

Hong Kong Green Label Scheme
Product Environmental Criteria for
Air Conditioners (GL-007-006)



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 air conditioners 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 air conditioners at all stages of the product life cycle. Other environmental impacts include the use of chemicals in production, noise emission and use of chemicals (e.g. refrigerant/coolant) in product use, the disposal of worn-out air conditioners and/or used coolant agents.

LABEL OBJECTIVE

The aim of the environmental criteria developed for air conditioners is to:

- Reduce energy consumption and promote energy-saving air conditioners;
- Reduce noise emission and the use of the environmentally harmful substances;
- Promote improved durability of air conditioners; and
- Minimize waste production by reducing the amount of primary packaging and promoting its reusability and/or recyclability.

PRODUCT DEFINITION

This document and all product environmental criteria therein apply to residential non-ducted air conditioners powered by a single-phase electric current. The product can be either single unit or split system with a rated cooling capacity not exceeding 10kW, and does not apply to fan-coil and water-cooled air conditioning systems.

Industrial and central air conditioning systems are not included in the product category.

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PRODUCT ENVIRONMENTAL CRITERIA

The table below sets out the product environmental criteria for air conditioners (GL-007-006) under the HKGLS.

Product Environmental Criteria	Verification Method(s)*
1. The ECI of the product shall meet the HKSAR EMSD Code of Practice on Energy Labelling of Product grade 3 requirement or better.	✓ Review of laboratory test report(s). ¹
2. Noise Emission: <ul style="list-style-type: none"> • For cooling capacity less than 2240 kcal/h: < = 50 dBA (indoor) and < = 53 dBA (outdoor) • For cooling capacity between 2500 and 3500 kcal/h: < = 53 dBA (indoor) and < = 57 dBA (outdoor) • For cooling capacity above 4000 kcal/h: < = 58 dBA (indoor) and < = 62 dBA (outdoor) 	✓ Review of laboratory test report(s). ²
3. Coating material used on the product shall not contain mercury, mercury compounds or mixed with dyes stuff containing lead, cadmium, hexavalent chromium and their oxides.	✓ Review of laboratory test report(s). ³
4. The product and its manufacturing process shall not contain or use substances controlled by the Montreal Protocol.	✓ Review of supporting information ⁴
5. 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). 	✓ 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:** HKSAR EMSD Code of Practice on Energy Labelling of Product or equivalent
2. **Test Method:** CNS3615 or equivalent

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3. **Test Method for cadmium, lead, hexavalent chromium and mercury:** US EPA 3050B/3051A/3052/3060A or equivalent with detection limits shall be no greater than 2 ppm.
Test Method for cadmium, lead, chromium (VI), mercury in paints: ASTM D3335/ASTM D3624/ISO 3856 or equivalent
Test Method for cadmium, nickel and chromium in metal coating: ASTM C810/C872/D5723 or equivalent
4. A declaration with authorized person signature showing complies with the requirement with list of chemical used in the product and its manufacturing process shall be submitted.