



Green Label Thailand

for sustainability and better quality of life

**Green Label Product
Digital projectors
(TGL-81-R1-17)**



**Project on Advancing and Measuring Sustainable Consumption and
Production (SCP) for a Low-Carbon Economy in Middle-Income and
Newly Industrialized Countries (Advance SCP)**

**Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
GmbH**

Thailand Environment Institute (TEI)



Green Label Product Digital Projectors (TGL – 81- R1 – 17)

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**Green Label Criteria for Digital Projectors
(TGL-81-R1-17)
Prepared by
Sub-technical subcommittee No. 78
The Thai Green Label Scheme**

1. Introduction

Digital projectors are effective tools for delivering lectures and presentations to a large audience, as well as for home entertainment. The products are commonly used in conjunction with ICT devices such as a laptop or desktop computer, to display information, video or images on the screen. Nowadays, digital projectors have been developed to meet consumer's requirements and efficiently facilitate learning and entertainment activities. However, digital projectors produced adverse effects on environment and human health as other electronic devices. Based on the life cycle assessment of digital projectors, it can be found that most of the environmental impacts occur during the use phase in terms of energy consumption, noise and heat. As for the manufacturing and disposal phase, unrestricted chemical substances used in products such as heavy metals and flame retardants, are harmful to environment and living organisms as well.

Therefore, the Green Label criteria for digital projectors have been developed to promote good quality projectors with low environmental impacts as an alternative choice for consumers. The criteria emphasizes on energy saving during use phase, encouraging the use of recycled materials, restricting hazardous substances to reduce contamination into the environment and impacts to human health. In addition, it contributes to improving product credibility in terms of quality and safety as well as reducing impacts to the environment.

2. Scope

These criteria shall apply to digital projectors with display technology such as Liquid Crystal Display (LCD), Digital Light Processing (DLP), Liquid Crystal on Silicon (LCOS), or Silicon X-tal Reflective Display (SXRD). The projectors display digital images by enlarging such images generated by computers, video tape recorders, or DVD players¹.

3. Definition

- 3.1 **Standby mode** refers to the lowest power consumption mode of a device when connected to the main electricity supply and used properly as specified by the manufacturer. This mode cannot be switched off by the user and may be maintained for an indefinite time.
- 3.2 **Standby power** refers to an average electrical power in standby mode which is measured in watts (W).
- 3.3 **Digital Projectors** refers to a device with imaging technology such as Liquid Crystal Display (LCD), Digital Light Processing (DLP), Liquid Crystal on Silicon (LCOS), or Silicon X-tal Reflective Display (SXRD). These imaging technologies act

¹ Digital Projectors (EL146): Korea (Environmental Labelling)

as a medium for displaying digital contents and information on a screen with sound, no sound, moving pictures, still image, or only text depending on the type of projector and material.

- 3.4 **Liquid Crystal Display (LCD)** refers to a system that transmits light through a prism, which divides light into 3 colors (RGB) on to the LCD Panel. The LCD Panel is made up of small pixel cell. Each pixel is controlled externally, turn on or off, by imaging signal².
- 3.5 **Digital Light Processing (DLP)** refers to the projection type that utilizes DMD chip, which is composed of small mirrors. Each mirror represents each pixel. As light is transmitted onto the mirrors, the mirror will reflect the image on the screen.
- 3.6 **Liquid Crystal on Silicon (LCOS)** refers to a reflection type spatial light modulator, which is similar to DLP technology that uses Liquid Crystal instead of mirrors.
- 3.7 **Short focus projector** refers to digital projectors that can display images on 60 inches screen when it is located no more than 1 meter away.
- 3.8 **Wide projector** refers to digital projectors that can display images on screens at the aspect ratio of 1.60 or higher.
- 3.9 **Effective Flux (Brightness)** refers to brightness when light is projected onto the screen. It is a value in lumen (lm) to be determined under the conditions defined by the American National Standards Institute (or ISO 21118), by dividing a project plane into nine (3-by-3) areas and multiplying average illuminance in the unit of lux (lx) by the area of the project plane in the unit of square meter (m²). The nominal effective flux (brightness) to be stated in a catalog, etc., shall be indicated by an average value of an entire product when it is shipped.³
- 3.10 **Letter for declaration of compliance** refers to a document issued by the applicant or the manufacturer to ensure compliance with product environmental requirements for respective products.
- 3.11 **Certificate** refers to a document issued by a certification body, which has been accredited by the Office of the National Standardization Council (ONSC) or an accreditation body under International Accreditation Forum (IAF).
- 3.12 **Authorized director** refers to the person who has been authorized to sign on behalf of a juristic person under Civil and Commercial code.

² Adapted from www.tprojector.com , www.projectorsc.com

³ Eco Mark, Japan: Projectors (version 1.3).

4. General criteria

- 4.1 The product shall be certified to the Thai Industrial Standard for audio, video and similar electrical appliances - safety requirements, TIS 1195⁴.

Verification method

The applicant shall submit the certificate of Thai Industrial Standard for audio, video and similar electrical appliances - safety requirements, TIS 1195.

- 4.2 The digital projector shall pass electromagnetic compatibility (EMC) test in accordance with the Thai Industrial Standard for information technology equipment - radio disturbance limits, TIS 1956⁵ or CISPR 32⁶ or EN 55032⁷ or other equivalent standards.

Verification method

The applicant shall declare the test report for electromagnetic compatibility using test method in accordance with the Thai Industrial Standard for information technology equipment - radio disturbance limits, TIS 1956 or CISPR 32 or EN 55032 or other equivalent standards.

***Note:** If the model code on the application does not match the code specified on the EMC test, the applicant shall submit documents and evidence to show how the model codes are related or show how the model code from the manufacturer and the commercial model name are related.*

- 4.3 Manufacturing, transportation and post-industrial waste disposal shall comply with national laws and regulations or the manufacturer shall be accredited by ISO 14001⁸

Verification Method

The applicant shall submit one of the following documents:

1. License or evidence to prove that manufacturing, transportation, and post-industrial waste disposal comply with national laws and regulations.
2. Certification of ISO 14001 from the manufacturer.

⁴ TIS 1195: Audio, video and similar electrical appliances - safety requirements.

⁵ TIS 1956: Information technology equipment - radio disturbance limits.

⁶ International electrotechnical commission CISPR 32: Electromagnetic compatibility of multimedia equipment - Emission requirements.

⁷ EN 55032: Electromagnetic compatibility of multimedia equipment - Emission requirements.

⁸ ISO 14001: Environmental Management System.

5. Environmental criteria

5.1 Power consumption of the digital projector shall comply with requirements in Table 1⁹.

Table 1 Power consumption

| Effective Flux (Brightness), X [lm] | Power consumption [W] | Reference Model |
|-------------------------------------|---|-----------------|
| $X < 2500$ | $\leq 0.085 \text{ [W/lm]} \times X \text{ [lm]} + 80 \text{ [W]}$ | 2000 lm:250 W |
| $2500 \leq X < 3000$ | $\leq 0.077 \text{ [W/lm]} \times X \text{ [lm]} + 80 \text{ [W]}$ | 2500 lm:272 W |
| $3000 \leq X < 3500$ | $\leq 0.070 \text{ [W/lm]} \times X \text{ [lm]} + 80 \text{ [W]}$ | 3000 lm:290 W |
| $3500 \leq X < 4000$ | $\leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} + 90 \text{ [W]}$ | 3500 lm:300 W |
| $4000 \leq X < 5000$ | $\leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} + 110 \text{ [W]}$ | 4000 lm:350 W |
| $5000 \leq X < 6000$ | $\leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} + 160 \text{ [W]}$ | 5000 lm:460 W |
| $X \geq 6000$ | $\leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} + 220 \text{ [W]}$ | 6000 lm:580 W |

Note: For wide projector, short focus projector or digital projectors with more than 2 light sources, calculations shall be multiplied by the coefficient per brightness [lm] as shown in the following equations:

- For calculating power consumption of a wide projector, let α be 1.1
Example If a wide projector has brightness value greater than or equal to 6000 lm, then

$$\text{power consumption [W]} \leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} \times \alpha + 220 \text{ [W]}$$

- For calculating power consumption of a short focus projector, let β equals $1/\cos\theta$ (where β shall not exceed 1.3)

Example If a short focus projector has brightness value greater than or equal to 6000 lm, then

$$\text{power consumption [W]} \leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} \times \beta + 220 \text{ [W]}$$

where θ = the angle between the center of the lens and center of the screen as shown in Figure 1

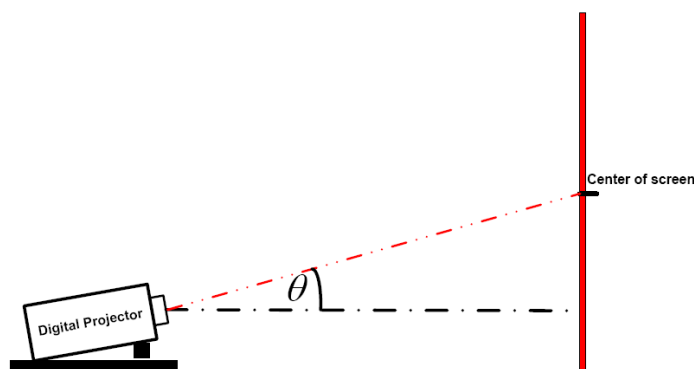


Figure 1 Angle between the center of the lens and center of the screen

⁹ Eco Mark, Japan: Projectors (version 1.3)

3. For calculating power consumption of a digital projector with more than 2 light sources, let γ be 1.5

Example If a digital project has more than 2 light sources with brightness value greater than or equal to 6000 lm, then

$$\text{power consumption [W]} \leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} \times \gamma + 220 \text{ [W]}$$

4. For calculating power consumption of a digital projector with more than 2 functions consisting of wide projector and short focus projector equipped with more than 2 light sources, let α be 1.1, β be $1/\cos\theta$ (not exceeding 1.3) and γ be 1.5

Example If a digital projector has more than 2 functions including wide projector and short focus projector) with more than 2 light sources and brightness value greater than or equal to 6000 lm, then

$$\text{power consumption [W]} \leq 0.060 \text{ [W/lm]} \times X \text{ [lm]} \times \alpha \times \beta \times \gamma + 220 \text{ [W]}$$

Verification method

The applicant shall submit the test report for power consumption using test method in accordance with ISO/IEC 21118¹⁰ or other equivalent standards. Power consumption shall be measured in a normal mode with a full white image and maximum brightness projection, without operating other functions such as voice, etc.

- 5.2 Standby power of the digital projector shall not exceed 0.5 watts. This excludes network latency.

Verification method

The applicant shall submit the test report for standby power using test method in accordance with IEC 62301¹¹, to ensure compliance with Environmental criteria 5.2.

- 5.3 The digital projector in energy-saving mode shall achieve at least 15% reduction in power consumption compared to the normal mode with a full white image projection.

Verification method

The applicant shall submit the test report for power consumption in energy-saving mode using test method in accordance with ISO/IEC 21118 or other equivalent standards, to ensure compliance with Environmental criteria 5.3.

¹⁰ ISO/IEC 21118: Information technology - Office equipment - Information to be included in specification sheets - Data projectors.

¹¹ IEC 62301: Household electrical appliances - Measurement of standby power.

- 5.4 The digital projector shall meet the requirements of time for lamp replacement according to Table 2

Table 2 Time for lamp replacement (hour)

| Effective Flux (Brightness), X [lm] | Time for lamp replacement [h] |
|-------------------------------------|-------------------------------|
| X<5000 | ≥3000 |
| X≥5000 | ≥2000 |

Verification method

The applicant shall declare the document to ensure time for lamp replacement according to Environmental criteria 5.4.

- 5.5 Noise emission of the digital projector shall comply with requirements specified in Table 3.

Table 3 Noise level requirements of the digital projector

| Effective Flux (Brightness), x [lm] and Weight of Product Main Body, y [kg] | Noise [dB] |
|---|------------|
| x<5000 and y≤2 | ≤42 |
| x<5000 and y>2 | ≤37 |
| x≥5000 | ≤48 |

Verification method

The applicant shall submit the test report for noise level of the digital projector to ensure compliance with Environmental criteria 5.5 in accordance with test method under ISO 7779¹². The value of A-weighted sound power level (L_{WAd}) shall be in accordance with ISO 9296¹³.

- 5.6 Requirements for hazardous substances are as follows:
5.6.1 Amount of heavy metals and flame retardants in the product shall comply with the requirements in Table 4¹⁴.

Table 4 Requirements for amount of heavy metals and flame retardants in homogenous materials

| Substances | Heavy metals and heavy metal compounds | | | | Flame retardants | |
|----------------|--|------|-------|---------------------|------------------|-------|
| | Pb | Cd | Hg | Cr ⁶⁺ ** | PBB | PBDE |
| Amount (mg/kg) | ≤1000 | ≤100 | ≤1000 | ≤1000 | ≤1000 | ≤1000 |

Note: ** If total chromium (Cr) content is less than or equal to 1,000 mg/kg, the criteria for chromium hexavalent (Cr⁶⁺) content shall be considered.

¹² ISO 7779: Acoustics-Measurement of airborne noise emitted by information technology and telecommunications equipment.

¹³ ISO 9296: Acoustics-Declared noise emission value of computer and business equipment.

¹⁴ Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

Verification method

1. If the applicant has established the Hazardous Substance Process Management system, the applicant shall submit the declaration letter from product manufacturer to ensure compliance with heavy metal and flame retardant requirements together with a manual or evidence to confirm the existence of Hazardous Substance Process Management.
2. If the Hazardous Substance Process Management system is non-existent, the applicant shall submit the test report for the amount of heavy metals and flame retardants in Printed Circuit Board (PCB), casing, electrical wire, remote control, metals and lens in accordance with test method under IEC 62321¹⁵ or other equivalent standards.

Note: Green Label personnel will be responsible for random sampling and testing to ensure compliance with requirement 5.6.1, while the applicant will be responsible for all incurring charges for testing.

5.6.2 Plastic housing parts weighing more than 25 g shall not contain substances listed in Table 3.2 of Appendix VI of Regulation (EC) No.1272/2008¹⁶ as follows:

- Carcinogenic Category 1 (Carc. 1)
- Carcinogenic Category 2 (Carc. 2)
- Carcinogenic Category 3 (Carc. 3)
- Mutagenic Category 1 (Mut. 1)
- Mutagenic Category 2 (Mut. 2)
- Mutagenic Category 3 (Mut. 3)
- Toxic to Reproduction Category 1 (Repr. 1)
- Toxic to Reproduction Category 2 (Repr. 2)
- Toxic to Reproduction Category 3 (Repr. 3)

or substances listed in Annex 1 of the EC council Directive 67/548/EEC

Verification method

The applicant shall submit the declaration letter ensuring that plastic housing parts weighing more than 25 g do not contain substances listed in Table 3.2 of Appendix VI of Regulation (EC) No.1272/2008 or substances listed in Annex 1 of the EC council Directive 67/548/EEC.

5.6.3 Short-chain chlorinated paraffins with average carbon chain lengths of 10–13 carbon atoms and a chlorine concentration of more than 50% shall not be added in the product as flame retardant.

Verification method

The applicant shall submit the declaration letter stating that no short-chain chlorinated paraffins added in the product according to Environmental criteria 5.6.3.

¹⁵ IEC 62321: Electrotechnical products - Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)

¹⁶ List of chemical substances can be referred in Regulation (EC) No. 1272/2008 of the European Parliament and of the council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, annex VI harmonized classification and labeling – tables, table 3.2 : The list of harmonized classification and labeling of hazardous substances from Annex I to Directive 67/548/EEC (Page L 353/923 onward).

- 5.6.4 Plastic casing parts weighing more than 25 g shall not contain halogen-containing polymer. Exception is made for:
- Fluoroorganic additives used for improving the physical properties of plastics, which must not exceed 0.5% by weight
 - Fluorinated plastics such as Teflon and others
 - Plastic parts which are installed in the direct vicinity of heating and fusing units
 - Large plastic casting parts made of reused plastic, which shall be symbolized according to Thai Industrial Standard for symbols for recycling plastics, TIS 1310¹⁷ or ISO 1043¹⁸ or ISO 11469¹⁹.

Verification method

The applicant shall submit the declaration letter to ensure compliance with Environmental criteria 5.6.4.

5.7 Recycling

- 5.7.1 Plastic parts weighing more than 25 g or having a plane surface of more than 200 square meters shall be symbolized according to Thai Industrial Standard for symbols for recycling plastics, TIS 1310 or be marked with an abbreviation of plastic type according to ISO 1043 or ISO 11469 or other equivalent standards.

Verification method

The applicant shall submit the declaration letter ensuring that plastic parts are clearly symbolized according to Thai Industrial Standard for symbols for recycling plastics, TIS 1310 or be marked with an abbreviation of plastic type according to ISO 1043 or ISO 11469 or other equivalent standards. In addition, the applicant shall submit a sample or a picture of the plastic parts for inspection.

- 5.7.2 Design of the product shall follow 3R Design principle as specified in the check list for 3R Design.

Verification method

The applicant shall submit the declaration letter ensuring that the product has been designed based on the principle of 3R Design (Appendix A).

- 5.8 User's manual/ instruction document for consumer shall provide the following information in Thai language:
- Power consumption (watts) in normal mode, standby mode and energy-saving mode using in the same general section
 - The electricity savings that can be achieved when using energy-saving mode
 - Time for lamp replacement (hours) and proper use for prolonging lamp life
- If the manual/ instruction also provide foreign languages, the meanings shall be synonymous with Thai language defined above.

¹⁷ TIS. 1310: Symbols for recycling plastics.

¹⁸ ISO 1043: Plastics –Symbols and abbreviated terms.

¹⁹ ISO 11469: Plastics –Generic identification and marking of plastic products.

Verification method

The applicant shall submit the declaration letter to ensure compliance with the Environmental criteria 5.8 and submit the user's manual/ instruction with the application.

5.9 Packaging

5.9.1 Plastic packaging

5.9.1.1 Plastic packaging shall not contain substances listed in Table 5.

Table 5 Groups of synthetic chemical compounds composed of chlorine

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

5.9.1.2 Plastic packaging shall be free of halogens and organic halogenides.

5.9.1.3 Plastic packaging shall be symbolized according to Thai Industrial Standard for symbols for recycling plastics, TIS 1310 or be marked with an abbreviation of plastic type according to ISO 1043 or ISO 11469 or other equivalent standards.

Verification method

The applicant shall submit the following documents:

1. The declaration letter ensuring that plastic packaging does not contain substances listed in Table 5.
2. The declaration letter ensuring that plastic packaging is free of halogens and organic halogenides.
3. The declaration letter ensuring that plastic packaging is clearly symbolized according to Thai Industrial Standard for symbols for recycling plastics, TIS 1310 or be marked with an abbreviation of plastic type according to ISO 1043 or ISO 11469 or other equivalent standards. In addition, the applicant shall submit a sample or a picture of the symbolized plastic packaging for inspection.

6. Testing and certification

6.1 Testing

6.1.1 The laboratory shall be operated by the government or under governmental control as defined by clause 5 of the Industrial Standard Act B.E. 2511 (and its amendment) or certified to TIS 17025²⁰ or ISO/IEC 17025²¹ with relevant scope of accreditation.

6.1.2 Test report

6.1.2.1 Test report shall comply with testing methods defined in this document.

6.1.2.2 If “comparable test methods” are submitted, the following documents shall be submitted with the test results:

(1) Declaration letter from the laboratory verifying that the test methods are comparable to the methods defined in this document.

(2) Method validation documents which enable unequivocal scientific verification that the testing methods and requirements defined in this document have been met.

6.1.2.3 Test results shall have been issued no more than 3 year following the application date.

6.2 Declaration letter to verify compliance with Green Label requirements

6.2.1 Shall have been issued no more than 3 years following the application date.

6.2.2 Shall be signed by the authorized directors and have the company seal affixed (if applicable).

²⁰TIS 17025 General Requirements for the Competence of Testing and Calibration Laboratories.

²¹ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories.

Appendix A

1. Check list for 3R Design²²

1.1 Applicable Scope

The requirements apply to certain sub-assemblies of basic unit of equipment and consumables

| | |
|---------------------------------------|---|
| Sub assemblies | consist at least two components linked by power or design |
| Chassis | Parts with functions serving as a frame to support the main parts of machines |
| Housing parts | Parts which protect the machine from environmental effects and user from getting into contact with moving, radiating, or current-carrying components. |
| Electrical/ electronic sub-assemblies | Assemblies which include at least one electric or electronic component. |
| Polymer alloy (Polymer blend) | General name of multi component polymers obtained by the chemical binding of the polymers of more than two components. Polymer blend is the physical blending of different types of polymers. |

1.2 Requirements which must be met

| No | Requirement | Applicable scope | Compliance? | Remarks | Purpose |
|----|--|---|-------------|--|-------------------------------|
| 1 | Components made of materials incompatible with each other are connected separably or via separation aids. | Housing parts, chassis, Electrical/ electronic sub-assemblies | Yes / No | Compatibility of materials can be checked with reference to Appendix C of ECMA 341 "Polymers Compatibility Guide", etc. | Promoting reuse and recycling |
| 2 | Electrical/ Electronic sub-assemblies and electrical/ electronic parts are easily traceable and removal. Can parts replacement of which is substantially needed in maintenance/repair be easily removed? | Entire unit, including lamps | Yes / No | | Facilitating parts search |
| 3 | Disassembly for recycling can be done with universal tools exclusively | Housing, chassis, Electrical/ electronic sub-assemblies | Yes / No | "Universal tools" refers to widely used, commercially available tools. This requirement does not apply to connections where legal regulations have influenced the choice of joining technique. | Facilitating disconnection |

²² Eco Mark, Japan: Projectors Version 1. 3.

| No | Requirement | Applicable scope | Compliance? | Remarks | Purpose |
|----|--|---|-------------|---|-------------------------------|
| 4 | Necessary points of application and working space for disassembly tools have been taken into consideration? | Housing parts, chassis, Electrical/ electronic sub-assemblies | Yes / No | | Facilitating disconnection |
| 5 | Screwed connections between sub assemblies can be separated with no more than 4 tools. | Housing parts, chassis, Electrical/ electronic sub-assemblies | Yes / No | Tools can be distinguished by drive type (e.g., Phillips screw driver, flathead screw driver) and drive size (e.g., tool size) | Facilitating disconnection |
| 6 | Disassembly can be done by a single person. | Entire unit | Yes / No | For example, if an undercut angle is 90 degrees or greater, any number of snap-fit joints that snap-fit in the same direction can be fit together simultaneously, but disconnecting them is not always possible. This requirement is considered not satisfied if three or more snap-fit joints cannot be simultaneously disconnected. | Facilitating dismantling |
| 7 | For a part containing mercury, information for sorting out is provided, and the part has structure that allows safe removal for disassembly. | lamps | Yes / No | This requirement does not apply to an LED lamp, laser lamp, etc. | Facilitating dismantling |
| 8 | The manufacturer did a trial disassembly according to 1-7 above. | Entire unit | Yes / No | | |
| 9 | Materials of plastic housing components weighing over 25g with similar functions are limited to one material. This requirement shall not apply to parts that have been proved as reused parts or parts which require special functions "heat resistance", "impact resistance" and "abrasion resistance". | Housing parts | Yes / No | For instance, "functions" refer to "heat resistance", "impact resistance" and "abrasion resistance". | Promoting reuse and recycling |

1.3 Requirements which should be met

| No | Requirement | Applicable scope | Compliance? | Remarks | Purpose |
|----|--|------------------------|-------------|---|-------------------------------|
| 1 | Separable connections are easily traceable. | Housing parts, chassis | Yes / No | | Facilitating parts search |
| 2 | For products weighing over 10kg, the supporting surface can be maintained during the entire disassembly work. | Unit to be handled | Yes / No | "The supporting surface" refers to the product surface for wrecking company to work on. This requirement enables to indirectly check whether or not there is hierarchical structure. | Facilitating dismantling |
| 3 | Parts made of the same sort of plastics are dyed uniformly or compatibly. Integrated control elements shall be exempt from this requirement. | Housing parts | Yes / No | "Compatible dyeing" stands for different shades of one colour. | Promoting reuse and recycling |
| 4 | The paint which shall not prevent recycling has been used. | Housing parts | Yes / No | "Paints not to prevent recycling" refers to the paints that have the following characteristics; it possesses compatibility with materials of coated parts, and does not prevent high-level material recycling (horizontal recycling for in-house products). | Promoting reuse and recycling |
| 5 | Reused plastic parts or recycled plastic parts are used. | Housing parts, chassis | Yes / No | Reused or recycled plastics do not have to constitute the entire part of one component. | Promoting reuse and recycling |