



Green Label Product Steel Furniture (TGL-21-R2-14)

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Steel Furniture

1 Background

Steel furniture is widely used in houses, universities, and offices due to its strength and durability. The product is composed of steel and other materials such as plastic and aluminum, and other metals. Iron ore and coal are the major natural resources needed for manufacturing and molding of steel furniture, while electrical energy is necessary for smelting and surface coating. Coating substances are usually composed of volatile organic compounds (VOCs) and heavy metals, which are released into the air and affect the environment and users. In general, resources, materials, and energy used for manufacturing can impact the environment and climate change.

Therefore, the Green Label certification for steel furniture aims to control the use of resources, energy, coating substances, and hazardous substances in the manufacturing process. Moreover, this Green Label requires the owner to make use of recycled materials and encourage displaying symbols to indicate the type of plastic used in order to reduce the use of natural resources and offer environment friendly products to consumers. Finally, this Green Label can encourage the manufacturers and consumers to take part in reducing environmental impacts and climate change.

2 Scope

This Green Label applies to furniture made from at least 70% steel.

3 Definitions

Steel furniture refers to file cabinet, cabinet, table, chair, bed, couch, metal shelf, shelf and folding door or partition made from steel, or have main structure made from steel and accessories are made from other materials.

Steel refers to steel in the form of sheeting, long steel, and profile steel.

Main structure refers to structures which define the pattern and strength of product.

Supporting apparatus refers to decorative accessories on furniture for luxury and convenience purposes such as a handle, slot for name cards, clothesline and mirror (except lock and key).

4 General requirements

- 4.1 The product shall be certified or passed the product quality specification requirements under applicable Thai Industrial Standard or other equivalent standards that conform to the above scope for steel furniture (refer to list of Thai Industrial Standard in appendix 3).

Verification method

The applicant shall declare the certificate received or submit a test report as required in the applicable Thai Industrial Standard or other equivalent standard that conforms with requirement 4.1.

- 4.2 Manufacturing, transportation and post-industrial waste disposal shall comply with national laws and regulations.

Verification method

The applicant shall declare a license or evidence to ensure that manufacturing, transportation, and post-industrial waste disposal complies with national laws and regulations.

5 Product environment requirements

- 5.1 The product shall be composed of at least 70% steel.

Verification method

The applicant shall submit a declaration letter to show the calculation for steel composition by area on a drawing that at least 70% of steel was used.

- 5.2 Alkyl phenol ethoxylates (APEOs) and 1,1,1-Trichloroethane (Methyl Chloroform) shall not be used for the surface preparation process.

Verification method

The applicant shall submit a declaration letter that product environmental requirement 5.2 has been met as well as list out the chemical substances used.

- 5.3 The following coatings or coating substances are prohibited from use on the product and supporting apparatus:
- 5.3.1 Formaldehyde
 - 5.3.2 Halogenated solvents
 - 5.3.3 Aromatic hydrocarbons such as thinner, toluene and xylene (as solvent); except other substances that are more reactive than or equal to the mentioned aromatic hydrocarbons as solvents.

Verification method

The applicant shall submit a declaration letter from the supplier of coatings or coating substances that substances and solvents listed in requirement 5.3.1, 5.3.2, and 5.3.3 were not used as well as list out the actual substances used.

- 5.3.4 Heavy metals such as mercury, lead, cadmium, and hexavalent chromium shall not be present in the product.

Exception: Total concentration of heavy metals due to impurities or traces deriving from raw materials shall not exceed 0.1 (1000 ppm) of total weight.

Verification method

The applicant shall submit a test report for mercury, lead, cadmium, and hexavalent chromium according to the following test method:

- 1) For mercury, test method under ISO 3856-7 or ASTM D 3624 or IEC 62321 or other equivalent standards;
- 2) For lead, test method under ISO 3856-1 or ASTM D 3335 or IEC 62321 or other equivalent standards;
- 3) For cadmium, test method under ISO 3856-4 or ASTM D 3335 or IEC 62321 or equivalent standards;
- 4) For hexavalent chromium, test method under ISO 3856-5 or IEC 62321 or equivalent standards.

5.3.5 Volatile organic compound (VOCs) used for coatings or coating substances shall not exceed 0.5 mg/dm³.

Remarks: If powder coating is used, then no test is required for VOCs.

Verification method

The applicant shall submit a test report for VOCs according to the test method under ASTM D3257 or ISO 11890-1 or ISO 11890-2 or other equivalent standards.

5.4 Existence of manual or storage, transportation and installation or product handling recommendations.

Verification method

The applicant shall declare the manual for installation, transportation, and storage as required in 5.4.

5.5 Paper packaging shall consist of recycled pulp as follows:

5.5.1 For corrugating medium, 100% by weight (dry basis).

5.5.2 For kraft liner board, at least 70% by weight (dry basis).

Verification method

The applicant shall submit a declaration letter that paper packaging requirement 5.5 have been met.

5.6 Plastic packaging shall be symbolized to indicate the type of plastic used according to TIS 1310 for recycling plastic or display an abbreviation according to ISO 1043 or ISO 11469.

Verification method

The applicant shall submit a declaration letter to ensure that plastic packaging is clearly symbolized by type of plastic used according to TIS 1310 or ISO 1043 or 11469 and other evidence such as a sample of plastic packaging or a picture of the symbolized plastic packaging.

- 5.7 Straps made from PVC or composed of PVC shall be displayed with a logo “Do not burn” on the plastic part.

Verification method

The applicant shall submit a declaration letter that PVC straps or composed of PVC meet requirement 5.7 as well as include a sample of the strap or a picture of the strap with logo “Do not burn” on it.

- 5.8 Ink or pigments used for printing on packaging or labels on packaging shall not contain mercury, lead, cadmium, and hexavalent chromium.

Exception: Total concentration of heavy metals due to impurities or traces deriving from raw materials shall not exceed 0.01% (100 ppm) of total weight.

Verification method

The applicant shall submit a test report for mercury, lead, cadmium, and hexavalent chromium according to the following test methods:

- 1) For mercury, test method under ISO 3856-7 or ASTM D 3624 or IEC 62321 or other equivalent standards;
- 2) For lead, test method under ISO 3856-1 or ASTM D 3335 or IEC 62321 or other equivalent standards;
- 3) For cadmium, test method under ISO 3856-4 or ASTM D 3335 or IEC 62321 or other equivalent standards;
- 4) For hexavalent chromium, test method under ISO 3856-5 or IEC 62321 or other equivalent standards.

6. Testing and certification

6.1 Testing

6.1.1 Laboratories shall be as follows:

- 1) Laboratories operated by the government
- 2) Laboratories under governmental control as defined by clause 5 of the Industrial Standard Act B.E. 2511 (and its addenda)
- 3) Certified laboratories under TIS 17025 or ISO/IEC 17025 (for applicable scope)

6.1.2 Test results

6.1.2.1 Test results 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 1 year starting from the issuing date to the application date.

6.2 Declaration letter to verify compliance with Green label requirements

6.2.1 Shall have been issued no more than 1 year following the application date.

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

Remarks: Topics be considered for Green Label revision

1. Eco design