

**Hong Kong Green Label Scheme**  
**Product Environmental Criteria for**  
**PVC Pipe and Fitting (GL-002-002)**



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## **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 PVC pipe and fitting with recycled content 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**

Plastic wastes contribute significantly to the solid waste in our landfills. Reduce the volume of waste plastic through recycling will both reduce the amount of plastic entering the waste stream and reduce the consumption of non-renewable plastic resources.

## **LABEL OBJECTIVE**

The aim of the environmental criteria developed for PVC pipe and fitting with recycled content is to:

- Promote the manufacture of environmental plastic products from plastic wastes.
- Reduce the amount of plastic entering the waste stream.
- Help reduce non-renewable virgin plastic resources.

## **PRODUCT DEFINITION**

This document and all product environmental criteria therein apply to all PVC pipe and fitting with recycled contents.

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**PRODUCT ENVIRONMENTAL CRITERIA**

The table below sets out the environmental criteria for the product category of PVC pipe and fitting (GL-002-002) under the HKGLS.

Product Environmental Criteria	Verification Method(s)*
1. The plastic product shall contain at least 50% by weight of recycled plastic content. (See Note 1)	<ul style="list-style-type: none"> <li>✓ Inspection of product samples; AND</li> <li>✓ Review of supporting information; AND</li> <li>✓ Performance of on-site factory visit.</li> </ul>
2. The product shall be marked with an appropriate plastics resin identification code.	<ul style="list-style-type: none"> <li>✓ Inspection of product samples.</li> </ul>
3. The product shall have no lead or cadmium added by the manufacturer.	<ul style="list-style-type: none"> <li>✓ Review of laboratory test report(s)</li> </ul>
4. Labels/markings/stickers must be made of the same material as the parts to which they are affixed or meet VDI 2243 Part I <sup>i</sup> requirement if they are difficult to separate.	<ul style="list-style-type: none"> <li>✓ Inspection of product samples; AND</li> <li>✓ Review of supporting information; AND</li> <li>✓ Interview with relevant personnel.</li> </ul>
5. General packaging requirements (Refer to criteria for packaging materials: GL-Packaging).	<ul style="list-style-type: none"> <li>✓ Inspection of product samples; AND</li> <li>✓ Review of supporting information; AND</li> <li>✓ Interview with relevant personnel.</li> </ul>

\*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 : Product Performance Standards**

For some special PVC products, product performance standards set maximum recycled content requirements. Where this is the case, the maximum limit set in the relevant standard will apply as the minimum recycled content acceptable for award of the green label.

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<sup>i</sup> In case synthetic resin is mixed, 'compatibility of thermoplastic resin' for evaluating the recyclability of mixed synthetic resin is as follows. Here, the level which does not cause inconvenience in recycling is set not less than '3'.

Plastic Matrix		Additive of Plastic											
		PE	PVC	PS	PC	PP	PA	POM	SAN	ABS	PBTP	PETP	PMMA
Plastic Matrix	PE	1	4	4	4	1	4	4	4	4	4	4	4
	PVC	4	1	4	4	4	4	4	1	2	4	4	1
	PS	4	4	1	4	4	4	4	4	4	4	4	4
	PC	4	3	4	1	4	4	4	1	1	1	1	1
	PP	3	4	4	4	1	4	4	4	4	4	4	4
	PA	4	4	3	4	4	1	4	4	4	3	3	4
	POM	4	4	4	4	4	4	1	4	4	3	4	4
	SAN	4	1	4	1	4	4	4	1	1	4	4	1
	ABS	4	2	4	1	4	4	3	4	1	3	3	1
	PBTP	4	4	4	1	4	3	4	4	3	1	4	4
	PETP	4	4	3	1	4	3	4	4	3	4	1	4
	PMMA	4	1	3	1	4	4	3	1	1	4	4	1

Remarks

1 : suitable 2 : limitedly suitable 3 : suitable in small amounts 4 : unsuitable

Data: The Association of German Engineers(VDI: Verein Deutscher Ingenieure) VDI 2243 Part 1