthalate. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.
4) For plastic pocket spine, the manufacturer shall submit letter of declaration for compliance confirming the plastic pocket spine contains no phthalate. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.2.3.3 Manufacturer shall submit test results of heavy metal in paints or pigments used for printing on product as follows:

1) mercury amount, test according to ISO 3856-7 or ASTM D 3624
2) lead amount, test according to ISO 3856-1 or ASTM D 3335
3) cadmium amount, test according to ISO 3856-4 or ASTM D 3335
4) chromium hexavalent, test according to ISO 3856-5 or equivalent standards or national standards

8.2.3.4 Manufacturer shall submit letter of declaration for compliance confirming that adhesive used for the product does not contain organic solvents or formaldehyde. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.2.3.5 For plastic packaging, manufacturer shall submit letter of declaration for compliance confirming labeling on plastic packaging, specifying the plastic type on the packaged product according to TIS 1310 or ISO 1043 or ISO 11469. The

document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.2.3.6 Paper packaging shall be Green Label certified according to Green Label criteria for corrugated paper box or passed the Environmental criteria for corrugated paper box. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

8.2.3.7 Manufacturer submit test results of heavy metals in paints or pigments used in printing on the packaging or for labeling on packaging as follows:

1) mercury amount, test according to ISO 3856-7 or ASTM D 3624
2) lead amount, test according to ISO 3856-1 or ASTM D 3335
3) cadmium amount, test according to ISO 3856-4 or ASTM D 3335
4) chromium hexavalent, test according to ISO 3856-5 or equivalent standards or national standards

8.3 Paper cones and tubes

8.3.1 General criteria

(1) Product shall be certified with TIS standard for paper cones and tubes TIS 592 or passed the quality test of the standard or equivalent national standards or higher industrial standards or recognized international standards such as ISO.

(2) Production, transportation, and waste disposal shall be in accordance with all applicable government acts and regulations.

8.3.2 Environmental criteria

(1) The finished product shall comprise of 100% by weight of recycled pulp or agricultural residues pulp.

(2) Prohibited substances:
- Chlorine gas (Cl_2)
- Ethylenediamine tetraacetic acid (EDTA)
- Halogenated hydrocarbons
- Alkylphenol ethoxylates (APEOs)
- Alkylphenol derivatives
- Diethylenetriaminepentaacetic acids (DTPAs)
- bisphenol-A

(3) Acceptable level of AOX (Adsorbable organic halogen) of no more than 0.12 kg/ADT paper.

(4) Product properties shall meet the requirements as follows;

(4.1) Acceptable level of heavy metals are as follows:
- mercury of less than 4 ppm
- lead of less than 100 ppm
- cadmium of less than 20 ppm
- chromium hexavalent of less than 100 ppm

(4.2) Concentration of each Aromatic amine compound derived from Azo dyes shall not exceed 30 mg/kg.

No.	Aromatic Amine compound	No.	Aromatic Amine compound
1	4-Aminodiphenyl (92-67-1)	13	4,4'-Methylenedi-o-Toluidine (838-88-0)
2	Benzidine (92-87-5)	14	p-Cresidine (120-71-8)
3	4-Chloro-o-Toluidine (95-69-2)	15	4,4'-methylene-bis-(2-Chloro-Aniline) (101-14-4)
4	2-Naphthylamine (91-59-8)	16	4,4'-Oxydianiline (101-80-4)
5	o-Aminoazotoluene (97-56-3)	17	4,4'-Thiodianiline (139-65-1)
6	5-Nitro-o-Toluidine (99-55-8)	18	o-Toluidine (95-53-4)
7	4-Chloroaniline (106-47-8)	19	4-methyl-m-Phenylenediamine (95-80-7)
8	4-Methoxy-m-Phenylenediamine (615-05-4)	20	2,4,5-Trimethylaniline (137-17-7)
9	4,4'-Diaminodiphenylmethane (101-77-9)	21	o-Anisidine (90-04-0)
10	3,3'-Dichlorobenzidine (91-94-1)	22	2,4-Xylidine (95-68-1)
11	3,3'-Dimethoxybenzidine (119-90-4)	23	2,6-Xylidine (87-62-7)
12	3,3'-Dimethylbenzidine (119-93-7)	24	4-Aminoazobenzene (60-09-3)

(5) Adhesive shall have the following properties:
(5.1) Organic solvents free
(5.2) Formaldehyde free

(6) Plastic packaging shall be symbolized according to Thai Industrial Standard: recycling plastics, TIS 1310 or ISO 1043 or ISO 11469.

(7) Paper packaging shall be Green Label certified according to Green Label criteria for corrugated paper box or passed the Environmental criteria for corrugated paper box.

(8) Paints or pigments used for printing on packaging or for labeling on packaging shall not contain heavy metals include lead, mercury, cadmium, and hexavelent chromium.
(Note: The total concentration of heavy metals in each color group due to impurities and contamination of raw materials shall not exceed 100 ppm, reported on a dry weight basis.)

8.3.3 Verification procedure

(1) Manufacturer shall present TIS certification for paper cones and tubes TIS 592 or submit quality test results conforming to the applicable standard or passed equivalent national standards or higher industrial standards or recognized international standards such as ISO.

(2) Manufacturer shall submit evidence to confirm that paper used for spine is made of 100% by weight of recycled pulp and/or agricultural residues pulp. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(3) Manufacturer shall submit letter of declaration for compliance that the product conforms to Environmental criteria 8.3.2 (2). The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(4) Manufacturer shall submit test results for AOX (Adsorbable organic halogen) in the product according to test method ISO 9562 or other equivalent and recognized methods.

(5) Manufacturer shall submit test results for heavy metals in the product as follows:
- mercury amount, test according to IEC 62321
- lead amount, test according to IEC 62321

- cadmium amount, test according to IEC 62321
- chromium hexavalent, test according to IEC 62321
  or recognized international or national standards

(6) Manufacturer shall submit test results for Azo-based dyes in the product according to standards EN 14362 or recognized international or national standards.

(7) Manufacturer shall submit letter of declaration for compliance confirming that adhesive used for the product does not contain organic solvents or formaldehyde. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(8) For plastic packaging, manufacturer shall submit letter of declaration for compliance confirming labeling on plastic packaging, specifying the plastic type on the packaged product according to TIS 1310 or ISO 1043 or ISO 11469. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(9) Manufacturer shall present Green Label certificate for paper packaging according to Green Label criteria for corrugated paper or passed the Environmental criteria for corrugated paper. The document shall be stamped with the company hallmark and signed by authorized personnel of the manufacturer.

(10) Manufacturer submit test results of heavy metals in paints or pigments used in printing on the packaging or for labeling on packaging as follows:

1) mercury amount, test according to ISO 3856-7 or ASTM D 3624
2) lead amount, test according to ISO 3856-1 or ASTM D 3335
3) cadmium amount, test according to ISO 3856-4 or ASTM D 3335
4) chromium hexavalent, test according to ISO 3856-5
   or equivalent standards or national standards

Notes: 1) The test shall be performed in laboratory as follows;

- Government laboratory or a laboratory under the supervision of the governor of the state
- Private laboratories that have been accredited testing laboratory in accordance with the standard requirements, with the capabilities of the laboratory calibration and testing laboratories. Standard No.17025 (ISO/IEC 17025) or laboratory mill manufacturer, which is signed by the authorized signatory of the Company.

2) Test reports used to apply for the Green Label requirements shall not exceed 1 year duration.