



Green Label Product Gypsum Board (TGL-49-10)

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TGL-49-10 Gypsum Board

1. Background

Recently, gypsum board has been widely used in the construction sector for internal walls and ceiling of houses and office buildings. The demand for gypsum board has been growing continuously due to its various abilities such as acting as a thermal insulator, controlling sound transmission, constructing it as internal wall (instead of constructed brick or cement wall), and using it for aesthetic purposes. The consumption rate of gypsum board in 2009 recorded 400,000 tons/year and increased to 468,000 tons/year (or 17%) in 2010. However, this may lead more waste being generated during the manufacturing process and from consumption of gypsum board.

Improper processing of gypsum may contribute to particulate matter emission. Inhalation of these particles can irritate the respiratory system, while the accumulation of the particles in human lungs can cause chronic pneumonia. In addition, chemicals used during the production process including adhesives and additives that contains organic solvent can contribute to photochemical oxidants such as ozone. Excessive concentrations of ozone are toxic to plant and human health.

Therefore, gypsum board certified with Green Label must contain recycled gypsum board and no hazardous chemicals as well as the existence of returns policy of used gypsum board in order to ensure consumer safety, minimize chemical contamination in the environment, conserve resources and energy, reduce waste generated, and lessen the burden for pollution control.

2. Scope

Gypsum board includes the gypsum board used for indoor and outdoor building material such as wallboard and ceiling.

3. Definitions

- 3.1 **Gypsum board** refers to a sheet containing gypsum plaster as the main component, a core between kraft papers or smoothing materials, and/or may contain coating materials on one or both sides. The core may be compressed or porous, and may mix with fiber or other additives.
- 3.2 **Gypsum liner board** refers to paper manufactured for bonding with gypsum board.
- 3.3 **Post-consumer waste** refers to waste or used product.
- 3.4 **Post-industrial waste** refers to waste or waste occurred during the manufacturing process or the processing plant before reaching the consumer.

4. General Requirements

- 4.1 The product shall be certified under Thai Industrial Standard or passed the tests listed in the Thai Industrial Standard for Gypsum Plasterboard No. 219, or international standards, or acceptable national standard.
- 4.2 Production, transportation, and post-industrials waste disposal shall comply with the government laws and regulations.

5. Product Environmental Requirements

- 5.1 Paper used for manufacturing of gypsum board shall be certified under Green Label for Paper Product (TGL-8-R1-06), or passed the tests listed in the product criteria of Green Label for Paper Product or international standards or acceptable national standards such as JIS.
- 5.2 Materials for the core of gypsum board
- 5.2.1 Core material of gypsum board shall be made from post-consumer waste, or post-industrial waste, or both combined at least 15% by weight.

Remark: The requirement no. 5.2.1 has been changed to “Core material of gypsum board shall be made from post-consumer waste, or post-industrial waste, or both combined at least **30%** by weight” as of **January 1, 2013.**

5.2.2 Existence of return policy and action plan for receiving of returned waste shall be reported annually.

5.3 The following chemical substances shall not be used in the product:

5.3.1 Phosphogypsum

5.3.2 Formaldehyde

5.3.3 Carcinogenic agents listed in group 1 (definitely carcinogenic to humans), group 2A (probably carcinogenic to humans) and group 2B (possibly carcinogenic to humans) of International Agency for Research on Cancer (IARC) and additional announced list.

5.3.4 Halogenated hydrocarbon

5.3.5 Adhesives, additives and surface treatment agents shall not contain the following chemicals:

- 1) Organic tin compounds
- 2) Halogenated compounds in the adhesive agent
- 3) Fire retardant which contains halogenated compound
- 4) Solvent which contain halogenated or aromatic compounds
- 5) Phthalates include alkyl group such as methyl-, ethyl-, propyl-, butyl-, and octyl-
- 6) Pigment or additives which contain lead, cadmium, chromium, mercury, and their compounds

5.3.6 Chemicals which are listed as 'toxic' in the Hazardous Substance Act B.E. 2551 according to the announcement of Department of Industry.

5.4 A manual for storage, transportation, installation and return of post-consumer waste shall be provided.

6. Testing and Certification

6.1 The applicant shall declare the license to display industrial standard mark on the product or present test results according to the specified requirements in the industrial standard related to the product or present test results according to international standards or acceptable national standards.

6.2 The applicant shall present Green Label certificate for paper used in the manufacturing of gypsum board or present test results according to the specified requirements in the Green Label criteria for Paper Product or present test results under other equivalent standards to requirement no. 5.1, which must be signed by the authorized director of the company.

6.3 The applicant shall submit a declaration letter that materials used for manufacturing the core of gypsum board is complying with requirement no. 5.2, which must be signed by the authorized director of the company and the applicant must declare evidence or tangible action plan for receiving the returned waste with actual due dates. The evidence or action plan shall be approved by the authorized director of the company.

6.4 The applicant shall submit list of chemical substances used as ingredients for the manufacturing of gypsum board and submit a declaration letter verifying that prohibited substances in requirement no. 5.3 as well as carcinogenic substances and other hazardous substances to human health has not been used in the product. The declaration letter must be signed by authorized director of the company. As for the measurement of formaldehyde emission from gypsum board, the test method shall comply with JIS A 5908 or other equivalent international or national standards.

6.5 The applicant shall declare evidence of a manual for storage, transportation, installation and return of post-consumer waste.

Remarks:

All tests shall be conducted by the following laboratories.

- Government laboratories
- Private laboratory that is certified for its capability of testing following the requirement of Thai Industry Standard, or laboratory that is certified for competence of testing and calibration according to ISO/IEC 17025.