

Hong Kong Green Label Scheme

Product Environmental Criteria for Refrigeration Appliances (GL-007-005)



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 refrigeration appliances 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

Energy consumption is the key environmental impact for refrigeration appliances at all stages of the product life cycle. Other environmental impacts include noise emission, the use of chemicals in production and in product use as refrigerants and foaming agents for insulation. The packaging materials of refrigerators burden our environment through the generation of solid waste.

Chlorinated fluorocarbons (CFCs), also known as Freon, were used in the past both as refrigerants and as foaming agents. They are replaced by incompletely halogenated chlorinated fluorocarbons (HCFCs), also known as soft Freons. Both CFCs and HCFCs are ozone-depleting substances. Freons are currently being replaced with non-halogenated fluorocarbons (HFCs) or with pure hydrocarbons (HCs). The HFC refrigerants are stable and accumulate in the atmosphere thus contributing to the greenhouse effect. Hydrocarbon also contributes to photo-oxidant formation and causes damage to forests, crops and human health.

LABEL OBJECTIVE

The aim of the environmental criteria developed for refrigeration appliances is to:

- Reduce energy consumption and promote energy-saving refrigeration appliances;
- Reduce the use of environmentally harmful substances; and
- Minimize waste production by reducing the amount of primary packaging and promoting its reusability and/or recyclability.

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PRODUCT DEFINITION

This document and all product environmental criteria therein apply to electrically powered refrigerators, freezers, and combinations of the two either freestanding or built in, and primarily intended for households.

PRODUCT ENVIRONMENTAL CRITERIA

The table below sets out the product environmental criteria for refrigeration appliances (GL-007-005) under the HKGLS.

Criteria	Verification Method
1. Energy Efficiency Index, EEI(%): The EEI of the product shall be lower than 100 in the 8 categories determined under the test conditions and methods as defined by in the Hong Kong Energy Efficiency Labelling Scheme of EMSD.	A (ISO 5155; ISO 7371; ISO 8187 and ISO 8561), C
2. Noise Emission: Airborne noise emission from the appliance, measured as sound power level, shall not exceed 42 dB(A).	A (EN 28960), C
3. Plastic Parts: Substances based on cadmium, lead, mercury or their compounds, or the following flame-retardant shall not be added to the plastic materials: <ul style="list-style-type: none">• Polybrominated biphenyls (PBB); and• Polybrominated diphenyl ethers (PBDE).	C,D
4. Refrigerants made of ozone-depleting substance as specified in Annex of the Montreal Protocol or chemicals of ozone depleting potential higher than 0.2 are prohibited.	C,D
5. Surface Treatment: Paints shall not contain pigments or additives based on cadmium, lead, chromium, mercury or their compounds. Metals shall not be coated with cadmium, chromium, nickel or their compounds.	A,C
6. Packing requirements : <ul style="list-style-type: none">• Packaging materials shall not contain chlorine-based plastics;• General packaging requirements (refer to criteria for packaging materials: GL-Packaging).	B,C,D

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Legend :

A – Analytical testing shall be performed by laboratories that meet the requirement laid out in the EN45001 standards or any equivalent systems (e.g. HOKLAS, IEC/ISO 17025).

B - Inspection of product samples

C – Review of supporting information as required by the GC

D – Interviews with relevant personnel and/or site visits to relevant facilities