Green Label Product
Canopy and Deck Cover for Motor Vehicle

(TGL-53-11)

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1. Background

Canopy and deck cover are designed as motor vehicle accessories. However, harmful chemicals used in manufacturing process contribute to pollution on environment and ecosystem, for instance coating materials and chemical surface treatments and contamination of heavy metals and their compounds in wastewater discharged from coating process which are harmful to health. In addition, inappropriate waste disposal of end-of-life products such as open dumps or improperly constructed landfills may lead to heavy metal emissions to environment. Recycling of product components or materials can help reduce waste disposal reasonably.

In consequence, the requirements regarding the Green Label for Canopy and Deck Cover for Motor Vehicle aim to decrease impacts on environment by means of environmentally friendly raw materials use and low pollutant emissions, as well as recycling of product components.

2. Scope

Canopy and deck cover for motor vehicle in category M1 and N1, excluding materials and components intentionally used for installation of canopy and deck cover for motor vehicle.

3. Definitions

Category M1 refers to motor vehicles intended for passenger transportation with a maximum capacity not exceeding 8 seats in addition to the driver's seat.

Category N1 refers to motor vehicles intended for goods transportation with a maximum mass not exceeding 3,500 kg.

Recycled plastic covers post-consumer plastic and pre-consumer plastic as follows;

Post-consumer plastic refers to used plastic generated by households or by commercial, industrial and institutional facilities which is no longer used for its intended, propose. This includes returns of material from customer.

Pre-consumer plastic refers to waste plastic diverted from the waste stream during manufacturing process. This excludes broke generated in the plastic production process which is able to be reclaimed within the same operating process.

4. General requirements

4.1. Raw materials used in manufacturing process shall comply with the requirements as follows;

4.1.1. Metal components shall be certified to Thai Industrial Standards for that metal types;

- Thai Industrial Standards for Hot-dip zinc-coated cold-rolled steel coil, sheet and corrugated sheet, TIS 50
- Thai Industrial Standards for Cold reduced carbon steel coil, strip and sheet of commercial and drawing qualities, TIS 2012

4.1.2. Plastic components shall pass the quality requirements using test methods as described in Table 1 or recognized international/national test methods, such as ASTM or JIS.

Table 1 Quality requirements and test methods for plastic components

No.	Code	Standard	Requirement
1	ASTM D 638	Standard Test Method for Tensile Properties of Plastics	> 32 Mpa
2	UL 94HB	Flammability Standard	Burning rate < 40 mm/min

4.1.3. Fiberglass components shall comply with the requirements as follows;

- Glasswool shall be certified to Thai Industrial Standard for Glasswool, TIS 486 or shall pass the product quality tests according to TIS 486 or DIN 61855 or JIS R 3412 or recognized international/national test methods, such as ASTM or JIS.
- Glasswool boards shall be certified to Thai Industrial Standard for Glasswool boards, TIS 487 or shall pass the product quality tests according to TIS 487 or DIN 62853 or JIS R 3411 or recognized international/national test methods, such as ASTM or JIS.
- Resin shall pass the product quality tests according to ASTM D 2196 (Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type Viscometer) or recognized international/national test methods, such as ASTM or JIS.

4.1.4. Glass components shall be certified to Thai Industrial Standard as follows;

- Thai Industrial Standard for Automobile safety glasses: laminated glass, TIS 196
- Thai Industrial Standard for Automobile safety glasses: tempered glass, TIS 197
- Thai Industrial Standard for Automobile safety glasses: zone tempered glass, TIS 198

4.2. Product shall pass the quality requirements as described in Table 2;

Table 2 Quality requirements and test methods for finished product

No.	Parameter	Standard/ Test condition	Requirement	Remark
1	Vibration function test	JIS D1601 : Vibration Testing Methods for Automobile Parts (Test according to Type 1 Class B at Division 50)	No detection of crack and loosened bolt	Recent test reports
2	Sweep vibration endurance test	JIS D1601 : Vibration Testing Methods for Automobile Parts (Test according to Type 1 Class B at Division 50)	No detection of crack and loosened bolt	Recent test reports
3	Water Leakage	water flow rate of 150 l/min will be directed perpendicularly to the surface of the specimen, operating 10 min	No leakage	Witness by the Green Label Scheme's officials

4.3. Production, transportation, and post-industrial waste disposal shall comply with the national laws and regulations.

5. Environmental requirements

5.1. Plastic used as main raw material in production process shall contain of at least 30% recycled plastic.

5.2. Metal components in product shall comply with the requirements as follows;

5.2.1. Chromium (+6) Nickel and mercury shall not be used as coating materials

5.2.2. 1,1,1- trichloroethane compound shall not be used as chemical surface treatment

5.2.3. Lead content in aluminum material due to impurities and contamination shall not exceed 0.4% by weight in homogenous materials.

5.3. Plastic components in product shall comply with the requirements as follows;

5.3.1. Heavy metal contents due to impurities and contamination shall meet the following requirements;

- Mercury, lead and chromium (+6) shall not exceed 0.1% (1,000 ppm) by weight in homogenous materials
- Cadmium shall not exceed 0.01% (100 ppm) by weight in homogenous materials

5.3.2. The following flame retardants are prohibited;

- PBB (polybrominated biphenyl)
- PBDE (polybrominated diphenyl ether)
- Chlorinated paraffins with average carbon chain lengths of 10–13 carbon atoms
- Substances with more than 50% by weight of chlorine content

5.3.3. Phthalate-free

5.3.4. Plastic parts with a mass greater than 100 g shall be symbolized according to Thai Industrial Standard: *recycling plastics*, TIS 1310 or ISO 1043 or ISO 11469.

5.4. Fiberglass components in product shall comply with the requirements as follows;
  5.4.1. Heavy metal contents due to impurities and contamination shall meet the following requirements;
    - Mercury, lead and chromium (+6) shall not exceed 0.1% (1,000 ppm) by weight in homogenous materials
    - Cadmium shall not exceed 0.01% (100 ppm) by weight in homogenous materials
  5.4.2. The following flame retardants are prohibited;
    - PBB (polybrominated biphenyl)
    - PBDE (polybrominated diphenyl ether)
    - Chlorinated paraffins with average carbon chain lengths of 10–13 carbon atoms
    - Substances with more than 50% by weight of chlorine content
  5.4.3. Non-asbestos composite

5.5. Product made from rubber with a mass greater than 200 g shall be symbolized according to ISO 1629.

5.6. Paints used in product shall comply with the requirements as follows;
  5.6.1. Heavy metal contents due to impurities and contamination shall meet the following requirements;
    - Mercury, lead and chromium (+6) shall not exceed 0.1% (1,000 ppm) by weight
    - Cadmium shall not exceed 0.01% (100 ppm) by weight
  5.6.2. Arsenic, antimony, Triphenyl tins (TPT) and Tributyl tins (TBT) are prohibited

5.7. Packaging
  5.7.1. Paper used as product packaging shall be certified to the Green Label for Papers or shall meet the Green Label requirements for that paper.
  5.7.2. Plastic packaging shall be symbolized according to Thai Industrial Standard: *recycling plastics*, TIS 1310 or ISO 1043 or ISO 11469.
  5.7.3. Paints or pigments used for printing on packaging or for labeling on packaging are permitted to have the sum of heavy metal concentrations (mercury, lead, cadmium and hexavelent chromium) due to impurities and contamination not more than 0.01% (100 ppm) by weight.

6. Testing and certification

6.1. For metal components, the manufacturer shall submit certificate of Thai Industrial Standards for that metal type used in product.

6.2. For plastic components, the manufacturer shall submit test reports using test methods as described in Table 1 or submit test reports using test methods according to recognized international/national standards, such as ASTM or JIS.

6.3. Fiberglass components

6.3.1. For glasswool, the manufacturer shall submit certificate of Thai Industrial Standard for Glasswool, TIS 486 or submit test reports indicating compliance of product quality with TIS 486 or DIN 61855 or JIS R 3412 or recognized international/national standards, such as ASTM or JIS.

6.3.2. For glasswool boards, the manufacturer shall submit certificate of Thai Industrial Standard for Glasswool boards, TIS 487 or submit test reports indicating compliance of product quality with TIS 487 or DIN 62853 or JIS R 3411 or recognized international/national standards, such as ASTM or JIS.

6.3.3. For resin, the manufacturer shall submit test reports indicating compliance of product quality with ASTM D 2196 (Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type Viscometer) or recognized international/national standards, such as ASTM or JIS.

6.4. For glass components, the manufacturer shall submit certificate of Thai Industrial Standards for that glass type used in product.

6.5. For finished product, the manufacturer shall submit test reports using test methods as described in Table 2 or submit test reports using test methods according to recognized international/national standards, such as ASTM or JIS.

6.6. For product made from plastic, the manufacturer shall submit certified document indicating that plastic content shall be compose of at least 30% by weight of recycled plastic. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.7. Metal components in product

6.7.1. The manufacturer shall submit certified document indicating that chromium (+6) nickel and mercury are not used as coating materials in product. The document shall be signed by authorized personnel of the surface treatment manufacturer and stamped with the company hallmark.

6.7.2. The manufacturer shall submit certified document indicating that 1,1,1-trichloroethane compound is not used as chemical surface treatment for metals. The document shall be signed by authorized personnel of the surface treatment manufacturer and stamped with the company hallmark.

6.7.3. The manufacturer shall submit certified document indicating that lead is not contained in aluminum material. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.8. Plastic components in product

6.8.1. The manufacturer shall submit test reports of heavy metal contents including lead, mercury, cadmium and hexavalent chromium, using test methods according to IEC 62321 or recognized international/national standards, such as ASTM or JIS. (Test reports applied for the Green Label shall not exceed 2 years duration)

6.8.2. The manufacturer shall submit certified document indicating that prohibited flame retardants specified in Environmental requirements No. 5.3.2 are not used during manufacturing process. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.8.3. The manufacturer shall submit certified document indicating that phthalate is not contained in product. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.8.4. The manufacturer shall submit certified document indicating that the plastic parts with a mass greater than 100 g is symbolized according to TIS 1310 or ISO 1043 or ISO 11469. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.9. Fiberglass components in product

6.9.1. The manufacturer shall submit test reports of heavy metal contents including lead, mercury, cadmium and hexavalent chromium, using test methods according to IEC 62321 or recognized international/national standards, such as ASTM or JIS. (Test reports applied for the Green Label shall not exceed 2 years duration)

6.9.2. The manufacturer shall submit certified document indicating that prohibited flame retardants specified in Environmental requirements No. 5.4.2 are not used during manufacturing process. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.9.3. The manufacturer shall submit certified document indicating that asbestos is not contained in fiberglass components. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.10. The manufacturer shall submit certified document indicating that product made from rubber with a mass greater than 200 g is symbolized according to ISO 1629. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.11. The manufacturer shall submit test reports of heavy metal contents in paints used in product using test methods in accordance with the following standards;

6.11.1. ISO 3856-7 or ASTM D 3624 for mercury content

6.11.2. ISO 3856-1 or ASTM D 3335 for lead content

6.11.3. ISO 3856-4 or ASTM D 3335 for cadmium content

6.11.4. ISO 3856-5 for chromium (+6) content

or recognized international/ national standards, such as ASTM or JIS.

6.12. The manufacturer shall submit certified document indicating that arsenic, antimony, Triphenyl tins (TPT) and Tributyl tins (TBT) are nit contained in paints.

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

6.13. Packaging

6.13.1. For paper packaging, the manufacturer shall submit certificate of Thai Green Label for Papers or submit test reports indicating compliance of product quality with Thai Green Label requirements for that paper. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.13.2. For plastic packaging, the manufacturer shall submit certified document indicating that the plastic packaging is symbolized according to TIS 1310 or ISO 1043 or ISO 11469. The document shall be signed by authorized personnel of the manufacturer and stamped with the company hallmark.

6.13.3. The manufacturer shall submit test reports of heavy metal contents in paints or pigments used for printing on packaging or for labeling on packaging, using test methods in accordance with the following standards;

1) ISO 3856-7 or ASTM D 3624 for mercury content
2) ISO 3856-1 or ASTM D 3335 for lead content
3) ISO 3856-4 or ASTM D 3335 for cadmium content
4) ISO 3856-5 for chromium (+6) content

or recognized international/ national standards, such as ASTM or JIS.

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 according to Thailand Industrial Products Standards Act, B.E. 2511 or
   - Private laboratories accredited in accordance with the Thai Industrial Standard on general requirements for the competence of testing and calibration laboratories, TIS 17025 (ISO/IEC 17025) or laboratories accredited under ILAC and APLAC or IAF.
2) Test reports used to apply for the Green Label requirements shall not exceed 1 year duration.