

Hong Kong Green Label Scheme

Product Environmental Criteria for Building Products using Perlite (GL-008-011)



BACKGROUND

The Hong Kong Green Label Scheme (HKGLS) is an independent and voluntary scheme which aims to identify products that are, based on life cycle analysis consideration, more environmentally preferable than other similar products with the same function. The Scheme is organized by the Green Council (GC) with contributions from the HKGLS Advisory Committee and a number of supporting organizations.

The prime objectives of HKGLS are :

- For Consumers: assist in making purchases of products that are less harmful to the environment;
- For Industry: stimulate development and production of environmentally preferable alternatives.

This specification sets out the requirements that building materials made of perlite will be required to meet in order to be licensed to use the HKGLS label. The requirements include environmental criteria and product characteristics. The specification also defines the testing and other means to be used to verify conformance with the environmental criteria and product characteristics.

POTENTIAL ENVIRONMENTAL IMPACTS

Currently, there are three types of materials available in the market used to manufacture fire retardant panels including calcium-silicate, cement based and gypsum board. All three boards are not considered to be highly hazardous towards human health and the environment upon usage, however, their derived and long term environmental and health impacts do exist. Significantly, no test result or information indicates that perlite poses any health risk and is therefore regarded as safe for consumer use.

LABEL OBJECTIVE

The aim of the environmental criteria developed for “Building Products using Perlite” is to:

- promote the use of perlite in building products
- reduce the discharge of toxic, hazardous or otherwise polluting substances, including heavy metals and asbestos, into the environment during production and use of the product

PRODUCT DEFINITION

This document and all product environmental criteria therein apply to building materials and auxiliary building materials that are made of perlite.

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PRODUCT CRITERIA

The product environmental criteria for the product category of “Building Products using Perlite” (GL-008-011) under the Hong Kong Green Label Scheme (HKGLS) are set out in the ensuing table.

Criteria	Verification Method
1. The percentage of perlite in the product shall be at least 10% of the product’s net weight.	The gross weight of the product shall be specified, along with the components of the products, in weight per cent or in per cent by volume.
2. During construction and use of the product, emissions of hazardous materials, including the heavy metals of <i>Cadmium, Lead, Chromium VI, Arsenic, Mercury and Selenium</i> shall not occur.	A test report shall be submitted by the applicant to show compliance with the requirement. Suggested test methods are NIOSH 7303 ⁽¹⁾⁽²⁾ for elements, NIOSH 7600 ⁽¹⁾⁽³⁾ for Chromium VI and USEPA. Method 7471A ⁽¹⁾⁽⁴⁾ for analysis of total mercury. Equivalent methods are acceptable.
3. The gamma radiation dose of the product shall not exceed 0.5 micro Sievert per hour.	A certificate issued by the manufacturer of the product concerning safety with regard to exposure to radioactivity material shall be submitted. A certificate of test results carried out by a third party shall also be submitted if available.
4. The product shall not contain asbestos (white, brown or blue asbestos).	A certificate shall be obtained from the manufacturer that asbestos is not present in the product.
5. E-glass and “475” glass fibres shall not be used for reinforcement.	The type and percentage of fiberglass materials shall be provided by the applicant in a declaration.
6. Production processes shall conform to relevant national or local environmental regulations on preventing air pollution and water contamination.	The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.
7. The durability of the product shall be equivalent to that of conventional products of same function.	Supporting information shall be submitted for review.

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8. If packaging materials are used, they shall not contain halogenated plastics. Certification shall be provided by the packaging materials manufacturer that no halogenated substances are present in the packaging.
9. Instruction manual(s) shall accompany a product concerning its construction, use, disassembling, and preferably also disposal, and recycling. Manual(s) shall be submitted for review.

Notes on Verification

- (1) See NIOSH Manual of Analytical Methods at <http://www.cdc.gov/niosh/nmam>, or Resources Centre of the Green Council website : <http://www.greencouncil.org/eng/greenlabel/res.asp>
- (2) NIOSH 7303 : Elements by ICP (hot block/HCl/HNO₃ digestion)
- (3) NIOSH 7600 : Chromium, hexavalent
- (4) (USEPA) Method 7471A Mercury in Solid or Semisolid Waste (manual cold-vapor technique)