

# **The Voluntary Water Efficiency Labelling Scheme on Water Closets**

**XXXX 2018**



水務署  
Water Supplies Department

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## **1. Purpose**

This document serves to give a detailed description on the voluntary Water Efficiency Labelling Scheme (WELS) on Water Closets.

## **2. Background**

2.1. The Water Supplies Department (the Department) of the Government of the Hong Kong Special Administrative Region has adopted the voluntary WELS as one of the water conservation initiatives. The WELS would cover common types of plumbing fixtures and water-consuming appliances. Registered products under the WELS will carry a water efficiency label that serves to inform consumers the water consumption level and efficiency rating. Consumers should then be able to take these factors into account in making their purchasing decision.

2.2. In other places, the WELS is in different stages of development and implemented in several forms. For instance in Australia, it is compulsory to provide water efficiency labels for certain kinds of plumbing fixtures and appliances before they can be put on sale in the market. For some others such as in United Kingdom, the WELS is implemented on a voluntary basis so as to allow a lead time for the market to transform towards more water efficient products. The implementation of WELS in Hong Kong adopts the latter approach and aims to:

- (a) provide consumers with information on the levels of water consumption and efficiency ratings of plumbing fixtures and water-consuming appliances;
- (b) facilitate consumers to select water efficient plumbing fixtures and water-consuming appliances;
- (c) promote public awareness on water conservation and efficiency issues; and
- (d) achieve water savings.

2.3. The voluntary WELS in Hong Kong has been implemented in phases for five groups of plumbing fixtures and water-consuming appliances. They

are showers for bathing, water taps, washing machines, urinal equipment and flow controllers, launched in September 2009, September 2010, March 2011, March 2012 and August 2014 respectively. The next group of products for implementation of the WELS is water closets.

### **3. Definitions**

Unless otherwise specified, the following definitions (in alphabetical order) shall apply throughout this document:

*Department* means the Water Supplies Department of the Government of the Hong Kong Special Administrative Region.

*Director* means the Director of Water Supplies.

*Government* means the Government of the Hong Kong Special Administrative Region.

*HKAS* means the Hong Kong Accreditation Service.

*HOKLAS* means Hong Kong Laboratory Accreditation Scheme.

*Inspecting Officer* means the officer authorized by the Director to carry out the inspection as described in Section 11 of this document.

*ISO* means the International Organization for Standardization.

*Label* means the water efficiency label (both full version and simplified version) as described in Section 7 of this document.

*MRA* means a mutual recognition arrangement.

<i>recognized laboratory</i>	means a laboratory that complies with the requirements for testing laboratory as stated in Section 8.
<i>Scheme</i>	means the Voluntary Water Efficiency Labelling Scheme on Water Closets.
<i>Water Authority</i>	means the Director of Water Supplies.
<i>water closets</i>	means flushing cisterns, bowl-shaped appliances for reception and flushing away of human solid and liquid excrement, or any combination of aforementioned flushing cisterns and bowl-shaped appliances.

#### **4. Scope**

- 4.1. The Scheme will apply to the water closets manufacturers, importers, or other related parties participating in the Scheme.
- 4.2. The Scheme registration will commence from **XX XXXX 2018** and expire on **31 December 2020**, when re-registration may be necessary.
- 4.3. A review exercise would be conducted in mid-2020 to facilitate the consideration of whether any revision of the Scheme is required by late-2020. If the review exercise concluded that Scheme modification is not required, the valid period of standing registrations will be extended automatically and those who have joined the WELS on water closets are not required to make any re-submission. On the other hand, if the review exercise concluded that Scheme modification is required, new applications after 31 December 2020 shall meet the revised Scheme requirements for registration and for those who have joined the WELS on water closets, they shall provide relevant information to the Department for re-registration during a transitional period to be announced.
- 4.4. The Scheme only covers new water closets imported to or manufactured in Hong Kong but does not cover second-hand water closet products, water

closet products already in existing use, under trans-shipment or manufactured for export, etc.

- 4.5. The Scheme is operated as a 'Grading Type' labelling system. Under the Scheme, participating water closets shall have met the statutory requirements and performance requirements specified in the Scheme, and will be rated to different grades according to their water flush volumes.
- 4.6. The provisions of this Scheme shall apply to the following types of water closets:
- (a) toilet suite (one-piece water closet pan);
  - (b) water closet pan only;
  - (c) water closet cistern only; and
  - (d) a combination of a water closet pan and cistern (close-coupled suite).

## **5. Testing Methodology and Standard**

### **Statutory Requirement**

- 5.1. The flushing valve of water closet shall be tested in accordance with the relevant requirements as specified in the Waterworks Regulations (Cap. 102A) and comply with the standards specified for the flushing valve of water closet by the Water Authority. Upon the completion and compliance with the test(s), the approval for the flushing valve of water closet shall also be obtained from the Water Authority prior to the WELS application. If applicable, the WELS registration record will expire on the expiry date of the General Acceptance of the flushing valves of the corresponding water closets.

### **Water Flush Volume**

- 5.2. The water flush volume shall be determined in accordance with Section I of Annex 1, with reference to the testing conditions and requirements specified in the British Standard / European Standard No. 997:2012+A1:2015 – WC pans and WC suites with integral trap or other equivalent international standards accepted by the Department. The water efficiencies of the water closets will be rated to different grades according to the water flush volume test results subject to the compliance with other

performance requirements mentioned in Section 5.3 below.

### **Other Performance Requirements**

- 5.3. The water closets shall also be tested in accordance with Sections II to V of Annex 1, with reference to the testing conditions and requirements specified in the British Standard / European Standard No. 997:2012+A1:2015 – WC pans and WC suites with integral trap or other equivalent international standards accepted by the Department, for conformity with all the performance requirements as shown in Table 1 and/or Table 2. A list of international standards comparable to British Standard / European Standard No. 997:2012+A1:2015 and accepted by the Department as equivalent testing and acceptance criteria for the purpose of registration of water closets under WELS is provided in Annex 7.

Table 1: Performance Requirements for All Types of Water Closets (for Dual Flush only)

<b>Performance Property</b>	<b>Performance Requirements</b>
Flush Volume - Reduced Flush (for dual flush only)	The measured discharge volume of the reduced flush shall not exceed two-thirds of the full-flush volume

Table 2: Performance Requirements for Toilet Suite, Water Closet Pan only (to be Tested with a Flushing Cistern) and Combination of a Water Closet Pan and Cistern

<b>Performance Property</b>	<b>Performance Requirements</b>
Solid Discharge for Maximum Flush	<p>For the first six flush cycles, or for a minimum of eight out of ten flush cycles, each of the four test specimens shall be completely evacuated from the water closet bowl and pan's outlet.</p> <p>The recorded after-flush volume in each flush cycle shall be no less than 40% of the full-flush volume.</p>
Paper discharge for reduced flush volume (for dual flush only)	<p>For the first six flush cycles, or for a minimum of eight out of ten flush cycles, all six sheets of toilet paper shall be flushed out of the water closet pan and outlet.</p>
Liquid Contaminant Dye Retention	<p>For the first five flush cycles, or for a minimum of nine out of ten flush cycles at full-flush volume, the contaminate level shall be not more than 1%.</p> <p>For the first five flush cycles, or for a minimum of nine out of ten flush cycles at reduced-flush volume, when provided, the contaminate level shall be not more than 6%.</p>
Wash of Bowl	<p>The arithmetic average of any unflushed area below the rim and above the surface of the trap shall be no greater than 50 cm<sup>2</sup> after five flushing operations</p>

**Quality Requirement**

5.4. The water closets shall be manufactured under a design (if applicable) and

production system operating according to a recognized international quality system (such as ISO 9001).

## 6. Water Efficiency Grading

### Water Efficiency Grading

- 6.1. For a product of toilet suite or combination of a water closet pan and cistern, the water efficiency of the product will be rated to different grades according to the water flush volume of the water closet cistern as shown in Table 3 provided that the accompanied water closet pan shall also fulfil all the performance requirements as specified in Section 5.3. Grade 1 is the most water efficient whereas Grade 4 is the least water efficient.
- 6.2. For water closet pan alone, it will be rated to different grades according to their minimum water flush volumes required to fulfill performance requirements in Section 5.3. For water closet cistern alone, it will be rated to different grades according to their water flush volumes as shown in Table 3.

Table 3: Conversion of Water Consumption to Water Efficiency Grades for Water Closets

Water flush volume for full flush: $f_F$ (litres/flush)	Water flush volume for reduced-flush: $f_R$ (litres/flush)	Water Efficiency Grade	Symbolic Presentation on the Water Efficiency Label
$4.5 \leq f_F \leq 4.8$	$3.0 \leq f_R \leq 3.2$	Grade 1	1 water droplet 
$4.8 < f_F \leq 6.5$	$3.0 \leq f_R \leq 3.5$	Grade 2	2 water droplets 
$4.5 < f_F \leq 6.5$	Not specified	Grade 3	3 water droplets 
$6.5 < f_F \leq 15$	Not specified	Grade 4	4 water droplets 

- 6.3. If a water closet has an integral basin or a basin directly connected to it, and the water from that basin is used to flush the toilet, the water saving merit will be shown on the Label for public information and description of the merited function will be shown in the registration certificate.
- 6.4. If the water closet cannot fulfil the performance requirements specified in Sections 5.3, application for registration under the Scheme will not be accepted.

## **7. Water Efficiency Label**

### **Label Versions and Location**

- 7.1. The Label should be self-adhesive or pre-printed onto the packing. There are two versions of the Label – full and simplified versions. It is a compulsory requirement for the participant to affix or print the Label(s) to his/her registered water closet or its packing at a prominent location. The participant should also ensure that the registered water closet shall be displayed for sale with the Label(s). The simplified version Label is designed to facilitate the participant to affix it to the water closet in case the full version Label is too large to do so. However, the affixation of the simplified version Label to the water closet is optional.

### **Colour Scheme and Dimensions**

- 7.2. The Label should be printed on white-coloured self-adhesive sheet material (for self-adhesive type) in accordance with the figures and dimensions as shown in Annex 3. It should be printed in English and Chinese in accordance with the colour codes specified in Annex 3. The soft copy of the Label will be provided by the Department.

### **Paper Quality**

- 7.3. The paper used for the Label should be durable and possess good wear and tear characteristics. It should be affixed tightly on the water closet or its packing.

### **Information on the Label**

- 7.4. The information that appears on the Label shall accord with the Label

format as indicated in Annex 3 and shall tally with the information listed on the registration certificate issued by the Department.

## **8. Testing Laboratories and Certification Bodies**

- 8.1. The Department will accept the results and certificates of testing specified in Sections 5.2 and 5.3 issued by the testing laboratories as specified in either Sections 8.2, 8.3 or 8.4.
- 8.2. The laboratory is accredited by the Hong Kong Accreditation Service (HKAS) for carrying out the tests stipulated in the Scheme under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or a scheme with which HKAS has concluded a mutual recognition agreement<sup>#</sup>; and the results are issued in a test report or certificate bearing the accreditation mark.
- 8.3. A laboratory with HOKLAS accreditation (or is accredited by a scheme with which HKAS has concluded a mutual recognition agreement<sup>#</sup>) for laboratory testing of water consuming appliances other than the tests stipulated in the Scheme, and the laboratory can demonstrate their capability of carrying out tests on water closets in accordance with Annex 1.

*# HKAS has concluded mutual recognition arrangements with overseas accreditation bodies for testing laboratory accreditation. The list of mutual recognition arrangement partners is subject to changes and the up-to-date list is available from the HKAS website <[http://www.itc.gov.hk/en/quality/hkas/doc/common/mramla/MRA\\_HOKLAS\\_en\\_ch.pdf](http://www.itc.gov.hk/en/quality/hkas/doc/common/mramla/MRA_HOKLAS_en_ch.pdf)>.*

*Partners of these arrangements recognise the accreditations granted by one another as equivalent. An up-to-date APLAC MRA list is available from [https://www.aplac.org/index.php?q=aplac\\_mra.html](https://www.aplac.org/index.php?q=aplac_mra.html). An up-to-date ILAC MRA is available from <https://ilac.org/?ddownload=3322>.*

- 8.4. An in-house laboratory fulfills the criteria listed below:
- (a) Self-declaration by the manufacturer, importer or other related parties that the operations of their in-house laboratory follow the requirements of ISO/IEC 17025; **and**
  - (b) The manufacturer or importer or other related parties is currently operating according to a recognized international quality system (such as ISO 9001); **and**
  - (c) The manufacturer's or importer's or related parties' in-house laboratory has been successful in carrying out tests on water consumption appliances and where these tests have been evaluated and certified by internationally recognized third party certification organisations; **and**
  - (d) The in-house laboratory can demonstrate their capability of carrying out tests on water closets in accordance with Annex 1.

## **9. Application for Registration**

### **Application Procedures**

- 9.1 All manufacturers, importers and other related parties in the water closets trade are welcome to participate in the Scheme. For known manufacturers and importers, invitation letters will be issued to them. However, any manufacturers, importers and other related parties in the water closets trade may submit applications for registration no matter whether they are invited or not.
- 9.2 The application for registration can be submitted by means of an application letter (a proforma letter) by post, facsimile or electronic mail to the Department:

Address: Water Supplies Department  
47/F, Immigration Tower  
7 Gloucester Road, Wanchai, Hong Kong

Fax number: 2824 0578

Email: [wsdinfo@wsd.gov.hk](mailto:wsdinfo@wsd.gov.hk)

In order to ensure effective implementation of the Scheme, the participant must commit to full compliance with the obligations set out in the Scheme. A copy of the proforma letter of application which details the obligations is given at Annex 4 and at the Department's website (<http://www.wsd.gov.hk/en/wels/index.html>). The application can be made in either English or Chinese.

**Information/Documents/Materials to be Submitted for Application**

9.3 The information/material to be submitted with the application are listed in Annex 5 and recapped as follows:

- (a) Information of the company, i.e. name, address, telephone number, fax number, e-mail address, website address, contact person, and sale distribution network (names and addresses of the distributor(s)), etc.;
- (b) Information of the water closet being applied for registration in the Scheme, i.e. brand name, model no. and/or name, catalogue (if available), at least three photos (showing the front, side and bottom views of the water closet) and country of origin;
- (c) Proposed commencement date to affix the Label to water closet (Year \_\_\_\_\_, Month \_\_\_\_\_);
- (d) Documentary proof that the design (if any) and production system for the water closet is operating according to a recognized international quality system (such as ISO 9001). The submission of product drawings extracted from the product manual or design manual, and international quality system certificate on the manufacturer can be considered as documentary proof of recognition of the quality system. Failure to renew the recognized international quality system may render the model registration null and void; and
- (e) Detailed test report in accordance with the reporting requirements specified in Annex 2. The test report shall be issued by a recognized laboratory complying with the requirements in Section 8. The required information requested in Sections I, II, III, IV & V of Annex 1 of the Scheme document have to be provided in a single section of the test report.
- (f) Statement on whether the testing laboratory has satisfied the requirement of Section 8.

- 9.4 Company's chop should be stamped on all the front covers/pages of the documents submitted. All photocopy test reports submitted to the Department shall be certified as true copy. The participant is also required to provide the original copy of the test reports if requested by the Department.

**Acceptance/Rejection of Application**

- 9.5 On receipt of the application, the Department will assess whether the water closet meets the requirements based on the submitted information and will rate the water closet with a water efficiency grade according to the water closet's water flush volume.
- 9.6 Upon the request of the Department, the applicant is required to provide additional supporting information/material within the time prescribed by the Department. Failure to comply may render rejection of the application.
- 9.7 If the application is accepted, the participant will be notified of the result within 17 working days upon the receipt of all necessary information requested. A registration certificate listing the information to be displayed on the Label will be issued to the participant by the Department. The participant will then be allowed to affix or print the Label to the 'registered' water closet or its packing. The participant should ensure that the Label is correctly printed and affixed to the water closet or its packing in accordance with Section 7.
- 9.8 If the application is rejected, a notification letter with reason(s) of rejection will also be given to the applicant within 17 working days upon receipt of all necessary information requested.
- 9.9 The flow chart for registration is shown in Annex 6.

### **Participant's Obligations**

9.10 In order to ensure effective implementation of the Scheme, the participant must understand and be committed to full compliance with the obligations set out in the Scheme. The participant is obliged to:

- (a) submit application, the information/material required in Section 9.3 and the test results which follow the reporting requirements set out in Annex 2;
- (b) at his/her own costs, produce the Label and affix or print the Label either to the water closet or its packing at a prominent location in accordance with Section 7;
- (c) ensure that the registered water closet shall be displayed for sale with the Label(s);
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in the participant's sale distribution network once the water closet is registered under this Scheme and notify them that the Department may request to enter their premises to carry out the routine/ad-hoc inspections as stated in Section 11;
- (e) allow routine/ad-hoc inspection to be conducted by Inspecting Officers authorized by the Director on the registered water closet at his/her premises;
- (f) allow the tested and performance data of the registered water closet to be uploaded to the Department's website for public information;
- (g) upon the request of the Department, a reference sample for each water closet to be participated in the Scheme shall be submitted by the participant at his/her own cost;
- (h) conduct re-test(s) at his/her own costs at a recognized laboratory if non-compliance is found on the registered water closet. The result of re-test(s) shall reach the Department within the time specified by the Department;
- (i) notify the Department by means of a notification letter (in either English or Chinese with the company's chop should be stamped on all submitted documents) by post, facsimile or electronic mail of any changes of the company information (e.g. company name). The notification should be made not less than 14 working days before the change. Failure to comply may render the model registration null

and void. Changes of water closet information (e.g. brand name, model no.) will be considered as major changes that require new applications for registration in the Scheme; and

- (j) remove within three months all Labels from the water closet and/or its packing if it has been de-registered.

9.11 The details of water closets registered under the Scheme will be kept in a register maintained by the Department. The registration records will be regularly uploaded to the Department's website for public information.

### **Termination**

9.12 Under circumstances of poor performance such as:

- (a) the participant failing to fulfil the obligations set out in the Scheme; or
- (b) the water closet failing to perform in accordance with rated water efficiency grade and/or the performance requirements of the Scheme and the participant not being able to rectify the non-compliance within the time frame specified by the Department; or
- (c) where the Director is of the opinion that registration of a water closet is contrary to the public interest,

the Department may de-register a water closet from the Scheme with immediate effect by giving the participant notice in writing. Once a water closet is de-registered, it is not allowed to affix a Label to it. The participant shall remove all Labels from the de-registered water closet and/or its packing within three months from the notice.

9.13 Participant who decides to discontinue participating in the Scheme or to withdraw any registered water closet from the Scheme shall give at least three months' advance notice to the Department.

## **10. Legal Provisions**

10.1 Without prejudice to any remedy a purchaser may have against the party under the law of Hong Kong, a culpable party may be subject to the

following sanctions.

- 10.2 This Scheme is a voluntary scheme. However, a participant who abuses the Scheme by giving false information on the Label may constitute an offence under the Trade Descriptions Ordinance (Cap. 362).
- 10.3 Unauthorized use of the Label(s) may constitute an offence under the Copyright Ordinance (Cap. 528).

## **11. Compliance Monitoring and Inspection**

### **Purpose**

- 11.1 To uphold credibility of the Scheme and to maintain continuous confidence of the consumers, compliance check on the Labels on those water closets registered in the Scheme is necessary. In addition, to avoid the unsatisfactory situation that unauthorized Labels are used on non-registered water closets, the Department may also carry out suitable form of inspection on those water closets which have not been registered under the Scheme.

### **Scope**

- 11.2 The scope of inspection includes, but not limited to, sample checking and testing for the following items:
- (a) whether the Label is affixed/printed to registered water closets or their packing as required in Section 7;
  - (b) whether the Label being displayed is of correct format in accordance with Section 7;
  - (c) whether the water efficiency grade rated by the Department based on the data submitted by the participant is in line with the grade rated from the results of testing conducted by the Department;
  - (d) whether the data shown on the Label tally with the information listed on the registration certificate; and
  - (e) whether unregistered water closets display unauthorized Labels.
- 11.3 The participants will be requested to take immediate remedial action and

report the follow-up action taken if non-compliance is found on their registered water closets such as incorrect information shown on the Label.

11.4 The Department may appoint a recognized laboratory to conduct testing on the registered water closets in accordance with the requirements specified in Sections I, II, III, IV and V of Annex 1. For a registered water closet which is found to fall within either one of the following cases, the Department may request the participant to conduct separate test at his/her own cost on the registered water closets, in accordance with the testing methodology as stated in Annex 1 in a recognized laboratory agreed by the Department.

- (a) The water closet is found not meeting the performance requirements specified in Section 5.3; or
- (b) The water closet is found not meeting the water efficiency grade rated based on the data previously submitted by the participant in the application; or
- (c) The measured water flush volume of water closet is found different to the registered water flush volume by more/less than 20%.

The re-test should be carried out on at least three further samples of the water closet. For case 11.4(a) above, the performance test results of the three water closets should meet the requirements specified in Section 5.3. If the test results fail to meet such requirements, the Department may either require the participant to withdraw his/her registration or de-register the water closet rated from the Scheme. For cases 11.4(b) and 11.4(c) above, the water efficiency grading rated from the average water flush volume of the three water closet samples should be the same as the grading on the Label, whilst the measured water flush volume of three water closet samples should not be different to the registered water flush volume by more/less than 20%. Otherwise, the Department will require the participant to take appropriate remedial action including re-registering in the Scheme by replacing a Label with correct grading and water flush volume for the registered water closet.

11.5 If non-compliance is confirmed and no remedial action is taken by the participant within the time prescribed by the Department, the Department

may order it be de-registered from the Scheme. Once a water closet is de-registered, it is not allowed to affix or print a Label to it or its packing. The participant shall remove all Labels from the de-registered water closet and its packing within three months from the notice. Failure to remove the Labels from the de-registered water closet may contravene the relevant ordinances as mentioned in Section 10 above.

### **Inspecting Officers**

- 11.6 The Director will authorize Inspecting Officers to carry out water closet compliance monitoring and inspection. The officers will carry proper identification cards which will be produced during their inspection. However, the officers will not inform the participants in advance of their inspection.
- 11.7 It is the participants' obligation to allow the Inspecting Officers to gain access to their premises to carry out the inspection.

### **Mode of Inspection**

- 11.8 Routine inspections will be carried out on registered water closets under the Scheme. Based on the record of the registration, inspection programmes will be developed. Inspection will also be conducted on the non-registered water closets with unauthorized Labels.
- 11.9 In addition to the routine inspections, the Inspecting Officers will carry out ad-hoc inspections in response to complaints. The items to be inspected in such a case will depend upon the nature of complaints and may include the items as stated in Section 11.2.
- 11.10 Inspections will normally be carried out at the retail outlets and water closet showrooms. Where necessary, inspection will also be done at warehouses.
- 11.11 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of the Scheme.

## **12. Complaints and Appeals**

- 12.1 The Department will be responsible for dealing with complaints from participants and other parties against matters related to the Scheme.

**Complaints Handling Procedure**

- 12.2 The Department shall ensure that complaints are properly recorded and handled without undue delay.
- 12.3 The Department shall carry out investigation on complaints and reply to them within a reasonable time. For complaints that require site inspection and laboratory test, the complainant shall be notified through an interim reply.
- 12.4 The Department shall inform the complainant of the result or decision made on the complaint.

**Appeal Procedure**

- 12.5 A participant may appeal against the decision or action taken by the Department in writing to the Director stating the reason for the appeal.
- 12.6 The Director may decide to suspend the decision or action taken by the Department from the day on which the appeal is made until such appeal is disposed of, withdrawn or abandoned unless such suspension would, in the opinion of the Director, be contrary to public interest.
- 12.7 The Director may, by notice to the appellant, require the appellant to attend meeting(s) with him or his representatives and provide documents and give evidence relevant to the appeal.
- 12.8 The Director shall notify the appellant of his decision and reasons for it. The decision will be final.

**13. Maintenance of Scheme**

- 13.1 To ensure that the Scheme can continue to operate effectively and efficiently, the Scheme will be maintained as follows:

- (a) Continuous updating of the lists of water closets registered in the Scheme as follows:
  - (i) registered water closets with details such as registration numbers in the Scheme, dates of registration, flush volume data, performance data, makes, models and other related information; and;
  - (ii) manufacturers, importers or other related parties of the registered water closets with details such as addresses, telephone numbers, e-mail addresses, etc.
- (b) Periodic review of the testing methodologies, procedures for registration application and compliance monitoring etc.
- (c) Continuous evaluation of the effectiveness of the Scheme and assessment of what changes are necessary.

## Testing Guidelines for Water Closets

### Condensed Testing Requirements with reference to the BS EN 997:2012+A1:2015 Standard

- Note -

*This Annex is a guideline to facilitate the participant to grasp the context of water efficiency testing requirements and it should be read in conjunction with the reporting requirements in Annex 2. This Annex makes reference to some of the chapters of the captioned standard and focuses on flush volume – full flush and reduced flush (for dual flush only), solid discharge for maximum flush, paper discharge for reduced flush volume (for dual flush only), liquid contaminant dye retention and wash of bowl. The participant should be able to obtain from the text a good appreciation of the testing requirements. On the other hand, the captioned standard is much more comprehensive and detailed and contains exact definitions. Due to condensed size, this Annex cannot replace the captioned standard nor is there any intention to do so. In case of doubt, the captioned standard should always be consulted.*

*Section I of this Annex describes the methodology for determination of flush volume. The performance tests for water closets are elaborated in Sections II, III, IV and V.*

*Permission to reproduce extracts from British Standards is granted by BSI. British Standards can be obtained in PDF or hard copy formats from the BSI online shop: [www.bsigroup.com](http://www.bsigroup.com) / Shop or by contacting BSI Customer Services for hardcopies only: Tel: +44 (0)20 8996 9001, Email: [cservices@bsigroup.com](mailto:cservices@bsigroup.com).*

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## **Section I Methodology for Determination of the Flush Volume of Water Closets**

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### **A1. Scope**

This section sets out the method for determining the flush volume of a water closet.

### **A2. Principle**

The test is to determine the flush volume of water closets by operating the flushing device and collecting the water in the measuring vessel.

### **A3 Testing Apparatus**

*Please refer to Clause 6.17.3.1 in BS EN 997:2012+A1:2015.*

### **A4 Procedure**

*Please refer to Clause 6.17.3.2 in BS EN 997:2012+A1:2015.*

### **A5 Expression of Results**

*Please refer to Clause 6.5.2 in BS EN 997:2012+A1:2015 on the maximum ratio of reduced flush volume against full flush volume and record compliance or any failure.*

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## **Section II Solid Discharge and After-flush Volume for Maximum Flush Volume test for Water Closets**

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### **B1 Scope**

This section sets out the method for performing solid discharge and after-flush volume for maximum flush volume test for water closets.

### **B2 Principle**

The tests are to determine the performance requirements for water closets with respect to solid discharge and after-flush volume for maximum flush volume.

### **B3 Testing Apparatus**

*Please refer to Clause 6.17.7.1 in BS EN 997:2012+A1:2015.*

### **B4 Procedure**

*Please refer to Clause 6.17.7.2 in BS EN 997:2012+A1:2015.*

### **B5 Expression of Results**

*Please refer to Clause 6.9 in BS EN 997:2012+A1:2015 to record compliance or any failure.*

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## **Section III Liquid Contaminant Dye Retention test for Water Closets**

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### **C1 Scope**

This section sets out the method for performing liquid contaminant dye retention test for water closets.

### **C2 Principle**

The tests are to determine the performance requirements for water closets with respect to liquid contaminant dye retention.

### **C3 Testing Apparatus**

*Please refer to Clause 6.17.9.1 in BS EN 997:2012+A1:2015.*

### **C4 Procedure**

*Please refer to Clause 6.17.9.2 in BS EN 997:2012+A1:2015.*

### **C5 Expression of Results**

*Please refer to Clause 6.11 in BS EN 997:2012+A1:2015 to record compliance or any failure.*

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## **Section IV Wash of Bowl test for Water Closets**

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### **D1 Scope**

This section sets out the method for performing wash of bowl test for water closets.

### **D2 Principle**

The tests are to determine the performance requirements for water closets with respect to wash of bowl.

### **D3 Testing Apparatus**

*Please refer to Clause 6.17.10.1 in BS EN 997:2012+A1:2015.*

### **D4 Procedure**

*Please refer to Clause 6.17.10.2 in BS EN 997:2012+A1:2015.*

### **D5 Expression of Results**

*Please refer to Clause 6.12 in BS EN 997:2012+A1:2015 to record compliance or any failure.*

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**Section V Paper Discharge for Reduced Flush Volume for Water Closets (for Dual Flush only)**

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**E1 Scope**

This section sets out the method for performing paper discharge for reduced flush volume test for water closets (for dual flush only).

**E2 Principle**

The tests are to determine the performance requirements for water closets (for dual flush only) with respect to paper discharge for reduced flush volume.

**E3 Testing Apparatus**

*Please refer to Clause 6.17.8.1 in BS EN 997:2012+A1:2015.*

**E4 Procedure**

*Please refer to Clause 6.17.8.2 in BS EN 997:2012+A1:2015.*

**E5 Expression of Results**

*Please refer to Clause 6.10 in BS EN 997:2012+A1:2015 to record compliance or any failure.*

## Reporting Requirements for Water Closets

The testing report shall contain the following information:

- (a) Manufacturer, country of origin, brand name, model name, model number of water closet pan, water closet cistern and flushing device (if these are applicable) of water closets;
  - (b) At least three photos clearly showing the front, side and bottom views of water closets;
  - (c) The full flush volume, calculated as the mean of the average of five full flush volume obtained in paragraph A4 of Annex 1 in 1 decimal place;
  - (d) If dual flush setting is available, the reduced flush volume, calculated as the mean of the average of five reduced flush volume obtained in paragraph A4 of Annex 1 in 1 decimal place;
  - (e) Record compliance or any failure to comply with the maximum ratio of reduced-flush volume against full-flush volume according to paragraph A5 of Annex 1;
  - (f) Record compliance or any failure to comply with the solid discharge and after-flush volume for maximum-flush volume test according to paragraph B5 of Annex 1;
  - (g) Record compliance or any failure to comply with the liquid contaminant dye retention test according to paragraph C5 in Annex 1;
  - (h) Record compliance or any failure to comply with the Wash of Bowl test according to paragraph D5 in Annex 1; and
  - (i) Record compliance or any failure to comply with the paper discharge for reduced flush volume (for dual flush only) according to paragraph E5 in Annex 1.
-

50 mm

**用水效益標籤**  
Water Efficiency Label



**用水效益級別**  
Water Efficiency Grade **1**

水點最少，用水效益最高。  
The fewer droplets, the more water efficient.

 具備外節水功能  
With Additional Water Saving Feature

牌子 Brand	某某牌 SH1
型號 Model	WS-123
種類 Category	供水廁使用 For Water Closets
全沖水量 (公升/沖廁) Water Flush Volume (Full) (litres/flush)	10.2
低沖水量 (公升/沖廁) Water Flush Volume (Reduced) (litres/flush)	8.2
登記號碼 Registration No.	WELS34

 水務署  
Water Supplies Department

如需詳細資料，請登入 [www.wsd.gov.hk](http://www.wsd.gov.hk) 或電 2824 5000  
For more information, please refer to [www.wsd.gov.hk](http://www.wsd.gov.hk) or call 2824 5000

**用水效益標籤**  
Water Efficiency Label



**用水效益級別**  
Water Efficiency Grade **2**

水點最少，用水效益最高。  
The fewer droplets, the more water efficient.

 具備外節水功能  
With Additional Water Saving Feature

牌子 Brand	某某牌 SH1
型號 Model	WS-123
種類 Category	供水廁使用 For Water Closets
全沖水量 (公升/沖廁) Water Flush Volume (Full) (litres/flush)	10.2
低沖水量 (公升/沖廁) Water Flush Volume (Reduced) (litres/flush)	8.2
登記號碼 Registration No.	WELS34

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Water Supplies Department

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**用水效益標籤**  
Water Efficiency Label



**用水效益級別**  
Water Efficiency Grade **3**

水點最少，用水效益最高。  
The fewer droplets, the more water efficient.

 具備外節水功能  
With Additional Water Saving Feature

牌子 Brand	某某牌 SH1
型號 Model	WS-123
種類 Category	供水廁使用 For Water Closets
全沖水量 (公升/沖廁) Water Flush Volume (Full) (litres/flush)	10.2
低沖水量 (公升/沖廁) Water Flush Volume (Reduced) (litres/flush)	8.2
登記號碼 Registration No.	WELS34

 水務署  
Water Supplies Department

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**用水效益標籤**  
Water Efficiency Label



**用水效益級別**  
Water Efficiency Grade **4**

水點最少，用水效益最高。  
The fewer droplets, the more water efficient.

 具備外節水功能  
With Additional Water Saving Feature

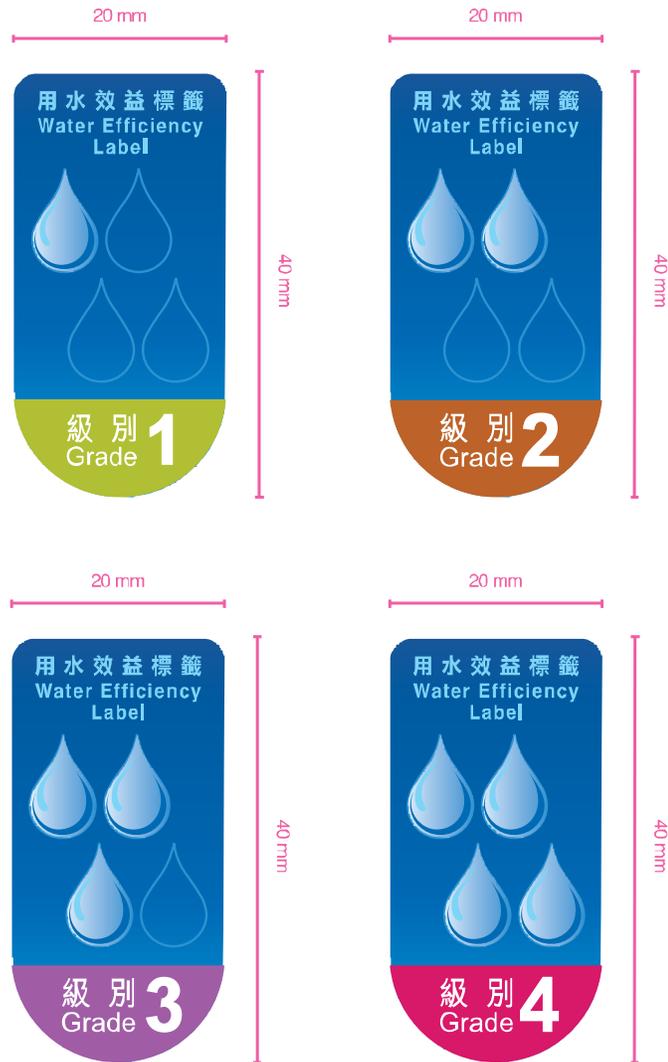
牌子 Brand	某某牌 SH1
型號 Model	WS-123
種類 Category	供水廁使用 For Water Closets
全沖水量 (公升/沖廁) Water Flush Volume (Full) (litres/flush)	10.2
低沖水量 (公升/沖廁) Water Flush Volume (Reduced) (litres/flush)	8.2
登記號碼 Registration No.	WELS34

 水務署  
Water Supplies Department

如需詳細資料，請登入 [www.wsd.gov.hk](http://www.wsd.gov.hk) 或電 2824 5000  
For more information, please refer to [www.wsd.gov.hk](http://www.wsd.gov.hk) or call 2824 5000

120 mm

Color: 4C Process Color



Color: 4C Process Color

**Proforma Letter of Application**

Our ref.

Tel.

Fax.

Date

Water Supplies Department  
47/F, Immigration Tower  
7 Gloucester Road, Wanchai  
Hong Kong

Dear Sir/Madam,

**Application for Registration in the Voluntary Water Efficiency Labelling  
Scheme on Water Closets**

Our company is the (manufacturer / importer / other related parties (please specify)\*)  
of \_\_\_\_\_ (brand name, model number and/or name of water closet) in  
Hong Kong. We would like to apply for registration of the water closet in the above  
Scheme.

We understand fully our obligations as stated in the Scheme document and will  
comply with all relevant requirements, in particular those specified below:

- (a) submit application, the information/material required in Section 9.3 of the  
Scheme document and the test report in accordance with the reporting  
requirements specified in Annex 2;
- (b) at our own costs, produce the Label(s) and affix/print the Label(s) either to  
the water closet or its packing at a prominent location in accordance with  
Section 7;
- (c) ensure that the registered water closet shall be displayed for sale with the  
Label(s);
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in the  
participant's sale distribution network once the water closet is registered  
under this Scheme and notify them that the Water Supplies Department  
(Department) may request to enter their premises to carry out the

- routine/ad-hoc inspections as stated in Section 11 of the Scheme document;
- (e) allow routine/ad-hoc inspection to be conducted by Inspecting Officers authorized by the Director of Water Supplies on the registered water closet at our premises;
  - (f) allow the tested and performance data of the registered water closet to be uploaded to the Department's website for public information;
  - (g) upon the request of the Department, a reference sample for each water closet to be participated in the Scheme shall be submitted by us at our cost;
  - (h) conduct re-test(s) at our own costs at a recognized laboratory if non-compliance is found on the registered water closet. The result of re-test(s) shall reach the Department within the time specified by the Department;
  - (i) inform the Department of any change in accordance with Section 9.10 (i) of the Scheme Document; and
  - (j) remove within three months all Labels from the water closet and/or its packing if it has been de-registered.

The detailed information of the water closet which we apply for registration is shown in the attached documents (see Annex 5 for the list of information to be submitted) for your processing.

Yours faithfully,

(Manufacturer/Importer/Agent's Name and Company Chop)

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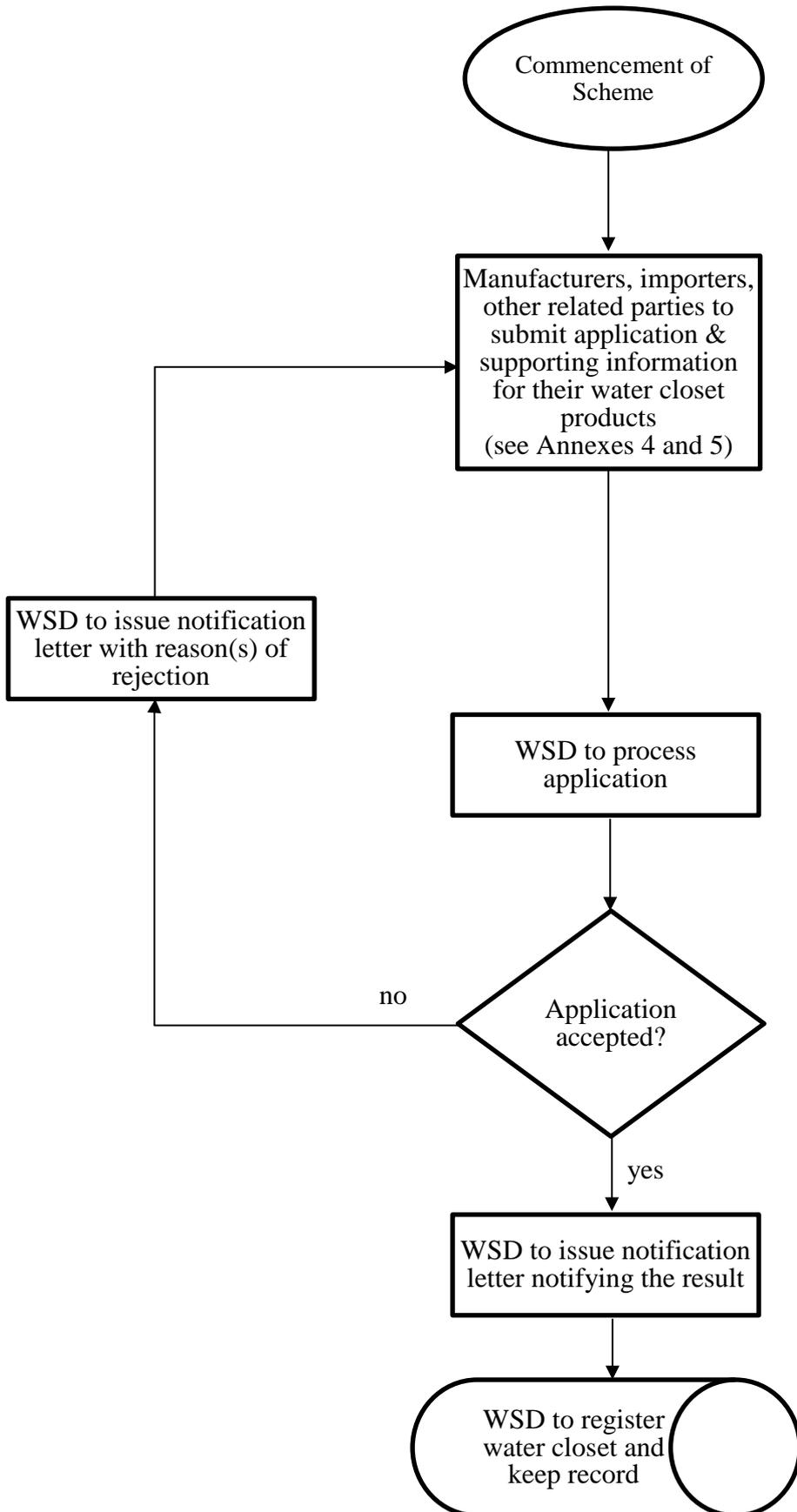
\* *delete as appropriate*

**Information/Material to be Submitted  
to the Water Supplies Department**

1. Information of the company, i.e. name, address, telephone number, fax number, e-mail address, website address, and contact person, and sale distribution network (names and addresses of the distributor(s)), etc.;
2. Information of the water closet being applied for registration in the Scheme, i.e. brand name, model no. and/or name, catalogue (if available), at least three photos clearly showing the front, side and bottom views of the water closets and country of origin.
3. Proposed commencement date to affix the Label(s) to water closet (Year \_\_\_\_\_, Month \_\_\_\_\_).
4. Documentary proof that the design (if any) and production system for the water closet is operating according to a recognized international quality system (such as ISO 9001). The submission of product drawings extracted from the product manual or design manual, and international quality system certificate on the manufacturer can be considered as documentary proof of recognition of the quality system. Failure to renew the recognized international quality system may render the model registration null and void; and;
5. Detailed test report in accordance with the reporting requirements specified in Annex 2. The test report shall be issued by a recognized laboratory complying with the requirements in Section 8. The required information requested in Sections I, II, III, IV & V of Annex 1 of the Scheme document have to be provided in a single section of the test report.
6. Statement on whether the testing laboratory has satisfied the requirement of Section 8.

*Note: Company's chop should be stamped on all the front covers/pages of the documents submitted. All photocopy test reports submitted to the Water Supplies Department (WSD) should be certified as true copy. The participant is also required to provide the original copy of the test reports if requested by WSD.*

**Flow Chart for Registration**



**List of International Standards accepted by the Water Supplies Department as equivalent testing and acceptance criteria for the purpose of registration of water closets under Water Efficiency Labelling Scheme**

**Note:**

**This is a non-exhaustive list of international standards comparable to BS EN 997:2012+A1:2015 and accepted by the Water Supplies Department as equivalent testing and acceptance criteria for the purpose of registration of water closets under Water Efficiency Labelling Scheme.**

1. BS EN 997:2003