



WATER EFFICIENCY LABELLING SCHEME (WELS) GUIDEBOOK

1 Introduction

- a. This document is applicable for the following:
 - i. Registered suppliers (manufacturers or importers which include parallel importers, retailers, sole agents, distributors, wholesalers, etc.) of water fittings, appliances, apparatuses and products which are required to be labelled for water efficiency;
 - ii. Testing laboratories; and
 - iii. Accredited Certification Bodies for WELS
- b. All water fittings such as pipes, pipe fittings, valves, taps/mixers, urinal flush valves/waterless urinal, flush valves for WCs, dual-flush low capacity flushing cisterns, etc. for use in potable water service installations in Singapore shall comply with the standards and requirements stipulated by PUB before they can be offered-for-sale, displayed, advertised for sale/supply in Singapore. Additionally, water fittings such as taps/mixers, dual-flush low capacity flushing cisterns, urinal flush valves/ waterless urinal and appliance such as clothes washing machines shall be labelled under the Mandatory Water Efficiency Labelling Scheme (WELS) before they can be offered-for-sale, displayed, advertised for sale/supply in Singapore.
- c. Showerheads are under the Voluntary WELS.
- d. From 1 Oct 2018, the Mandatory WELS will be extended to include dishwashers for household use.
- e. The purpose of WELS is to:
 - i. Conserve water by further reducing water consumption through greater awareness and use of water efficient water fittings, appliances, apparatuses and products.
 - ii. Provide water efficiency and performance information to purchasers of water fittings, appliances, apparatuses or products so that they can make a well informed purchasing decision.
 - iii. Provide consumers with the necessary information on the water efficiency of the labelled water fitting, appliance, apparatus or product and allow them to compare it to other similar models in the market places, before deciding on the purchase.
 - iv. Clearly differentiate the less water efficient water fittings, appliances, apparatuses or products from the more water efficient ones.
 - v. Encourage vendors to offer more water efficient water fittings, appliances, apparatuses and products in Singapore and mould consumer preference towards more water efficient water fittings, appliances, apparatuses and products.

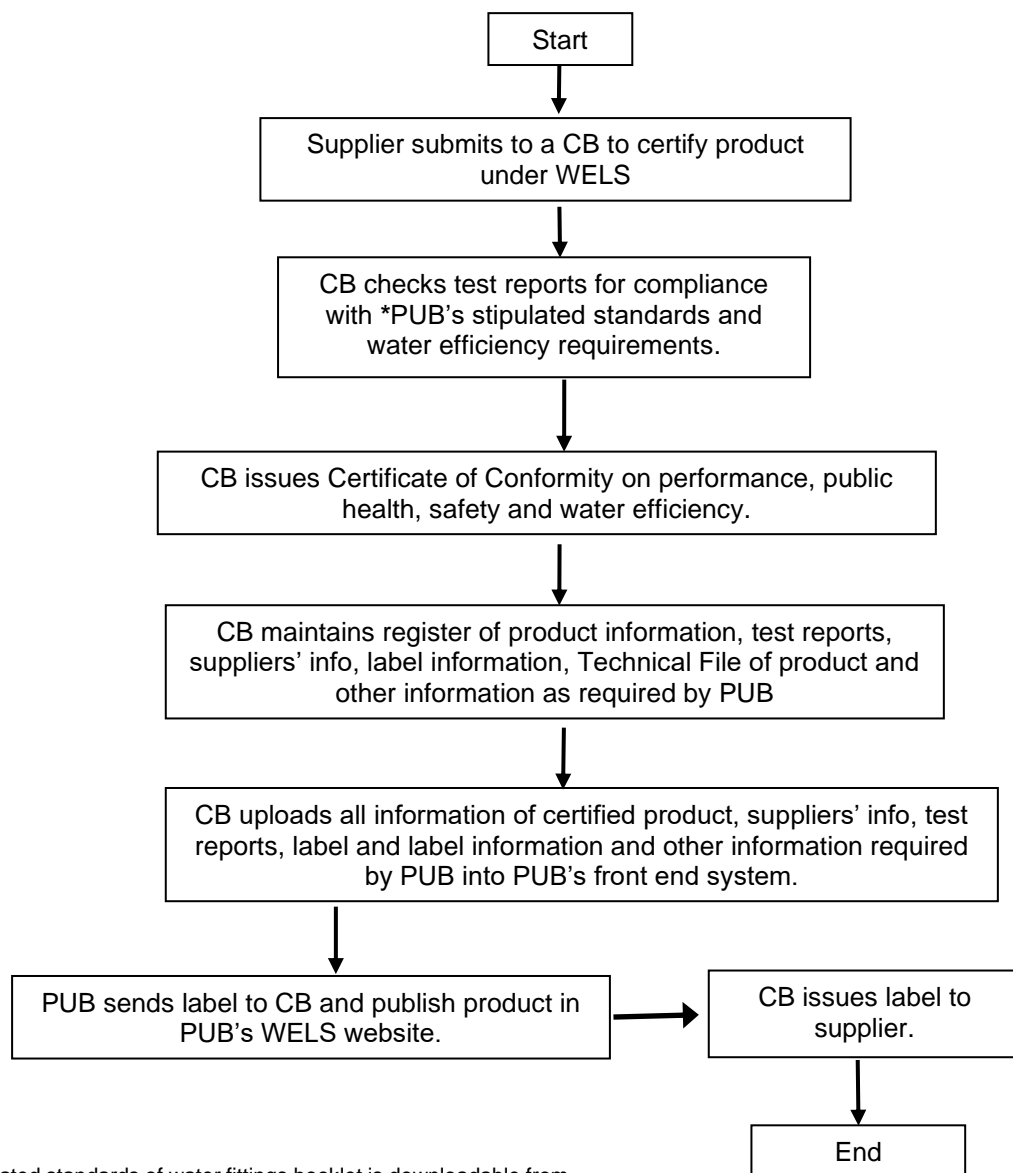
- vi. Stimulate the introduction of cost-effective and water efficient technologies.
- vii. Promote the adoption of efficient and effective water-use technologies.

2 Criteria to become an Accredited Certification Body (CB) for WELS

- a. CBs who are interested to provide certification services for WELS products shall fulfill all the criteria and requirements specified by PUB.
- b. CBs shall be accredited by Singapore Accreditation Council (SAC) in accordance with ISO/IEC 17065 and SAC CT 19 for ISO/IEC Type 1a certification scheme (based on Type Testing);
- c. Notwithstanding the above, PUB may request for additional information or impose other requirements on the CBs.

3 Requirements for Registration of Water Fitting, Appliance, Apparatus or Product under WELS

- a. With effect from 1 April 2018, all water fittings, appliances, apparatuses and products covered under WELS, shall be certified by an Accredited CB for WELS. The workflow for certification of a water fitting, appliance, apparatus and products by an Accredited CB for WELS is shown as below.



*Stipulated standards of water fittings booklet is downloadable from PUB's website at www.pub.gov.sg.

- b. Prior to certification by an Accredited CB, the water fitting, appliance, apparatus and product to be labelled under the WELS shall be tested for compliance with PUB's stipulated standards and requirements under Regulation 5 of the Public Utilities (Water Supply) Regulations. This is to address water contamination, water wastage and durability/reliability aspects of the product. For PUB's stipulated standards and requirements for water fittings, please refer to PUB's website at www.pub.gov.sg.

PUB's Stipulated standards of water fittings booklet is downloadable from PUB's website at www.pub.gov.sg.

- c. The water fitting, appliance, apparatus and product shall be certified by the Accredited CB for WELS in accordance with SAC CT 19 for ISO/IEC Type 1a certification scheme (based on Type Testing);
- d. The water efficiency of a water fitting, appliance, apparatus and product shall be determined by the Accredited CB in accordance with test standard or method as specified in Part 1 and Part 3 of the Second Schedule of the Public Utilities (Water Supply) Regulations (<http://statutes.agc.gov.sg>). A summary of the water efficiency rating and requirements are shown in **Clause 19**. *[Amended on 4 May 18]*
- e. Showerheads shall be tested in accordance with the test standard or method as specified in **Annex 1c**. The water efficiency shall be determined by the Accredited CB in accordance with the rating and requirements shown in **Clause 19**. Please also refer to **Clause 5b**. *[Amended on 4 May 18]*
- f. The Accredited CB shall register the product details onto PUB's WELS system at www.pub.gov.sg/wels within 7 days from date of Certificate of Conformity (CoC).
- g. The water efficiency label which will be provided by PUB, will be issued by the accredited CB for the product. The Accredited CB shall keep track and maintain the register of successful applicants/products with corresponding registration numbers.
- h. A water fitting, appliance, apparatus and product is deemed to be registered under WELS if it is published in PUB's WELS website at www.pub.gov.sg/wels.
- i. PUB reserves the right to amend existing and introduce new legislations including requirements and guidelines specific to particular water fittings, appliances, apparatus and products under WELS.
- j. With effect 1 Oct 2018, the Mandatory WELS will be extended to include dishwashers intended for household use. All dishwashers to be offered, displayed or advertised for sale and supply in Singapore shall be affixed with the water efficiency label. The stipulated test standard for water consumption test is specified in **Annex 1c**. The water efficiency shall be determined by the Accredited CB in accordance with the rating and requirements shown in **Clause 19**. *[Amended on 4 May 18]*
- k. Flush valves with water closet (WC) pans
 - a) With effect from with effect from 1 Jan 2022, the Mandatory WELS will be extended to include flush valve with water closet (WC) pan. All flush valves with WC pan shall comply with the following:
 - i. shall have a flush volume of not more than 4.0 litres per flush; and
 - ii. shall be of minimum 2-tick or more water efficiency rating under the MWELS.

*Updated on
22 Jun 21.*

before they can be offered, advertised or displayed for sale and supply in Singapore. Please refer to Clause 5d for details on water efficiency requirements and ratings, test methods and determination of water efficiency.

I. Commercial equipment

*Added on
22 Jun 21*

- a) With effect from 1 Jan 2022, the Mandatory WELS will be extended to include commercial equipment such as commercial dishwashers, washer extractors and high pressure washers. All commercial equipment shall comply with the water efficiency standards and registered under MWELS before they can be offered, advertised or displayed for sale and supply in Singapore.
- b) Suppliers, manufacturers and distributors shall ensure that the commercial dishwashers, washer extractors and high pressure washers are supported with the relevant test reports and that the models are registered under MWELS before they are being offered, displayed or advertised for sale or supply in Singapore. There is no plan to introduce tick ratings and labels for these commercial equipment under MWELS for now. Only models which are published in PUB's WELS website are deemed as registered product.
- c) Suppliers and manufacturers should ensure that the performance (e.g. food hygiene for commercial dishwasher, cleaning performance for washer extractor) of the equipment is not compromised for models which are registered under Singapore MWELS.

4 Testing and Compliance of WELS products

- a. Before a water fitting appliance, apparatus or product can be considered for registration under WELS, it is mandatory for the model to comply with and be supported with the relevant test reports showing compliance with PUB's stipulated standards and requirements for that water fitting, appliance, apparatus or product. For PUB's stipulation of standards and requirements, please refer to PUB's website at www.pub.gov.sg. This is to address water contamination, water wastage and durability/reliability aspects of the product.
- b. The water fitting, appliance, apparatus or product is deemed to comply with the PUB's stipulated standards and requirements if it is tested as complying with such Standards by a testing laboratory accredited by the Singapore Accreditation Council (SAC) or its Mutual Recognition Arrangement (MRA) partners. With effect from 1 Sep 2014 (date printed on test report), only test reports issued by a testing laboratory accredited by the SAC or its MRA partners must bear the SAC-SINGLAS mark or the mark of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA) signatory respectively are accepted. Every model shall be accompanied with complete and valid test reports showing compliance with PUB's stipulated standards and requirements.

- c. Any test report issued by a testing laboratory (notwithstanding that the testing laboratory is accredited by the SAC or its MRA partners) which does not bear the SAC-SINGLAS mark or the mark of the ILAC-MRA signatory is not acceptable.
- d. Suppliers can adopt the same flow rate test result/report for different models of taps and mixers without additional testing if they are of similar designs with the same flow rate performance. Taps and mixers of similar designs with the same flow rate performance include those which have the same body design but with different colours, finishing or handle designs that do not affect the hydraulic performance of the taps and mixers. The colors, finishing and type of handle design shall be reflected in the Certificate of Conformity (CoC). *Added on 22 Jun 21.*
- e. For list of SAC-SINGLAS accredited test laboratories and its MRA partners, please visit their website at www.sac-accreditation.gov.sg/.
- f. From 1 Aug 2019 (date of test report), a test lab who sub-contracts the testing to accredited test labs must also issue the accredited test reports which bear SAC-SINGLAS logo or the logo of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA) respectively to the suppliers. Suppliers are advised to request a copy of the accredited test reports from their testing service providers to ensure compliance with PUB's stipulated standards and requirements. Existing test reports with no SAC and ILAC-MRA logo from test lab who subcontracts the testing prior 1 Aug 2019 (date of test report), can continue to be accepted by PUB, provided that the test(s) was/were conducted by an accredited test lab. *Added on 1 Oct 20.*

5 Test Methods and Additional Requirements for Water Efficiency.

- a. Products which are covered under the Mandatory WELS shall be tested in accordance with the test methods and meet the requirements as stipulated in Part 1 of Second Schedule of the Public Utilities (Water Supply) Regulations. Please refer to **Annexes 1a** and **1b**. Products shall also be tested for compliance to PUB's stipulated standards and requirements as specified in **Clause 3b**.
- b. Products which are covered under the Voluntary WELS (i.e. showerheads) shall be tested in accordance with the test methods and meet the requirements as shown in **Annex 1c**.
- c. Waterless urinal is required to comply with the test method and performance requirements as specified in Section 6 of ASME A112.19-2016 (Vitreous China Nonwater Urinal). The test requirements are as follows:
 - i. Resistance to Stoppage
 - ii. Tightness Test of Removable Trap
 - iii. Evaluation Testing for Ammonia
 - iv. Testing of Urinal with an Optional Drain-Cleansing Action

d. Flush valves with water closet (WC) pan (sensor-operated and manually-operated types)

- (i) The flush valve with water closet pan shall be tested for performance, public health, safety and water efficiency in accordance with the standards and requirements as stipulated in the PUB S&R.
- (ii) The flush valve with water closet pan shall be certified and labelled as a whole complete set.
- (iii) Deleted.
- (iv) The flush volume shall be not more than 4.0 litres per flush i.e. no fluctuations of more than 4.0 litres per flush is allowed at any of test pressures of 1.5 bars, 2.0 bars and 3.0 bars as stipulated in the PUB S&R.
- (v) The volume of discharge for determination of water efficiency is the mean of the flush volumes measured (in litres per flush) with the test method stipulated in PUB S&R at the dynamic pressures of 1.5 bars, 2.0 bars and 3.0 bars.

$$(Vol_{1.5} + Vol_{2.0} + Vol_{3.0}) \text{ divided by } 3 = Vol_{wels}$$

- (vi) A flush valve with WC pan shall comply with the water efficiency requirement as specified in Table below and shall be rated accordingly.

Water efficiency rating	2-tick ✓✓	3-tick ✓✓✓
Volume of discharge (Vol_{wels}) for WC flush valves with WC pan (Litres Per Flush)	> 3.5 to 4.0	3.5 or less

- (vii) Flush valve with WC pan with volume of discharge ($Vol_{1.5}$ or $Vol_{2.0}$ or $Vol_{3.0}$) of lower than 3.5 litres per full flush (i.e. <3.5 litres) when tested at 1.5, 2.0 and 3.0 bars, is recommended to be tested for WC drainline transportation test as stipulated in Clause 7.4 of SS 574:Part 1:2012.
- (viii) For WC flush valve with manually-operated dual-flush mode (i.e. full and reduced flush), the volume of discharge for the reduced flush shall not be more than 3.0 litres. Please also refer to PUB S&R under WC flush valves for the full test requirements.
- (ix) The following water efficiency information shall be reported in the Certificate of Conformity (CoC):

Flush valves with WC pan

Brand	Model of flush valve with WC pan	Type (e.g. sensor or manual)	Single flush or Dual-flush	Water consumption (litres per flush)	Test report ref. no. for AS/NZS 4020 App H: YYYY	Test report reference No. for SS 375:YYYY	Test report ref. no. for SS 270:YYYY	Test report ref. for DZR brass

e. Test methods & requirements for commercial equipment

Added
on 22
Jun 21.

- (i) The commercial equipment shall be tested for **water consumption only** in accordance with the standards and test methods as stipulated in the Table below.

Commercial Equipment	Test standard	Test methods & requirements
Washer extractor	Clause 9.1 and 9.2 of BS EN 17116-4:2019	<p>The water consumption for a washer extractor (other than for household use) is to be measured using the wash programme or other associated settings recommended in the manufacturer's product literature for a <u>nominal load</u> at rated load capacity, and the following are <u>not required</u> as a test condition:</p> <ul style="list-style-type: none"> a) the use of a reference washer extractor; b) the use of a specific ambient temperature or humidity; c) the use of a specific inlet water hardness, water pressure or water temperature; d) the use of a specific type of energy supply; e) the use of an electricity supply at a specific voltage; f) the use of a specific compressed air supply; g) the use of a specific steam supply; h) the use of stain and soil monitors, wash process control sheets or rinse performance fabrics; i) the use of detergent; j) the determination of wash performance.
Commercial Dishwasher	Clause 7 of IEC 63136:2019	<p>The water consumption for a hood dishwasher or an undercounter dishwasher (other than for household use) is to be measured using the wash programme specified in Clause 5.4 of IEC 63136:2019, and the following are <u>not required</u> as a test condition:</p> <ul style="list-style-type: none"> a) a cleaning and resoiling performance test; b) the conditioning of the dishwasher under test and sequence of test procedures; c) the use of an electricity supply at a specific voltage; d) the use of specific ambient conditions; e) the use of a specific inlet water hardness, water pressure or water temperature; f) the use of detergent; g) the use of rinse aid; h) the measurement of the temperature of any rack in the dishwasher. <p><i>"The programme to be tested shall be the one that cleans normally soiled washware (standard cleaning cycle).</i></p> <p><i>The manufacturer shall declare the programme to be used for testing."</i></p>

Commercial Equipment	Test standard	Test methods & requirements
High Pressure Washer (HPW)	PUB's Stipulation	<p>The flow rate for a high pressure washer is measured with the following test method:</p> <ul style="list-style-type: none"> a) the high pressure washer must be connected to — <ul style="list-style-type: none"> (i) a water supply system via a bib tap; and (ii) a stable electricity supply (230±10 V and 50 Hz) with an ammeter; b) the water supply must have a delivery flow of at least 20 litres per minute at a dynamic pressure of 3 bars; c) the bib tap must be securely connected to the high pressure washer with an inlet hose having an internal diameter of at least 15 mm; d) the bib tap must be fully opened; e) the flow meter and pressure gauge must be connected to the outlet hose of the high pressure washer; f) the pressure setting of the high pressure washer must be set at maximum; (g) the flow rate, water pressure and electric current must be measured and recorded.

(ii) Determination of water efficiency:-

Washer extractor

The water consumption ($W_{at\ rated\ load}$) in litres shall be determined in accordance with Clause 9.2 of BS EN 17116-4:2019. The water efficiency ($W_{per\ kg}$) shall be determined as shown below.

$$W_{at\ rated\ load} \text{ divided by } A_{rated\ load} = W_{per\ kg}$$

Water consumption is expressed in litres, and reported to the nearest 0.1 litre.

Commercial dishwasher

The water efficiency per rack ($W_{L/rack}$) and per plate ($W_{L/plate}$) shall be determined in accordance with Clause 7 of IEC 63136:2019. Water consumption is expressed in litres, and reported to the nearest 0.1 litre.

High pressure washer

The water efficiency shall be the mean value of flow rate measured in accordance with the test method in above Table.

- (iii) Commercial equipment as listed in Table below shall comply with the respective water efficiency standards.

Commercial Equipment	Types covered under MWELS (please also see definitions)	Water Efficiency Requirements
Washer extractor	<ul style="list-style-type: none"> • Front load • Top load 	≤ 8.0 L / kg
Commercial Dishwasher	<ul style="list-style-type: none"> • Undercounter • Hood 	≤ 2.4 L / rack
High Pressure Washer	<ul style="list-style-type: none"> • For general cleaning purposes 	≤ 11.0 L / min

Definitions:-

a washer extractor (other than for household use) that is —

- (i) designed to be loaded or unloaded through an opening in the front of the washer extractor; or
- (ii) designed to be loaded or unloaded through an opening in the top of the washer extractor.

a commercial dishwasher (other than for household use) that is of any of the following types:

- (i) a hood dishwasher;
- (ii) an undercounter dishwasher.

a high pressure washer other than for any of the following uses:

- (i) household use;
- (ii) steam cleaning or hot water pressure washing; or
- (iii) washing equipment or vehicles.

Testing for variant of models for commercial dishwasher and washer extractor

- (iv) Where there is a range of models which are different in their mode of controls/operations (e.g. remote control, coin-operated, etc.) and these models are the **SAME IN ALL** of the specifications as listed below, suppliers/manufacturers **may send one (1) basic model for testing**.

*Updated
as at 1
Sep 21*

Commercial dishwasher:-

- 1) Type (undercounter or hood);
- 2) Brand;
- 3) Parts, design and components which do not affect the water consumption;
- 4) Rack size (500mm x 500mm; or 400mm x 400mm);
- 5) No. of racks;
- 6) Supply voltage [V, Hz] e.g. Single phase or 3-phase;
- 7) Incorporated with recommended wash program for normally soiled washware (standard cleaning cycle); and
- 8) Inlet valve and the controller circuit (e.g. timer, printed circuit board/program/software).

Washer extractor:-

- 1) Type (top load or front load)
- 2) Brand;
- 3) Parts, design and components which do not affect the water consumption;
- 4) Load weight in kg;
- 5) Supply voltage [V, Hz] Single phase or 3-phase;
- 6) Incorporated with recommended wash program for nominal load; and
- 7) Inlet valve and the controller circuit (e.g. timer, printed circuit board/program/software).

For traceability, the models shall be supported with a copy of manufacturer's written declaration stating that all of the above specifications (whichever appliance that is applicable) as listed above are the same as the tested basic model. Additionally, information such as, but not limited to the brand, model numbers, test report reference nos. of the basic model and colour photos of all models shall be clearly reflected or accompanied with the manufacturer's declaration. Registered suppliers, manufacturers, authorised distributors etc. shall ensure that all test reports, declarations and Certificate of Conformity (CoC) must be properly kept and must be produced as and when requested by PUB.

- (v) The following water efficiency information shall be reported in the Certificate of Conformity (CoC) for each model:

Washer Extractor

Brand	Model	Type	Rated load ($A_{rated\ load}$)	Water consumption at rated load ($W_{at\ rated\ load}$)	Water consumption per kg ($W_{per\ kg}$)	Test report ref. no.
-------	-------	------	-------------------------------------	--	---	----------------------

Commercial dishwasher

Brand	Model	Type	Rack size (e.g. 500x500mm or 400x400mm)	Loading per cycle (e.g. 18 or 10 plates)	Water consumption per rack (i.e. per cycle)	Water consumption per plate	Test report ref. no.
-------	-------	------	--	--	---	-----------------------------	----------------------

Updated as at 1 Sep 21

High Pressure Washer

Brand	Model	Type	Flow rate	Test report ref. no.
-------	-------	------	-----------	----------------------

6 Requirements and Application by Registered Supplier

- a. The registered supplier must be a Singapore-based company registered with the Accounting and Corporate Regulatory Authority (ACRA) in Singapore. All foreign companies (i.e. overseas suppliers) not registered with ACRA shall appoint a Singapore-based agent or representative company registered with ACRA to do the application and to follow up on queries/complaints and monitor the products supplied by them.
- b. Accredited CB shall ensure that every model submitted to them for certification shall contain the information/documents as listed in Table 1 below.

Updated as at 1 Oct 20.

Table 1

	Registered Supplier information	
	Date of application	
	Name of Registered Supplier (based on ACRA records).	
	Office address	
	Unique Entity Number (UEN) of the registered supplier issued by the ACRA	
	Name and title (designation) of the person appointed by the supplier to be in charge of submission of application to the Accredited CB.	
	Technical File of Product	
	<p>Technical File containing:</p> <ul style="list-style-type: none"> -Complete and valid test reports in full colour. Test reports include accredited test reports of testing which the test lab has subcontracted to accredited test labs. -Complete checklist of Tests Reports and Flow Rates -Drawings and list of parts/material used in the fitting (eg. inlet of flush valve of LCFC, cartridge model no., etc.) -Manufacturer's declaration letter if the parts/materials/mechanisms used are the same. -Manufacturer's declaration for commercial appliances as stipulated in Clause 5(e)(iv) on manufacturer's declaration required, if applicable. -Letter of Authorisation to use test reports -Information on manufacturer (i.e. company name, address, factory that produce or manufacture the product.) Manufacturer's information, if stated in the test reports, are also acceptable. If manufacturer's information is not stated in the test reports, then CB should use the manufacturer's information provided by supplier in CB's application form. 	<p>Updated as at 1 Oct 20.</p> <p>Updated as at 1 Sep 21.</p> <p>Updated as at 1 Oct 20.</p>
	Product information	
	Type of product	
	Brand	
	Model no.	
	<ul style="list-style-type: none"> - Flowrate (applicable for taps/mixers and showerheads) - Flow timing duration (applicable for mechanical and sensor self-closing delayed-action taps) - Flush volume (applicable for dual-flush low capacity flushing cisterns and urinal flush valves/waterless urinals) - Water Consumption (applicable for clothes washing machines) 	
	Water Efficiency Rating (refer to Table 2 for rating requirements)	
	WELS Registration No. (refer to Annex 3a. Registration no. will be issued by PUB)	
	WELS Registration Date	
	Date of Certificate of Conformity (CoC)	
	Clear and colour photograph showing the side / front elevation view of the product.	
	Other documents to be attached	
	ACRA bizfile of registered supplier (only if there are changes after first submission)	
	WELS label (Upon successful and complete submission by the accredited CB to PUB, the label will be provided to the CB. The accredited CB shall then issue the label provided by PUB to the supplier within 7 working days. Hence, CB shall keep in it records a copy of the label and proof of issuance of label to the supplier.)	

	Certificate of Conformity (CoC) printed in full size and colour	
	Colour photo of the product	
	<p>Declaration of wash mode for normally-soiled clothes (for clothes washing machines).</p> <p>The programme selected on the test washing machine and any associated settings shall be in accordance with the manufacturer's instructions for the programme recommended in the product literature for <u>a normally soiled load</u> at rated load capacity. The programme selected on the test washing machine (with any associated settings) shall be reported in the test reports. The selected programme shall be indicated along with the water consumption figures on the Water Efficiency Label. The supplier is required to show proof of programme recommendation in either Product Literature or Instruction Manual or User Manual when registering for water efficiency labelling. Alternatively, supplier can also submit its company letterhead in original copy to declare the programme recommended for <u>normally soiled clothes</u>. The registered washing machine shall be accompanied with Product Literature or Instruction Manual or Supplier's declaration in original company letterhead, when deliver to the customer for customer's information and awareness.</p>	
	<p>Declaration of wash programme for normally-soiled tableware (for dishwashers).</p> <p>The programme selected on the test dishwasher and any associated settings shall be in accordance with the manufacturer's instructions for the programme recommended in the product literature for <u>a normally-soiled tableware</u> at rated dishwasher capacity. The programme selected on the test dishwasher (with any associated settings) shall be reported in the test reports. The selected programme shall be indicated along with the water consumption figures on the Water Efficiency Label. The supplier is required to show proof of programme recommendation in either Product Literature or Instruction Manual or User Manual when registering for water efficiency labelling. Alternatively, supplier can also submit its company letterhead in original copy to declare the programme recommended for <u>normally-soiled tableware</u>. The registered dishwasher shall be accompanied with Product Literature or Instruction Manual or Supplier's declaration in original company letterhead, when deliver to the customer for customer's information and awareness.</p> <p><i>[Amended on 4 May 18]</i></p>	
	<p>Declaration of wash programme for nominal load (for washer extractor).</p> <p>The programme selected on the test washer extractor and any associated settings shall be in accordance with the manufacturer's instructions for the programme recommended in the product literature for <u>a nominal load</u> at rated load capacity. The programme selected on the test washer extractor (with any associated settings) shall be reported in the test reports. The selected programme shall be indicated along with the water consumption figures. The supplier is required to show proof of programme recommendation in either Product Literature or Instruction Manual or User Manual when registering under MWELS. Alternatively, supplier can also submit its company letterhead in original copy to declare the programme recommended for a nominal load. The registered washer extractor shall be accompanied with Product Literature or Instruction Manual or Supplier's declaration in original company letterhead, when deliver to the customer for customer's information and awareness.</p>	Added on 22 Jun 21.
	<p>Declaration of wash programme for normally-soiled washware (for commercial dishwasher).</p> <p>The programme selected on the test commercial dishwasher and any associated settings shall be in accordance with the manufacturer's instructions for the programme recommended in the product literature for <u>a normally soiled washware (standard cleaning cycle)</u> at rated load capacity. The programme selected on the test commercial dishwasher (with any associated settings) shall be reported in the test reports. The selected programme shall be indicated along with the water consumption figures. The supplier is required to show proof of programme recommendation in either Product Literature or Instruction Manual or User Manual when registering under MWELS. Alternatively, supplier</p>	Added on 22 Jun 21.

	can also submit its company letterhead in original copy to declare the programme recommended for normally soiled washware (standard cleaning cycle). The registered commercial dishwasher shall be accompanied with Product Literature or Instruction Manual or Supplier's declaration in original company letterhead, when deliver to the customer for customer's information and awareness.
	Registered Supplier's declaration whether registered product is still being supplied in Singapore.
	Information on Accredited CB
	Name of Accredited CB
	Address of Accredited CB
	Unique Entity Number (UEN) of the Accredited CB issued by the ACRA
	Name of Reviewer / Person making certification decision
	Name of Person who signed the CoC
	Designation
	Office No.
	Mobile No.
	Modification of registered product. Please read Clause 14.
	Copy of Test reports in full colour
	Manufacturer's declaration, if any.
	Updated checklist of test reports and flow rate
	Previous and New WELS Rating / Water Consumption / Volume of discharge
	New Certificate of Conformity (CoC)
	Update photo of the product (in colour)

Updated as
at 1 Oct 20.

- c. The list in the above Table is not exhaustive. PUB may require any other information to be kept and maintained by the accredited CB as and when it deems necessary.
- d. All information and documents required shall be in English language.

7 Issuance of Certificate of Conformity by Accredited CB for WELS

- a. The Certificate of Conformity issued by the accredited CB shall be in accordance with the format in **Annexes 2a and 2b**.
- b. The information stated in the Certificate of Conformity of a water fitting, apparatus, appliance or product must be correct, complete and valid.
- c. Every water efficiency label issued by accredited CB shall be for one model only.
- d. The Reviewer of test reports and the person making certification decision/person who signed on the CoC shall not be the same person. Both shall meet the criteria specified in CT19 SAC Criteria for Certification Bodies (Water Efficiency Labelling Scheme).

Updated
as at 1 Oct
20.

- e. The brand and all specific clauses of the standards shall be reflected in the main page of CoC;
- f. Every CoC shall only cover 1 brand and product(s) which are under the same stipulated product standard. E.g. Any product or combination of types of taps/mixers from 1(a) to (l) under BS EN 200 in Annex 1A of WELS Guidebook.
- g. More than 1 product type under the same brand and product standard may be certified under the same CoC provided that any of the integral components for example ceramic cartridge or body material of tap/mixer is the same.
- h. All reference test reports, if any, shall be clearly reflected in the Appendix of the CoC for better traceability of records for all models covered in the CoC.

8 Registered Supplier Seeking Multiple Certifications from CB*

- a. A registered supplier who seeks certification of their product with an accredited CB shall declare the status of certification he had with the previous CB, if any.
- b. If the registered supplier has previously sought certification with a CB but failed in its certification attempt, he is required to submit the latest report of the outcome of his application from the previous CB to the new CB for their information and highlighted any modifications made to the product to be certified by the new CB.
- c. However, if the registered supplier declares that he has yet to seek certification with any CB, it shall be incumbent upon the CB that they shall take due diligent measures such as:
 - i) confirming the status of the registered supplier from the directory of certified and failure products maintained by the other accredited CBs;
 - or
 - ii) subjecting the registered supplier into making a declaration of their status at the point of application.
- d. If the CB subsequently finds out that the registered supplier has earlier approached a CB but failed in its certification attempt, the CB shall require the registered supplier to:
 - i) submit the latest report prepared by the previous CB;
 - and
 - ii) highlight any modifications made to the product.
- e. If the registered supplier fails to do item (d), the CB shall reject the registered supplier's application for certification of this product.
- f. All CBs shall keep track and maintain the register of both successful and rejected products.

9 Issuance and Use of Water Efficiency Labels

- a. The water efficiency label will be provided by PUB to the accredited CB be in .pdf format. The accredited CB shall then issue the label provided by PUB to the supplier within 7 working days and shall keep in its records the proof of issuance of label to the supplier. Please refer to **Annex 3f** for Restrictions relating to Water Efficiency Label.
- b. The water efficiency label will only be provided by PUB if the model has been certified by the accredited CB in accordance with SAC CT 19 for ISO/IEC Type 1a certification scheme (based on Type Testing) and all information and documents have been successfully and completely submitted by the accredited CB.
- c. The water efficiency label shall be in accordance with Part 2 of Second Schedule of the Public Utilities (Water Supply) Regulations. All information provided by the accredited CB on the water efficiency label must be correct, complete and valid.
- d. The registration number format shall be in XXX-YYYY/000000/ZZZ in accordance with **Annex 3a**.

10 PUB's WELS System

- a. Accredited CB shall register the product and submit the correct, complete and valid product information, Certificate of Conformity (CoC), Technical File and other documents required by PUB for the model onto PUB's WELS system within 7 days from the date of issue of CoC at www.pub.gov.sg/wels. The process is shown in **Annex 5**.
- b. For modifications of registered products that affect water efficiency, Accredited CB shall also register the product and submit product information, Certificate of Conformity (CoC), Technical File and other documents required by PUB for the model into PUB's WELS system within 7 days from the date of certification at www.pub.gov.sg/wels. Please refer to **Clause 14a** on modifications of registered products. *[Amended on 4 May 18]*
- c. Notwithstanding the above, PUB may request for additional information and/or documents from the accredited CB or supplier.

THE WATER EFFICIENCY LABEL

11. Design of Label

- a. The designs of the labels for the Mandatory WELS are specified in Part 2 of Second Schedule of the Public Utilities (Water Supply) Regulations.
- b. The designs of the labels for different tick ratings for different products are given in **Annexes 3b, 3c and 3d**.

12. Use of the Water Efficiency Label

- a. The water efficiency label shall be affixed to each water fitting, appliance, apparatus or product model displayed for sale or supply. The water efficiency label shall also be fixed to each water fitting, appliance, apparatus or product model or on its packaging at the point of sale or supply or offer for sale or supply. The label shall be fixed such that it is prominent to let consumers view and compare with ease. The markings and information on the label shall not be removed, defaced or obscured in any manner that may confuse and/or mislead the consumer.
- b. The water efficiency label shall not be defaced, obstructed, removed, misused, forged, falsified or altered.

13. Use of the Water Efficiency Label in Advertisements and Publicity Materials

- a. The water efficiency label shall be used only for the registered models as published in PUB's website.
- b. Advertisements for water fittings, appliances, apparatus or products labelled under the MWELS in all forms of advertisements that has any visual elements which includes newspapers, brochures, catalogues, publicity materials, websites, TV advertisements and any other visual elements shall display the water efficiency label for each and every water fitting, appliance, apparatus or product model featured next to the image or description of the water fitting.
- c. When used in advertisements as described in 12(b), the water efficiency label of each registered model shall be separately displayed if there is more than one model being advertised or promoted.
- d. Where it is not practicable to display in the advertisement the water efficiency label for each and every water fitting, appliance, apparatus or product model featured as stated in 12(b), all information contained in the Water Efficiency Label shall be stated in the advertisement.
- e. The use of the water efficiency label in advertisements and publicity materials shall be in accordance with Regulations 40AB and 40AD of the Public Utilities (Water Supply) Regulations. Please refer to **Annexes 3e and 3f** for extracted Clauses of 40AB and 40AD.

- f. Examples of display of 4 essential water efficiency label information for printed advertisements is in **Annexes 6a and 6b**. Added on
1 Oct 20..

14. Modifications to Registered Water Fitting, Appliance, Apparatus or Product Model

- a. For a modification affecting the water efficiency of the registered water fitting, the registered supplier must separately register the water fitting under Regulation 40AE (3). Re-registration of the model is required. This means the modified registered product is required to be re-certified by an Accredited CB. The Accredited CB shall submit to PUB via WELS website at www.pub.gov.sg/wels for the re-registration.

e.g. upgrade from 1-tick to 2-tick where there is no change in product except for change of flow regulator. The 2-tick model replaces the 1-tick model and new WELS registration no. will be issued. The 1-tick model will be removed from the WELS register.

- b. For a modification not affecting the water efficiency of the registered water fitting, the registered supplier must notify PUB in writing of the modification and gives PUB the particulars of the modification required by PUB. The registered supplier is to approach the SAC-accredited test laboratory or its MRA partners with the supporting documents to make the administrative changes in the test report. The registered supplier would then notify PUB of the modifications and submit supporting documents/revised test reports. No re-registration of the model is required.

e.g. change of brand name, model no. etc. where there is no change in product itself.

15. Change of Distributorship for Registered Products

- a. When Supplier A (*i.e. existing supplier*) or B (*new supplier taking over*) notifies PUB on change of distributorship of the registered products, the following documents are required to be submitted to PUB:

- 1) A Company letter from [*Supplier A*] stating the following:

that the distributorship for sale and supply of [*brand / models*] in Singapore has been transferred to [*Supplier B*] effective from [*date*]. The letter shall include or be accompanied with a list of the registered WELS models and the corresponding water efficiency registration no. given earlier to [*Supplier A*];

[*Supplier A*] authorises [*Supplier B*] to use the test reports, Certificate of Conformities of the registered models and WELS labels effective from [*date*].

AND

2) A Company Letter of Acceptance from [*Supplier B*] to take over as distributor for the sale and supply of [*brand and list of WELS registered models with corresponding WELS labels*] in Singapore from [*Supplier A*] effective from [*date*].

16. Withdrawal or Revocation of Registered Product

- a. PUB may revoke or withdraw any registration for any contraventions under Regulation 40AF of the Public Utilities (Water Supply) Regulations. The workflows of withdrawal and revocation of WELS products are in **Annexes 4a and 4b**.

17. Post-Market Surveillance

- a. PUB conducts regular spot checks at suppliers' showrooms and retailers. PUB will not hesitate to take action against any person for contraventions to the Public Utilities (Water Supply) Regulations.

18. Records Maintenance and Traceability

- a. The records of every registered model and its supporting documents shall be kept and maintained by the Accredited CB for at least 10 years.
- b. The registered supplier shall declare to PUB upon PUB's request, in writing, for every model registered whether the model is still being supplied in Singapore.
- c. The water fittings, appliances, apparatuses and products covered/not covered under MWELS and VWELS are listed in the Table 2 below:

19. Water Efficiency Rating and Requirements

The water efficiency rating and requirements for water fittings and appliance are shown in Tables 2, 3 and 4 below.

Table 2

Mandatory WELS		
Water Efficiency Rating	2-tick ✓✓	3-tick ✓✓✓
Type of fitting	Flow Rate (litres/min)	
Shower Taps & Mixers	> 5 to 7	5 or less
Basin Taps & Mixers	> 2 to 4	2 or less
Sink/Bib Taps & Mixers	> 4 to 6	4 or less
	Flush volume (litres per flush)	
Flushing Cisterns	> 3.5 to 4.0 (full flush) > 2.5 to 3 (reduced flush)	3.5 or less (full flush) 2.5 or less (reduced flush)
Urinal Flush Valve & Waterless Urinals	> 0.5 to 1	0.5 or less

Updated as at 1 Oct 20.

Mandatory WELS		
Water Efficiency Rating	2-tick ✓✓	3-tick ✓✓✓
Flush valves with WC pan (Litres Per Flush) -effective from 1 Jan 2022	>3.5 to 4.0	3.5 or less

Updated as at 1 Oct 20.
Added on 22 Jun 21.

With effect from 1 Apr 2019, all taps and mixers (basin, sink, bib and shower), dual-flush low capacity flushing cisterns and urinal flush valves/waterless urinals allowed for sale and supply in Singapore shall be of minimum 2-tick or more rating under the MWELS. 1-tick water fittings are no longer allowed for sale and supply in Singapore from 1 Apr 2019 onwards. Refer to **Annex 1b** for the revised clauses on water efficiency ratings and requirements.

Table 3

Voluntary WELS			
Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓
Type of fitting	Flow Rate (litres/min)		
Showerheads	> 7 to 9	> 5 to 7	5 or less

With effect from 1 Apr 2020, it is recommended that all new and existing 3-tick showerheads under VWELS to be tested for Spray Force test and Spray Coverage test under AS 3662:2013. See Remarks in Table 5 and Annex 1c.

Added on 1 Oct 20.

Table 4

Mandatory WELS				
Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓	4-tick ✓✓✓✓
Products	Water consumption (litres per kg)			
Clothes Washing Machines for household use (Per Washload)	NA	> 9 to 12	> 6 to 9	6 or less
	Water consumption (litres per place setting)			
Dishwashers for household use (Per Place Setting)	>1.2 to 1.5	>0.9 to 1.2	>0.6 to 0.9	0.6 or less

Table 4A

Commercial Equipment	Types covered under MWELS	Water Efficiency Requirements -effective from 1 Jan 2022
Washer extractor	<ul style="list-style-type: none"> Front load Top load 	≤ 8.0 L / kg
Dishwasher	<ul style="list-style-type: none"> Undercounter Hood 	≤ 2.4 L / rack
High Pressure Washer	<ul style="list-style-type: none"> For general cleaning purposes 	≤ 11.0 L / min

Added on 22 Jun 21.

The water fittings and appliances covered under WELS are shown in Table 5 below.

Table 5

Types of products	Covered under MWELS	Covered under VWELS	Requirements
Basin Taps and Mixers	Yes	-	<p>a) Same flow rate test report is acceptable if the new model and tested model have the same body design but different in;</p> <ul style="list-style-type: none"> - finishing / colours; or - handle design. <p>and that they do not affect the performance of the tested model. Test report must indicate the differences between the new and tested model nos. must be different.</p> <p>b) If 2 flow rate results are recorded for a particular fitting e.g. 2-way bib tap or exposed shower mixer with more than 1 outlet, the highest average flow rate results will be used for determining the water efficiency.</p> <p>c) For exposed bath/shower mixers, flow rates shall be taken at the shower outlets (and not at the showerheads). Water efficiency is not applicable to the flow rate from bath outlet.</p> <p><u>WELS Registration for mechanical self-closing delayed action basin tap</u></p> <p>d) <u>With immediate effect</u>, new and existing models mechanical SCDAT which have been tested in accordance with PUB's stipulated standards and comply with <u>5 to 7 seconds preset flow timing can be accepted</u> for WELS registration and are allowed for sale and supply in Singapore. For new models, Certification Bodies shall ensure that the model(s) are supported with accredited test reports as part of the submission for WELS applications.</p> <p>e) For existing WELS-registered models, suppliers must submit the accredited test reports on new flow timing test to PUB by <u>31 Aug 2022</u> (i.e. before implementation date of 1 Sep 2022), if they wish to continue supplying the models (using the same WELS registration number) from 1 Sep 2022 onwards, failing which the models will be de-registered without further notice. Re-certification by Certification Body of the existing model is not required.</p> <p>f) <u>With effect from 1 Sep 2021 (i.e. 1 year before implementation)</u>, submission of WELS applications by Certification Bodies for new mechanical SCDATs with preset flow timing of 2 to 3 seconds shall no longer be accepted.</p> <p><u>Flow duration for self-closing delayed action basin tap</u></p> <p>g) Flow Duration Test in accordance with Clause 8.2 of SS 448:Part 3:1998 for self-closing delayed action taps. The flow duration for the respective shall be as follows:</p> <ul style="list-style-type: none"> (i) Mechanical self-closing delayed action tap for wash basin – between 5 to 7 seconds. (ii) Sensor self-closing delayed action tap for wash basin – fixed pre-set timing of 60 ± 5 seconds. (iii) Self-closing delayed action tap for shower – 13 to 15 seconds.
Sink Taps and Mixers	Yes	-	
Bib Taps and Mixers	Yes	-	

Added on 1 Sep 2021.

Types of products	Covered under MWELS	Covered under VWELS	Requirements
			<p>h. For sensor self-closing delayed action taps, the test for closure of device during power failure is required.</p> <p>i. For basin taps in public toilets and food retail outlets where toilet facilities are provided, such SCDATs are taps in which the flow, when activated, shall automatically cut-off after a pre-set period or once the user's hands are moved away from beneath the tap, whichever is earlier. Such SCDATs shall have a flow rate of 2 L/min and a fixed pre-set flow timing of 60 seconds.</p> <p>Please read in conjunction with stipulations for Single & Combination Taps in PUB S&R document and PUB's circular dated 1 Sep 2021 (ref. WSN 202110/MECHSCDAT) which are downloadable from PUB's website at https://www.pub.gov.sg/compliance/watersupplyservices/standards and https://www.pub.gov.sg/compliance/industry/circulars</p>
Thermostatic mixer for basin, sink, bib or shower	Yes	-	From 1 Apr 2020, thermostatic mixers shall be tested to Section 13.2 of BS EN 1111:2017. BS EN 1287:1998 and BS EN 1111:1999 will no longer be acceptable from 1 Apr 2020.
Dual Flush Low Capacity Flushing Cisterns (Dual Flush LCFCs)	Yes	-	<p>For concealed cistern type:</p> <p>a) Same test report is acceptable if the new model and tested model have different;</p> <p>b) Frame (with or without frame); or</p> <p>c) Height of frame; or</p> <p>d) Face plate design.</p> <p>e) Differences must be indicated in test reports.</p> <p>f) Models nos. of new and tested products must be different.</p>
Urinal Flush Valves	Yes	-	<p>a) Same test report is acceptable if the new model and tested model have different face place design.</p> <p>b) Differences between new and tested model must be indicated in test reports.</p> <p>c) Models nos. of new and tested products must be different.</p> <p>d) For flush volume of less than 0.5 litres per flush, urinal flush valves must be coupled together with urinal bowl for Dye test.</p>
Waterless Urinals	Yes	-	Refer to Clause 5c for stipulated standards and requirements.
Clothes washing machines intended for household use	Yes	-	-
Showerheads	-	Yes	-
Bathtub taps and mixers	No	-	-
Bath/shower taps and mixers (exposed type)	Yes	-	a) MWELS is only applicable to the <u>shower</u> flow rates (i.e. at shower outlets). Not applicable to the bath flow rate for filling of bathtubs.

Updated as at 1 Oct 20.

Types of products	Covered under MWELS	Covered under VWELS	Requirements
& Shower taps and mixers (exposed type)			b) The flow rates shall be taken at the shower outlets (and not at the showerheads). Water efficiency is not applicable to the flow rate from bath outlet. c) Same flow rate test report is acceptable if the new model and tested model have the same body design but different in; <ol style="list-style-type: none"> i. finishing / colours; or ii. handle design. iii. face plate design. and that they do not affect the performance of the tested model. Test report must indicate the differences and new and tested model nos. must be different. d) Differences must be indicated in test reports. e) Models nos. of new and tested products must be different. f) If there are 2 flow rate results recorded for a particular fitting e.g. 2-way bib tap, exposed shower mixer with more than 1 outlet, the highest average flow rate results will be used for water efficiency.
Bidet taps and mixers	No	-	-
Concealed shower taps and mixers	No	-	With effect from 1 Apr 2019, it is recommended that such taps and mixers to be installed with at least 2-tick (i.e. not more than 7 litres/min) showerheads under Voluntary WELS.
Showerheads	No	Yes	Recommended for 3-tick showerheads to be tested Spray Force test and Spray Coverage test under AS 3662:2013.

Added on 1 Oct 20.

Updated as at 1 Oct 20.

Table 6 below sets out the actual upper and lower limits for the respective taps and mixers.

Added on 1 Oct 20.

Table 6

Type of fitting	Tick	Water Efficiency Rating (litres/min)	Actual upper limit (litres/min)	Actual lower limit (litres/min)
Basin Taps & Mixers	2	> 2 to 4	4.5	1.5
	3	2 or less	2.5	1.5
Bib Taps	2	> 4 to 6	6.5	3.5
	3	4 or less	4.5	3.5
Sink Taps & Mixers	2	> 4 to 6	6.5	3.5
	3	4 or less	4.5	2.5
Shower Taps & Mixers	2	> 5 to 7	7.5	4.5
	3	5 or less	5.5	4.5

Added on 1 Oct 20.

20. Listing of Water Efficient Labelled Models

- a. The list of all water fitting, appliance, apparatus and product models that have been registered under WELS can be viewed at www.pub.gov.sg/wels.

21. Enquiries

- a. If in doubt, vendors may seek clearance for advertisements and publicity materials featuring the water efficiency label from PUB before publication and promotion. A sample of the advertisement/publicity material may be sent to the following address for clearance before publication and promotion:

Inspectorate Branch
Water Demand Management & Inspectorate Division
Water Supply (Network) Department
PUB
40 Scotts Road, #15-01
Singapore 228231
Tel: 1800-2255 782 (Call PUB-One)
Tel : 65172925 / 65172934 / 65172932 / 68056315 / 68056315 / 68852521
Fax: 67313023
Email: pub_waterfittings@pub.gov.sg

- b. All other enquiries on WELS can also be sent to the above address.

Extracted from Part 1 of Second Schedule of the Public Utilities (Water Supply) Regulations

TEST STANDARD OR METHOD

1. A test report for a specified water fitting must contain the results of tests carried out for the specified water fitting in accordance with the applicable test standard or method, as follows:

<i>First column</i>		<i>Second column</i>	<i>Third column</i>
<i>Specified water fitting</i>		<i>Type</i>	<i>Applicable test standard or method</i>
(1)	Taps and mixers	(a) Pillar basin taps (b) Self-closing delayed-action basin taps (c) Sensor (including self-closing delayed-action) basin taps (d) Combination basin taps (e) Bib taps (f) Sink taps (cold water only) (g) Sensor sink taps (h) Combination sink taps (i) Shower taps (cold water only) (j) Self-closing delayed-action shower taps (k) Sensor (including self-closing delayed-action) shower taps (l) Combination shower taps (m) Mechanical basin, sink or shower mixers with a single or separate control device for adjusting flow rate and temperature (n) Thermostatic mixer for basin, sink, bib or shower	(i) Annex A of SS 448: Part 3 (1998); or (ii) section 10 of BS EN 200 (2008) Section 10 of BS EN 817 (2008) Section 10 of BS EN 1287 (1999) or Section 13.2 of BS EN 1111 (2017) <i>[S 192/2019 wef 01/04/2019]</i> The flow rate is determined in accordance with paragraph 2.
(2)	Flushing cistern	(a) Dual-flush low capacity flushing cisterns with volume discharge of 3.5 litres or more for full flush (b) Dual-flush low capacity cisterns with volume of discharge of less than 3.5 litres for full flush	SS 574: Part 1 (2012), Volume of Discharge per flush (i) SS 574: Part 1 (2012), Volume of Discharge per flush; and

Updated as at
1 Oct 20.

First column		Second column	Third column
Specified water fitting		Type	Applicable test standard or method
			<p>(ii) SS 574: Part 1 (2012), Annex J — WC Drainline Transportation test</p> <p>The flow rate is determined in accordance with paragraph 2.</p>
(3)	Urinal flush valve	<p>(a) Urinal flush valve with flush volume of 0.5 litres or more</p> <p>(b) Urinal flush valve with flush volume of less than 0.5 litres</p>	<p>(i) The test method for determining the flush volume set out in paragraph 3; and</p> <p>(ii) Dye Test specified in — (A) Clause 8.5 of the ASME A112.19.2 - 2008/CSA B45.1-08; or (B) ASME A112.19.2 - 2013/CSA B45.1-13</p>
(4)	Clothes washing machine	-	<p>(a) Clause 8.6 of IEC 60456 Edition 5.0 (2010-02); or</p> <p>(b) Clause 11 of BS EN 60456 (2005) relating to measurement of water consumption</p> <p>The water consumption is determined in accordance with paragraph 4.</p>
(5)	Dishwashers	-	<p>Clause 8.2 of BS EN 50242: 2016 / BS EN 60436: 2016;</p> <p><u>or</u></p> <p>Clause 8.2 of IEC 60436: 2015 on water consumption test.</p> <p>The water consumption is determined in accordance with paragraph 6.</p>

Taps and mixers

The flow rate for a tap and mixer is the mean of the average flow rates measured in litres per minute and at the dynamic flow pressures of 1.5 bars, 2.5 bars, 3.5 bars, 4.5 bars and 5 bars.

Urinal flush valve

The urinal flush valve is tested at dynamic pressure of 3 bars. The discharge volume per flush is measured with the following test method:

- (a) the flush pipe is to be 300 mm long with an internal diameter of at least 13 mm and is to be secured to the outlet of the valve;
- (b) the pressure gauge and control valve are to be fitted at the inlet of the flush valve;
- (c) the flush valve is to be connected to a water supply system and the dynamic pressure of the water supply adjusted to 0.7 bars;
- (d) the flow regulator is to be set at maximum;
- (e) the operating member must continue to be held actuated until the flow of water ceases;
- (f) the flush volume is the volume of water that is discharged from the flush pipe from the actuation of the operating member to cessation of flow of water.

Clothes washing machine

The water consumption for a clothes washing machine is to be measured using the wash programme or other associated settings recommended in the manufacturer's product literature for a normally soiled load at rated load capacity, and the following are not required as a test condition:

- (a) the use of a reference clothes washing machine for normalisation of base load items;
- (b) the parallel operation of a reference clothes washing machine with the tested clothes washing machine;
- (c) the use of a specific inlet water temperature, water hardness, water pressure, ambient temperature or humidity;
- (d) the use of stain test strips;
- (e) the use of detergent.

Dishwasher for household use

The water consumption is to be measured using the wash programme or other associated settings recommended in the manufacturer's product literature for normally soiled tableware at rated dishwasher capacity, and the following are not required as a test condition:

- (a) the use of a reference dishwasher for normalisation of base load items;
- (b) the parallel operation of a reference dishwasher with the tested dishwasher;
- (c) the use of a specific inlet water temperature, water hardness, water pressure, ambient temperature or humidity;
- (d) the use of soiling agents;
- (e) the use of detergent, rinse agent or salt;
- (f) the use of an electric supply at a specific voltage;
- (g) the use of regeneration operations; and
- (h) the preparation and application of soiling agents.

Extracted from Part 3 of Second Schedule of the Public Utilities (Water Supply)
Regulations

PART 3

WATER EFFICIENCY REQUIREMENTS

1. Every tap and mixer, regardless of the type, must meet all of the following requirements:
 - (a) the difference between the highest and lowest flow rates (measured at the dynamic flow pressures specified in paragraph 2 of Part 1 of this Schedule) of the tap and mixer must not exceed 2 litres per minute;
 - (b) the highest flow rate of the tap and mixer must not exceed the upper limit of the range of flow rates within which the flow rate of the tap and mixer falls (under paragraph 2 of Part 2 of this Schedule) by more than 0.5 litres per minute;
 - (c) the lowest flow rate of the tap and mixer —
 - (i) for a sink tap and mixer with a flow rate falling within the range of flow rates specified for 3 ticks — must not be lower than 2.5 litres per minute;
 - (ii) for a sink tap and mixer with a flow rate falling within the range of flow rates specified for 2 ticks — must not be lower than 3.5 litres per minute;
 - (iii) for a basin tap and mixer, with a flow rate falling within the range of flow rates specified for 2 ticks and 3 ticks — must not be lower than 1.5 litres per minute;
 - (iv) for a bib tap and mixer with a flow rate falling within the range of flow rates specified for 2 ticks and 3 ticks — must not be lower than 3.5 litres per minute; and
 - (v) for a shower tap and mixer with a flow rate falling within the range of flow rates specified for 2 ticks and 3 ticks — must not be lower than 4.5 litres per minute;
[S 192/2019 wef 01/04/2019]
 - (d) the tap and mixer must have a flow rate as follows:
 - (i) for basin tap and mixer, not more than 4 litres per minute;
[S 192/2019 wef 01/04/2019]
 - (ii) for a sink tap and mixer or bib tap and mixer, not more than 6 litres per minute;
[S 192/2019 wef 01/04/2019]
 - (iii) for a shower tap and mixer, not more than 7 litres per minute.
[S 192/2019 wef 01/04/2019]
2. Every flushing cistern or flush valve serving a urinal must be of such a design as to use not more than the amount of water specified in paragraph 18(1) or (3) of the First Schedule, as the case may be.
[S 192/2019 wef 01/04/2019]
3. Every clothes washing machine intended for household use must be of such a design as to use not more than 12 litres of water per kilogram of wash load for the washing programme recommended by the manufacturer for a normally soiled load at the rated capacity of the washing machine.
4. Every dishwasher intended for household use must be of such a design as to use not more than 1.5 litres of water per place setting for normally soiled tableware at rated dishwasher capacity.
[S 535/2018 wef 01/10/2018]
5. In this Part —

*Updated as
at 1 Oct 20.*

“flow rate” means the volume of water that flows out of a tap and mixer per minute, as specified in the test report;

“place setting” means —

- (a) where the test standard used is BS EN 50242: 2016 / BS EN 60436: 2016, the set of tableware items specified in Annex A of BS EN 50242: 2016 / BS EN 60436: 2016; and
- (b) where the test standard used is IEC 60436: 2015, the set of tableware items specified in Annex A of IEC 60436: 2015.

[S 535/2018 wef 01/10/2018]

Annex 1c

1. A test report for a specified water fitting must contain the results of tests carried out for the specified water fitting in accordance with the applicable test standard or method, as follows:

<i>Specified water fitting</i>	<i>Test standard</i>	<i>Test method</i>
Showerheads	AS 3662 : 2013 or AS 3662 : 2005	i. Clause 5.1 – Flow rate test. The flow rate test shall be measured in accordance with Appendix B of the standard but at the dynamic flow pressures as stated in paragraph 1. The flow rate shall be determined in accordance with paragraph 2. The higher and lower limits shall meet the requirements specified in paragraph 3.
	AS 3662 : 2013	ii. Clause 5.4.1 – App H Spray Force test iii. Clause 5.4.2 – App I Spray Coverage test.

*Updated as
at 1 Oct 20.*

*Australian Standard AS 3662:2013 – Performance of showers for bathing

1. For showerheads, the flow rates shall be measured in accordance with Appendix B of AS/NZS 3662:2013 but at the following dynamic flow pressures: 0.5 bars, 1.0 bar, 1.5 bars, 2.0 bars, 2.5 bars, 3.0 bars, 3.5 bars, 4.5 bars, 5.0 bars and 5.5 bars.
2. The flow rate for a tap and mixer for WELS is the mean of the average flow rates measured in litres per minute and at the dynamic flow pressures of 1.5 bars, 2.5 bars, 3.5 bars, 4.5 bars and 5 bars.
3. Every showerhead, regardless of the type, must meet the following requirements:
 - (a) the difference between the highest and lowest flow rates (measured at the dynamic flow pressures of the showerhead must not exceed 2 litres per minute;
 - (b) the highest flow rate of the showerhead must not exceed the upper limit of the range of flow rates within which the flow rate of the showerhead falls by more than 0.5 litres per minute;
 - (c) the lowest flow rate of the showerhead must not be lower than the lower limit of the range of flow rates within which the flow rate of the showerhead falls by more than 0.5 litres per minute;
 - (d) have a flow rate of not more than 9 litres per minute.

CERTIFICATE OF CONFORMITY
Water Efficiency Labelling Scheme

[CAB's Letter Head]

CERTIFICATE OF CONFORMITY NUMBER:

*Added on 1
Oct 20.*

This Certificate is issued to:

Name of Vendor
Address

For

Water Efficiency Labelling Product(s)

(See Appendix/ces for products and/or family/ies details)

which has/have complied with the requirements of the Scheme and based on the following:

Title and Year of Standard(s) :

[Specific clause number of the test standard
Example

Clause 10 of BS EN 200 : YYYY or BS EN 817 : YYYY or SS 574 : YYYY or SS 448 : YYYY
SS 375 : YYYY, etc.]

*Added on 1
Oct 20.*

Product conformity certificates are awarded on the basis of an assessment of
Type Test report (s) No. XXXXX dated XXXX _____

<Name of CAB> is accredited by the Singapore Accreditation Council for certification in respect of
Product Certification Scheme (ISO/IEC 17065: YYYY and SAC CT ____: YYYY)

Signature
Designation
<name of CB>

Certificate No Date of Original Issue Date of Last Revision

SAC and CB logos

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of <name of CB> and shall be returned upon request. The use of this Certificate is subjected to the terms and conditions of the Water Efficiency Labelling Scheme. The manufacturer is solely responsible for compliance of any product that has the same designation as the product type-tested. Persons relying on this Certificate should verify its validity by checking <name of CB>'s website at <CB website>.

APPENDIX

CERTIFICATE OF CONFORMITY NUMBER:

Vendor:

Name of Vendor

Address

Issue Number:

Date of Issue: DD-MM-YYYY

Product Standard : e.g. Clause XXX of BS EN 200:YYYY

(A) Product type	(B) Brand	(C) Model	(D) Flowrate (L/min) / Water Consumption	WELS Rating	Body material	Finishing colour	Water shut-off device	Test report ref. no. for AS/NZS 4020 App H: YYYY	Test report reference No. for SS 375:YYYY	Test report ref. no. for SS 270:YYYY	Test report ref. for DZR brass

Signed: _____

Designation

<Name of CAB>

Amendments or additions to this appendix other than those authorized by <name of CAB> render the Appendix invalid.

WELS LABELS

All labels shall have the following comprise the following:

- a) The title “Water Efficiency”
- b) Ticks that indicate the water efficiency rating of the labelled water fitting, appliance, apparatus or product
- c) Water Consumption
- d) Type of product (To indicate type of water fitting, appliance, apparatus or product)
- e) Brand name
- f) Model number
- g) Wash Programme (applicable to Clothes Washing Machines category)
- h) Serial number (applicable to Water Efficiency Label for VWELS only). The format for registration number shall be: 02/YYYY/000000/ZZZ
 - i. 02 – Fixed Prefix representing “Showerheads”
 - ii. YYYY – Year of registration
 - iii. 000000 – running number issue by the system
 - iv. ZZZ – represent of the certification body that certify the product (will be issued by PUB)
- i) Registration number (applicable to Water Efficiency Label for MWELS only). The format of the registration number shall be: XXX-YYYY/000000/ZZZ

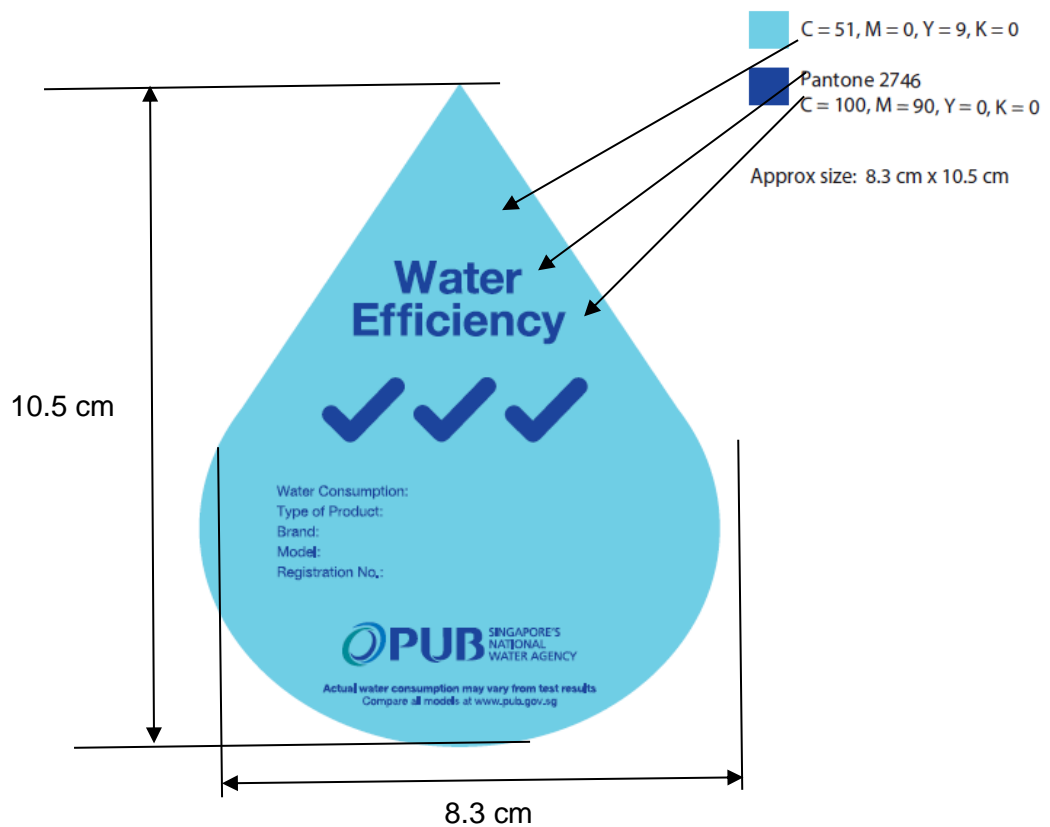
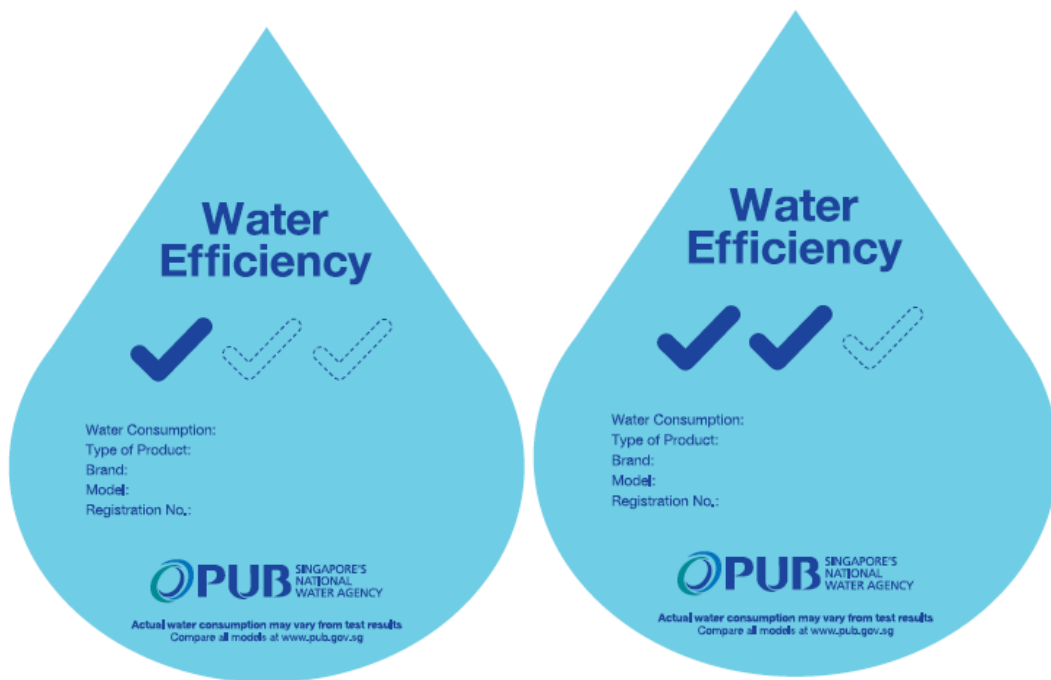
- i. XXX – present of the category

	Category	Prefix
A	Shower Tap & Mixer	SHT
B	Basin Tap & mixer	BST
C	Sink/Bib Tap & Mixer	SKT/BT
D	Low Capacity Flushing Cisterns	WC
E	Clothes Washing Machine for household use	WM
F	Dishwasher for household use	DW
G	Urinal flush valve	UR
H	Flush valves with water closet pan	WCFV
I	Washer extractor other than for household use	WX
J	Commercial dishwasher other than for household use	CDW
K	High Pressure Washers	HPW

[Amended on 4 May 18]

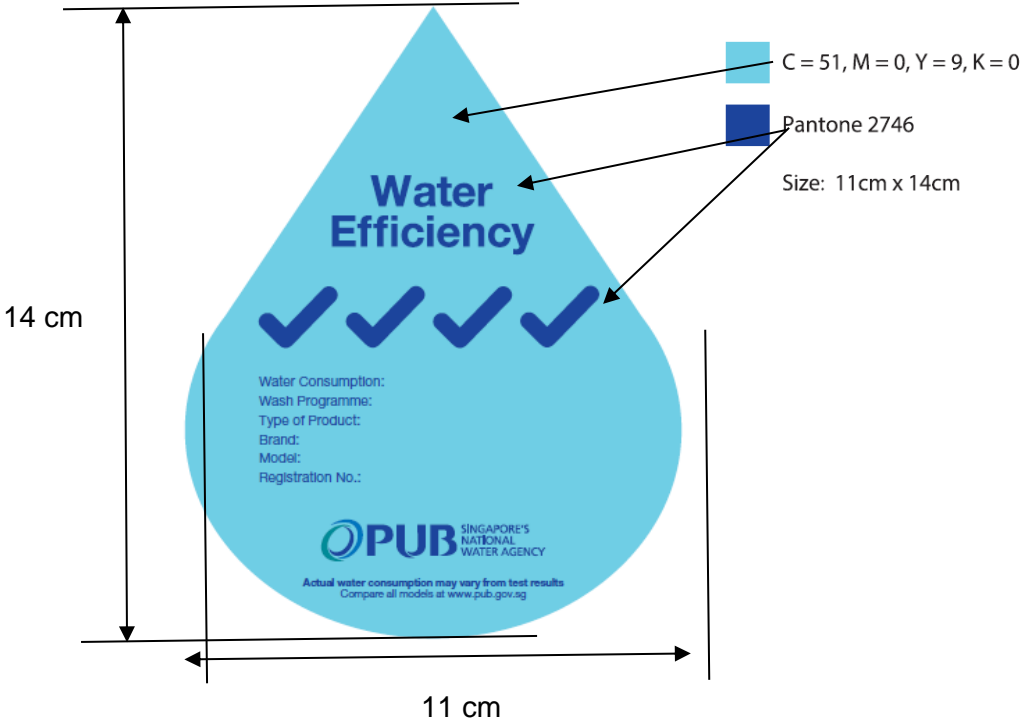
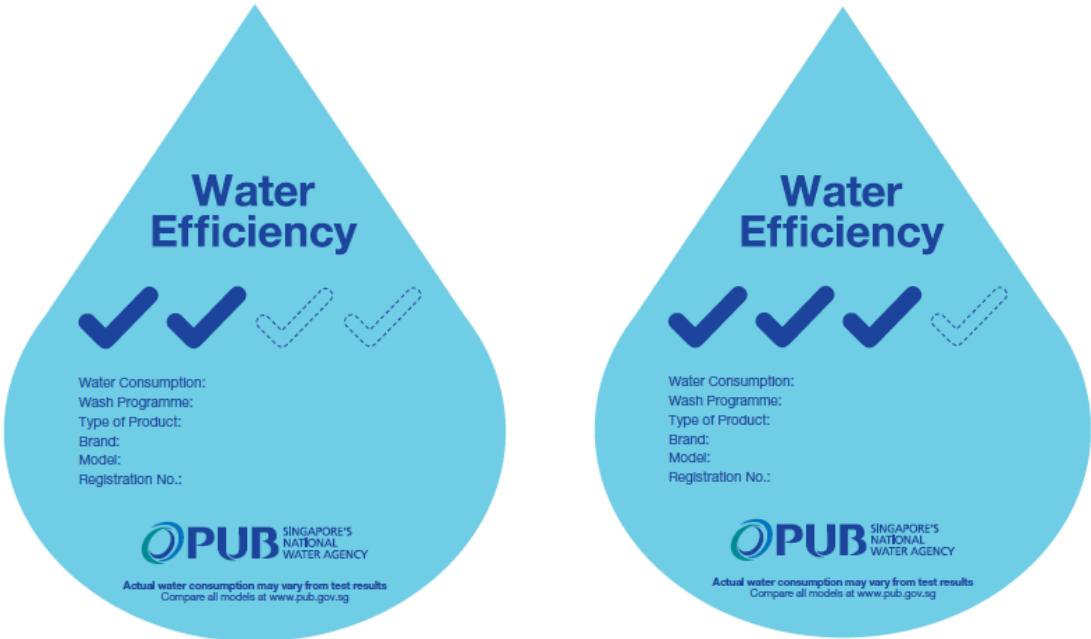
- ii. YYYY – Year of registration
- iii. 000000 – running number issue by the system
- iv. ZZZ – represent of the certification body that certify the product (will be issued by PUB)

DESIGN OF WELS LABELS



Water Efficiency Label for Taps & Mixers, Low Capacity Flushing Cisterns and Urinal Flush Valves, Water Closet Flush Valves & Waterless Urinals (Mandatory WELS)

DESIGN OF WELS LABELS

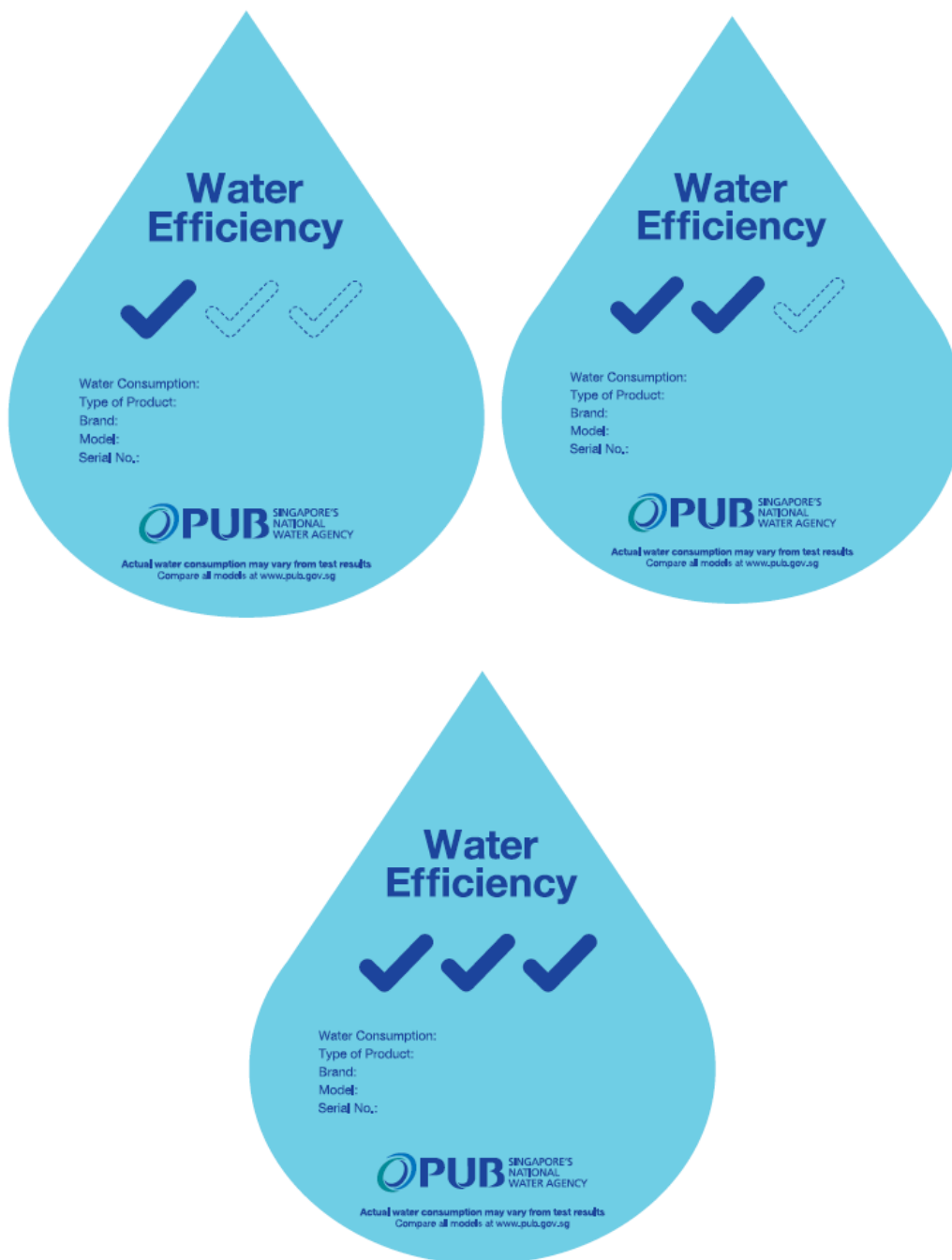


Water Efficiency Label for Clothes Washing Machines and Dishwashers for household use (Mandatory WELS)

DESIGN OF WELS LABELS

C = 51, M = 0, Y = 9, K = 0
Pantone 2746
C = 100, M = 90, Y = 0, K = 0

Approx size: 8.3 cm x 10.5 cm



Water Efficiency Label for Showerhead (Voluntary WELS)

Extracted from the Public Utilities (Water Supply) Regulations

Restrictions on advertisements for supply of specified water fittings

40AB.—(1) A person must not advertise a specified water fitting for supply unless the specified water fitting is registered under regulation 40AE(3).

(2) Without affecting paragraph (1), the person advertising the specified water fitting —

(a) where the advertisement has any visual element, must ensure the following:

(i) for an advertisement other than a print advertisement —

(A) a Water Efficiency Label is, as far as practicable, displayed in the advertisement next to the image or description of the specified water fitting; or

(B) where it is not practicable to comply with sub-paragraph (A), all the information contained in the Water Efficiency Label is stated in the advertisement;

(ii) for an advertisement that is a print advertisement —

(A) the advertisement complies with sub-paragraph (i); or

(B) the information mentioned in paragraph (2A) is stated in the advertisement; and

[S 192/2019 wef 01/04/2019]

(b) must not claim or imply that the specified water fitting is tested, certified, or otherwise approved by the Government or the Board.

(2A) The information required in paragraph (2)(a)(ii)(B) is as follows:

(a) the tick rating of the specified water fitting;

(b) the brand of the specified water fitting;

(c) the model number of the specified water fitting;

(d) the number issued by the Board for the specified water fitting's registration under regulation 40AE.

[S 192/2019 wef 01/04/2019]

(3) Any person that contravenes paragraph (1) or (2) shall be guilty of an offence.

[S 133/2017 wef 01/04/2017]

=====

Extracted from the Public Utilities (Water Supply) Regulations

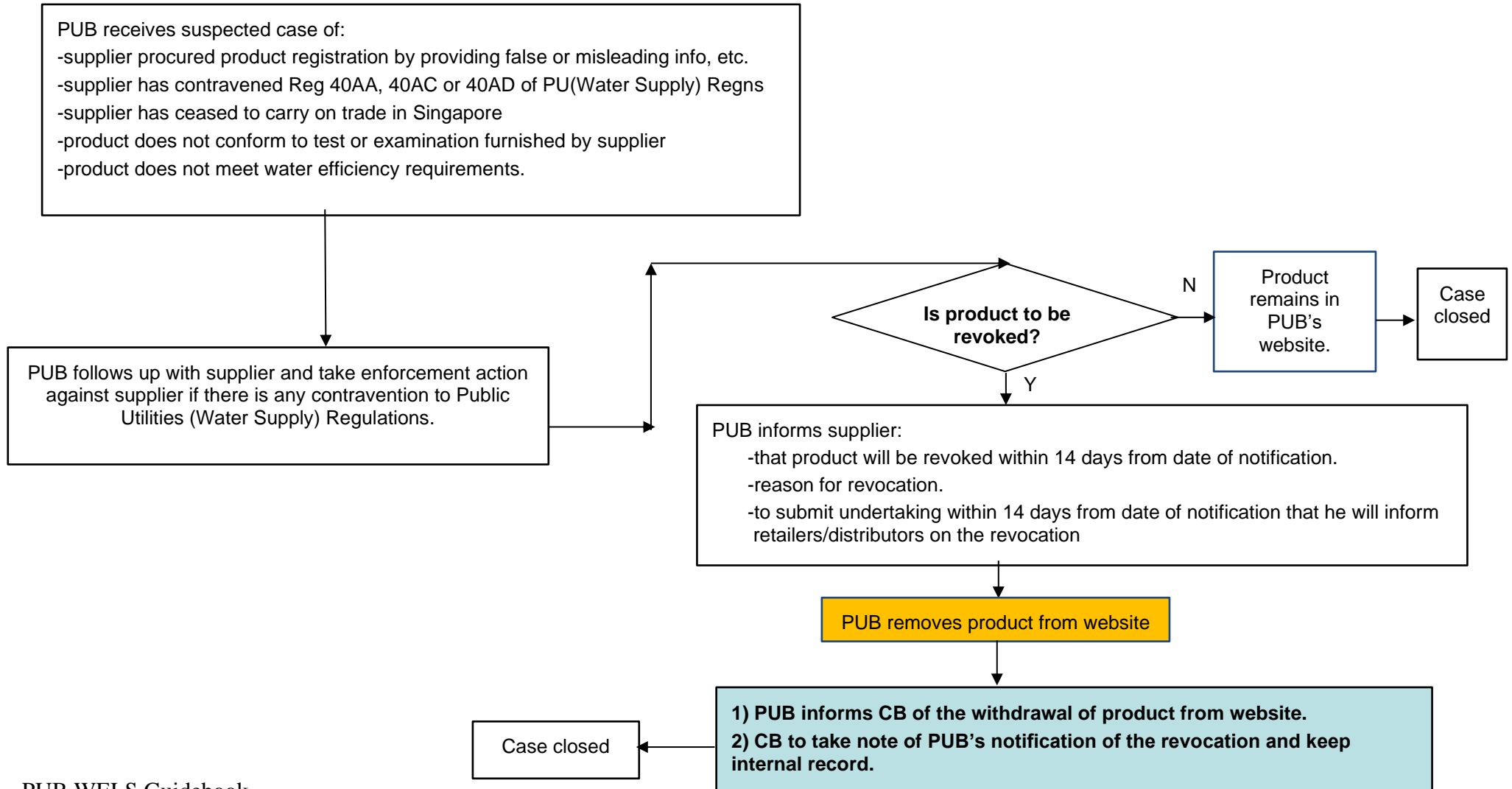
Restrictions relating to Water Efficiency Label

40AD.

- (1) A person must not affix, or cause to be affixed, a Water Efficiency Label on a specified water fitting unless —
 - (a) the specified water fitting has been registered by the Board;
 - (b) the person is a registered supplier for the water fitting; and
 - (c) the Water Efficiency Label was issued to the person by the Board for the registered water fitting.
- (2) A registered supplier must, before supplying the registered water fitting in Singapore, affix the Water Efficiency Label in accordance with the requirements in paragraph (3).
- (3) A Water Efficiency Label must be affixed on a registered water fitting in accordance with the following requirements:
 - (a) where the Water Efficiency Label is not printed onto the packaging of the registered water fitting, the Water Efficiency Label must be affixed securely on the registered water fitting or its packaging;
 - (b) the place where the Water Efficiency Label is affixed must be conspicuous and unobstructed.
- (4) A person must not —
 - (a) alter in any way any Water Efficiency Label that is to be or is affixed on a registered water fitting;
 - (b) forge or falsify any Water Efficiency Label; or
 - (c) without reasonable excuse, remove, obscure or deface any Water Efficiency Label affixed on any registered water fitting.
- (5) Any person that contravenes paragraph (1), (2) or (4) shall be guilty of an offence.

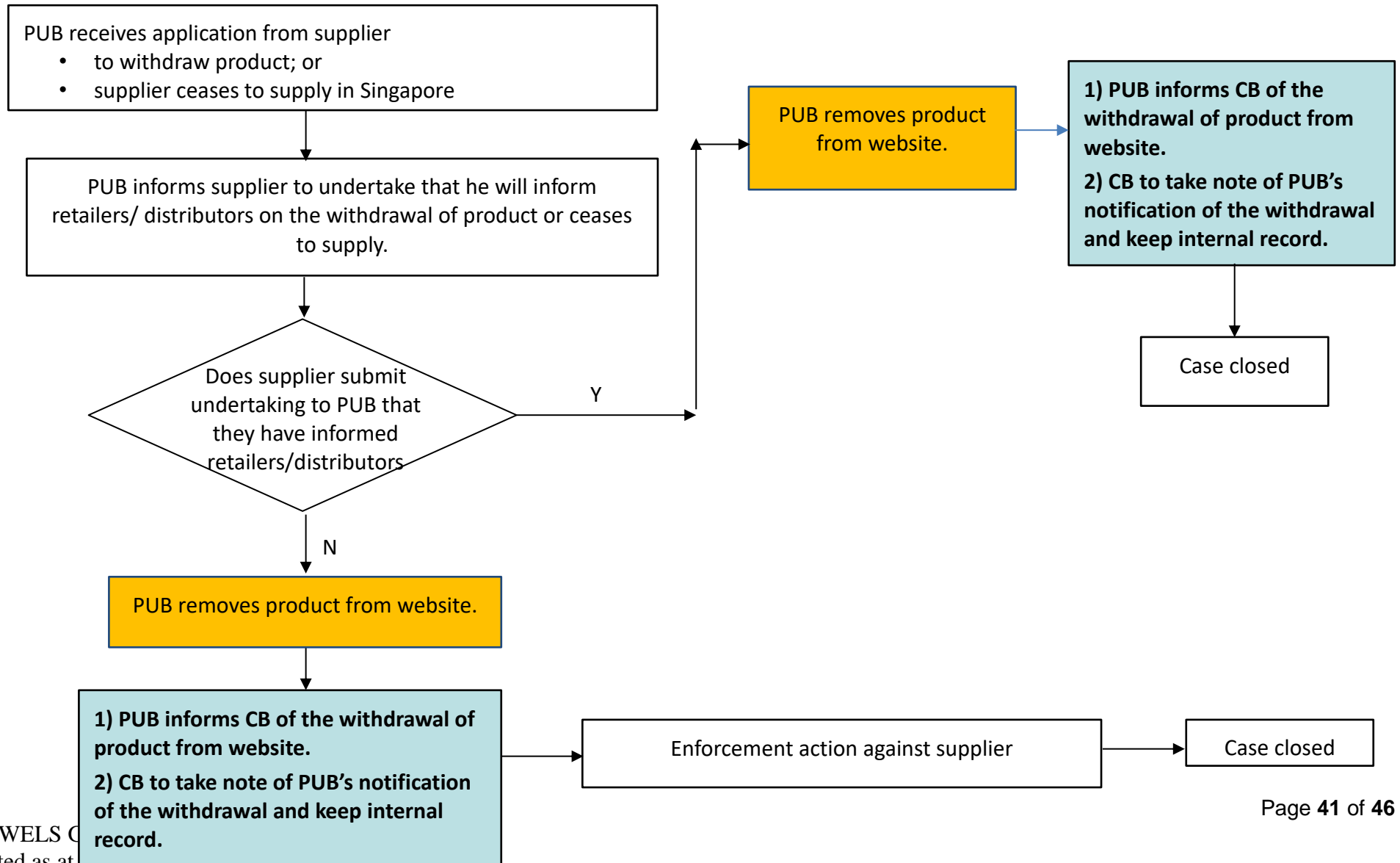
=====

Workflow of Revocation of Product

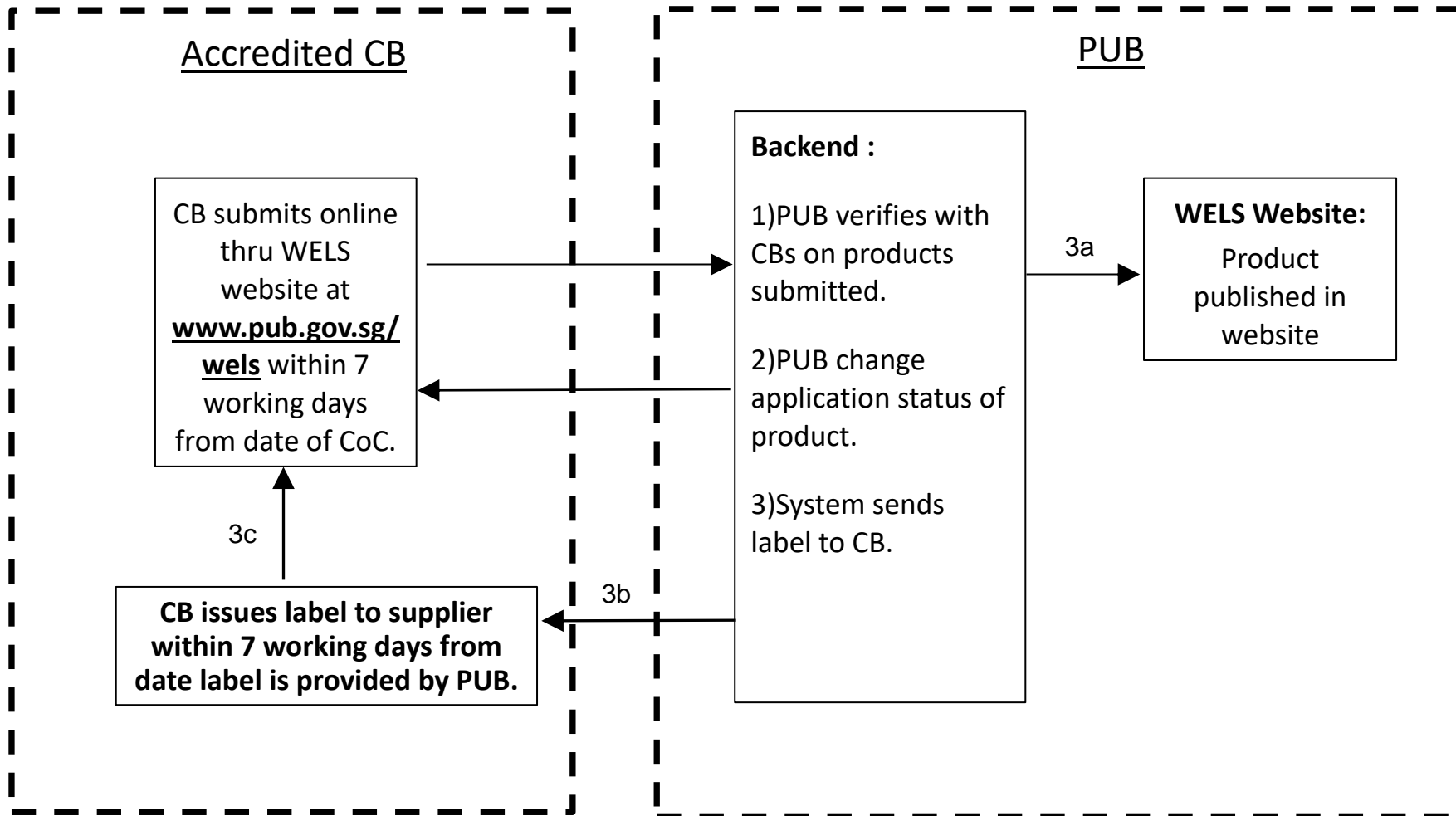


Workflow of Withdrawal of Product

Annex 4b





Registration of Certified Product Information and Water Efficiency onto PUB's WELS System



3b – Auto-generated email sent to Accredited CB to download label for their records.

Example of display of 4 essential water efficiency label information for printed advertisements only.

A) Display clear, legible and colour label	OR	B) Display only 4 essential water efficiency label information for printed advertisement only
<p>To display the water efficiency label next to the image or description of the product.</p> 		<p>Only 4 essential information needs to be displayed <u>without the need for the Water Efficiency Label</u></p> 



Added on 14 May 19

	Tick Rating: ✓ ✓, Water consumption: 2.5 litre/min Brand: ABCD , Model No: 8888 , WELS Registration No: BST-xxx/xxxxx/xxx
--	---

Annex 6b

<p>A) Display clear, legible and colour label</p>	<p>OR</p>	<p>B) Display only 4 essential water efficiency label information for printed advertisement only</p>
<p>To display the water efficiency label next to the image or description of the product.</p>		<p>Only 4 essential information needs to be displayed <u>without the need for the Water Efficiency Label</u></p> <div data-bbox="1429 667 1895 1331" data-label="Image"> </div>

Added on 14 May 19

		<p>Tick Rating: ✓ ✓ ✓, Brand: Samsung, Model No: WW12K8412OW, WELS Registration No: WM-016/019289</p>
---	--	--