

Hong Kong Green Label Scheme

Product Environmental Criteria for

Dishwashers (GL-007-004)



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 dishwashers 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 dishwashers in product use stage. Other environmental impacts include noise emissions, the use of detergents in product use, and if hot water is used, the energy consumption for the production hot water. The worn-out dishwasher and the packaging materials of dishwashers burden our environment through the generation of solid waste. The consumption of water is also an environmental loading in countries or areas where there is a shortage of water.

LABEL OBJECTIVE

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

- Reduce energy consumption and promote energy-saving dishwashers;
- Reduce water consumption and promote water-saving dishwashers;
- Reduce noise emission and the use of the environmentally harmful substances;
- Reduce detergent consumption;
- 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 domestic dishwashers who are either floor-mounted or worktop models and is intended for use either freestanding or built in.

Testing of dishwashers shall be carried out with the number of place settings specified by the manufacturer, and with the dishwasher connected to the cold water supply. Dishwashers are also tested at half load.

The environmental criteria focus on the dishwasher system itself. Criteria for dishwashing detergents are referred to GL-003-003.

PRODUCT ENVIRONMENTAL CRITERIA

The table below sets out the product environmental criteria for dishwashers (GL-007-004) under the HKGLS.

Product Environmental Criteria	Verification Method(s)*
1. Energy Efficiency Index, EEI (%): <ul style="list-style-type: none"> • Dishwasher with 10 or more place settings: lower than 76%. • Dishwasher with less than 10 place settings: lower than 88%. 	✓ Review of laboratory test report(s). ¹
2. Water consumption of not more than 25 litres per normal cycle	✓ Review of supporting information ²
3. Noise Emission: Airborne noise emission from the appliance, measured as sound power level, shall not exceed 57 dB (A) on freestanding models and 51 dB (A) on built-in models.	✓ Review of laboratory test report(s). ³
4. Plastic parts shall have no lead or cadmium added by the manufacturer and plastic parts weighing over 25g shall not contain flame retardants containing polybrominated biphenyls (PBBs), polybrominated diphenylethers (PBDEs) and chloroparaffins with 10-13 carbon atoms per molecule and chlorine content of greater than 50% by weight.	✓ Review of laboratory test report(s). ⁴
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	✓ Review of laboratory test report(s). ^{4or5}

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Product Environmental Criteria	Verification Method(s)*
or their compounds.	
6. The product shall have clear volumetric markings on the detergent dispenser to allow adjustment according to degree of soiling.	✓ Inspection of product samples; AND ✓ Review of supporting information
7. 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.

Noted:

1. **Test Method:** EN 50242 or equivalent
2. A declaration statement with authorized person signature showing comply with the requirement with the test report from manufacturer or 3rd-party in accordance to the Korea Eco-Label Programme EL403, section 4.2.2: *Measure the amount of water needed to fill up to the appropriate level suggested by the manufacturer in the state of not putting tableware into the cleansing water tub.*
3. **Test Method:** EN 60704 or equivalent
4. **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 PBBs and PBDEs: US EPA 3540C/8081A/8082A/8270D or equivalent with detection limits shall be no greater than 5 ppm.
Test Method for chloroparaffins: US EPA 8270D/3540C/GC-MSD or equivalent with detection limits shall be no greater than 5 ppm
5. **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