

Hong Kong Green Label Scheme

Product Environmental Criteria for Windows (GL-008-004)



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 windows 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

The technical life of a window is on average at least 30 years. Energy loss in the product-use stage is the main environmental impact during the life cycle of a window. The thermal insulation capacity of the windows influences the energy consumption of a building. In general, thermal energy loss through windows account for an average of 14% of the total thermal energy loss of housing, commercial premises and public buildings

The production of windows requires such materials as glass, wood, aluminum, steel and plastics, as well as such chemicals as paints, putty, fillers, glue, fittings and sealants. Many of them contain substances that may be harmful to the environment.

LABEL OBJECTIVE

The aim of the environmental criteria developed for windows is to :

- Promote reduction of thermal energy loss of windows; and
- Discourage use of chemicals or other substances that are harmful to the environment;

PRODUCT DEFINITION

This document and all product environmental criteria therein apply to all ordinary windows and window-doors. The windows can be permanently shut or openable. The casements and frames can be made of wood, wood-aluminum, aluminum, plastic, steel or composites.

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PRODUCT ENVIRONMENTAL CRITERIA1

The table below sets out the product environmental criteria for Windows (GL-008-004) under the HKGLS.

| Product Environmental Criteria | Verification Method(s)* |
|--|--|
| 1. The thermal insulation capacity of the windows (U-value) shall not exceed 1.4W/m ² K. | ✓ Review of laboratory test report(s). ¹ |
| 2. The windows shall not contain chlorinated plastics. | ✓ Inspection of product samples; AND ✓ Review of supporting information; |
| 3. The windows shall not contain additives based on lead, cadmium, chlorinated/brominated paraffines, mercury, arsenic, organic tin compounds, phthalates or polybrominated diphenylethers, and hexavalent chromium. | ✓ Review of laboratory test report(s). ² |
| 4. Criteria on paint (GL-008-010) shall apply to the painted windows whenever appropriate. | ✓ Review of supporting information; |
| 5. Packaging requirements: <ul style="list-style-type: none"> • Packaging materials shall not contain chlorine-based plastics and timber treated with biocides or wood preservatives; • General packaging requirements (refer to criteria for packaging materials : GL-Packaging). | ✓ Inspection of product samples; AND ✓ Review of supporting information; AND ✓ Interview with relevant personnel. |

*Analytical testing should be accredited and performed by laboratories that meet the requirement laid out in the IEC/ISO 17025 or EN45001 standards or any equivalent systems e.g. HOKLAS, CNAS. Under special situation and with the approval from GC, test can be performed by in-house method by the accredited laboratory or manufacturer.

Note:

1. **Test Method:** ISO8990 or equivalent

2. **Test Method:**

Arsenic, Cadmium, Lead, Mercury: USEPA 3052 or equivalent

Chromium VI: USEPA 7199 &7196A or equivalent

Tin: USEPA 6020 or equivalent

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Halogenated Solvent: ASTM D4457 or equivalent

Aromatic Compounds: ASTM D3257 or equivalent

Organotin: ISO17353 or equivalent

Paraffines and PBDE: US EPA 3540C/8081A/8082A/8270D/ US EPA 8270D/3540C/GC-MSD or equivalent