



WATER EFFICIENCY LABELLING SCHEME (WELS) GUIDEBOOK

1 Introduction

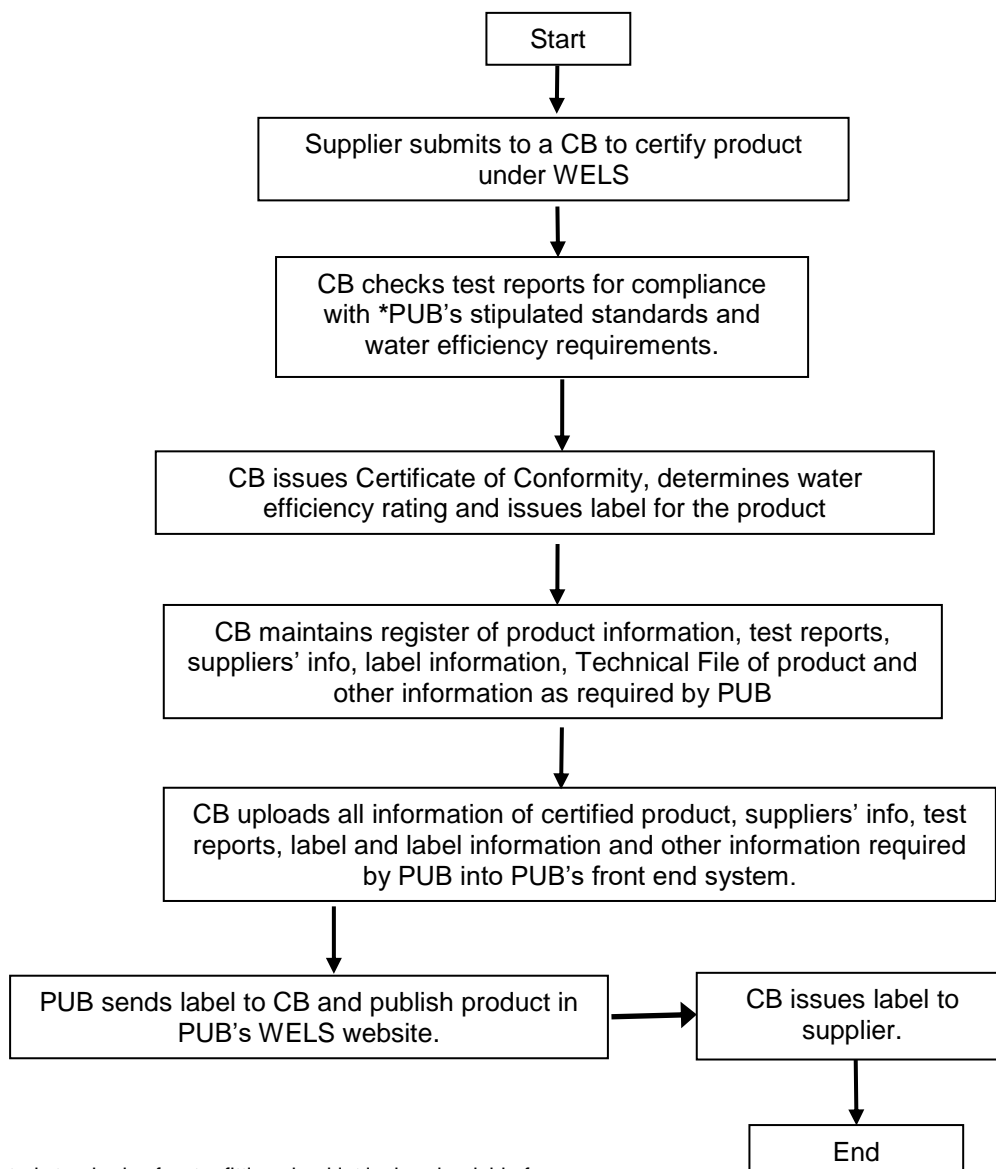
- a. This document is applicable for the following:
 - i. Registered suppliers (manufacturers or importers which includes parallel importers, retailers, sole agents, distributors, wholesalers, etc.) of water fittings, appliances, apparatuses and products which are required to be labelled for water efficiency;
 - 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**.
- 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**.
- 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.**

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 logo or the logo 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 logo or the logo 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.
- e. For list of SAC-SINGLAS accredited test laboratories and its MRA partners, please visit their website at www.sac-accreditation.gov.sg/.

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

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. For foreign companies not registered with ACRA, they may appoint a Singapore-based agent or representative company registered with ACRA to do the application.
- b. Accredited CB shall ensure that every model submitted to them for certification shall contain the information/documents as listed in Table 1 below.

Table 1

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.
2.	Technical File of Product
	Technical File containing: -Complete and valid test reports in full colour -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 -Letter of Authorisation to use test reports -Information on manufacturer (i.e. company name, address, country, etc.)
3.	Product information
	Type of product
	Brand
	Model no.
	- 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.

4. 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>
	Registered Supplier's declaration whether registered product is still being supplied in Singapore.
5. 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
	Designation
	Office No.
	Mobile No.
6. 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)

- 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.

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.

*CB – Accredited CB for WELS

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.
- 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

1. The designs of the labels for the Mandatory WELS are specified in Part 2 of Second Schedule of the Public Utilities (Water Supply) Regulations.
2. 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

1. 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.
2. 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

1. The water efficiency label shall be used only for the registered models as published in PUB's website.
2. 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.
3. 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.
4. 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.
5. 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.

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

1. 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 Table 2 below.

Table 2

Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓	4-tick ✓✓✓✓
Mandatory WELS				
Products/Fittings	Flow Rate/Flushing Capacity			
Shower Taps & Mixers	> 7 to 9 litres/min	> 5 to 7 litres/min	5 litres/min or less	NA
Basin Taps & Mixers	> 4 to 6 litres/min	> 2 to 4 litres/min	2 litres/min or less	NA
Sink/Bib Taps & Mixers	> 6 to 8 litres/min	> 4 to 6 litres/min	4 litres/min or less	NA
Flushing Cisterns (Per Flush)	Dual Flush: > 4 to 4.5 litres (full flush) > 2.5 to 3 litres (reduced flush)	Dual Flush: > 3.5 to 4.0 litres (full flush) > 2.5 to 3 litres (reduced flush)	Dual Flush: 3.5 litres or less (**) (full flush) 2.5 litres or less (reduced flush)	NA
Urinal Flush Valve & Waterless Urinals (Per Flush)	> 1 to 1.5 litres	> 0.5 to 1 litres	0.5 litres or less(**) or waterless urinals	NA
Products/Fittings	Wash Volume			
Clothes Washing Machines for	NA	> 9 to 12 litres/kg	> 6 to 9 litres/kg	6 litres/kg or less

Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓	4-tick ✓✓✓✓
household use (Per Washload)				
Dishwashers for household use (Per Place Setting)	>1.2 to 1.5 Litres	>0.9 to 1.2 Litres	>0.6 to 0.9 Litres	0.6 litres or less
Voluntary WELS				
Products/Fittings	Flow Rate			
Showerheads	> 7 to 9 litres/min	> 5 to 7 litres/min	5 litres/min or less	NA

(++) To pass laboratory simulation test on waste transportation efficiency in pipes prescribed by PUB if full flush volume is less than 3.5 litres.

(**) To pass the Dye Test specified in Clause 10.5 of the ASME A112.19.2-2003 or Clause 8.5 of the ASME A112.19.2-2008/CSA B45.1-08 if flush volume is less than 0.5 litres.

The water fittings and appliance covered under WELS are shown in Table 3 below.

Table 3

	Covered under MWELS	Covered under VWELS	Remarks
Basin Taps and Mixers	Yes	-	a) Same flow rate test report is acceptable if the new model and tested model have the same body design but different in; <ul style="list-style-type: none"> - finishing / colours; or - handle 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.
Sink Taps and Mixers	Yes	-	
Bib Taps and Mixers	Yes	-	
			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.
			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.
Dual Flush Low Capacity Flushing	Yes	-	For concealed cistern type:

	Covered under MWELS	Covered under VWELS	Remarks
Cisterns (Dual Flush LCFCs)			<ul style="list-style-type: none"> a) Same test report is acceptable if the new model and tested model have different; b) Frame (with or without frame); or c) Height of frame; or d) Face plate design. e) Differences must be indicated in test reports. f) Models nos. of new and tested products must be different.
Urinal Flush Valves	Yes	-	<ul style="list-style-type: none"> a) Same test report is acceptable if the new model and tested model have different face place design. b) Differences between new and tested model must be indicated in test reports. c) Models nos. of new and tested products must be different. 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.
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) & Shower taps and mixers (exposed type)	Yes	-	<ul style="list-style-type: none"> 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. 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; <ul 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.

	Covered under MWELS	Covered under VWELS	Remarks
			<p>e) Models nos. of new and tested products must be different.</p> <p>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.</p>
Bidet taps and mixers	No	-	-
Flush valves for Water Closets (WCs)	No	-	-

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, #10-01
 Singapore 228231
 Tel: 1800-2255 782 (PUB-One)
 Tel : 65172925 / 65172934 / 65172932 / 68852972 / 68852521
 Fax: 67313023
 Email: pub_waterfittings@pub.gov.sg

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

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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:

First column		Second column	Third column
Specified water fitting		Type	Applicable test standard or method
(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) 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

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>or</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>

2. 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.
3. 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.
4. 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.
5. With reference to the Table in paragraph 1 of Part 1 of Second Schedule of the Public Utilities (Water Supply) Regulations, test report for thermostatic mixer for basin, sink, bib or shower containing the results of tests carried out in accordance with Section 10 of BS EN 1111:1999 is also acceptable.
6. 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.

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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 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 the lower 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 1.5 litres per minute;
 - (ii) for a sink tap and mixer with a flow rate falling within the range of flow rates specified 1 tick or 2 ticks, must not be lower than the lower 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
 - (iii) for a basin tap and mixer, bib tap and mixer, shower tap and mixer, must not be lower than the lower 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;
 - (d) have a flow rate as follows:
 - (i) for basin tap and mixer, not more than 6 litres per minute;
 - (ii) for a sink tap and mixer or bib tap and mixer, not more than 8 litres per minute;
 - (iii) for a shower tap and mixer, not more than 9 litres per minute.
2. Every flushing cistern or flush valve must be of such a design as to use not more than the amount of water specified in paragraph 18(1), (2) or (5) of the First Schedule, as the case may be.
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.

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

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>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)	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.

*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]

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) :

[*Example*

SS 448 : YYYY

SS 375 : YYYY, etc.

SAC CT _____: YYYY]

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

TO CERTIFICATE OF CONFORMITY NUMBER:

Vendor:

Name of Vendor

Address

Issue Number:

Date of Issue: DD-MM-YYYY

Brand	Model	Flowrate / Water Consumption	Water Efficiency Rating	Remarks

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:

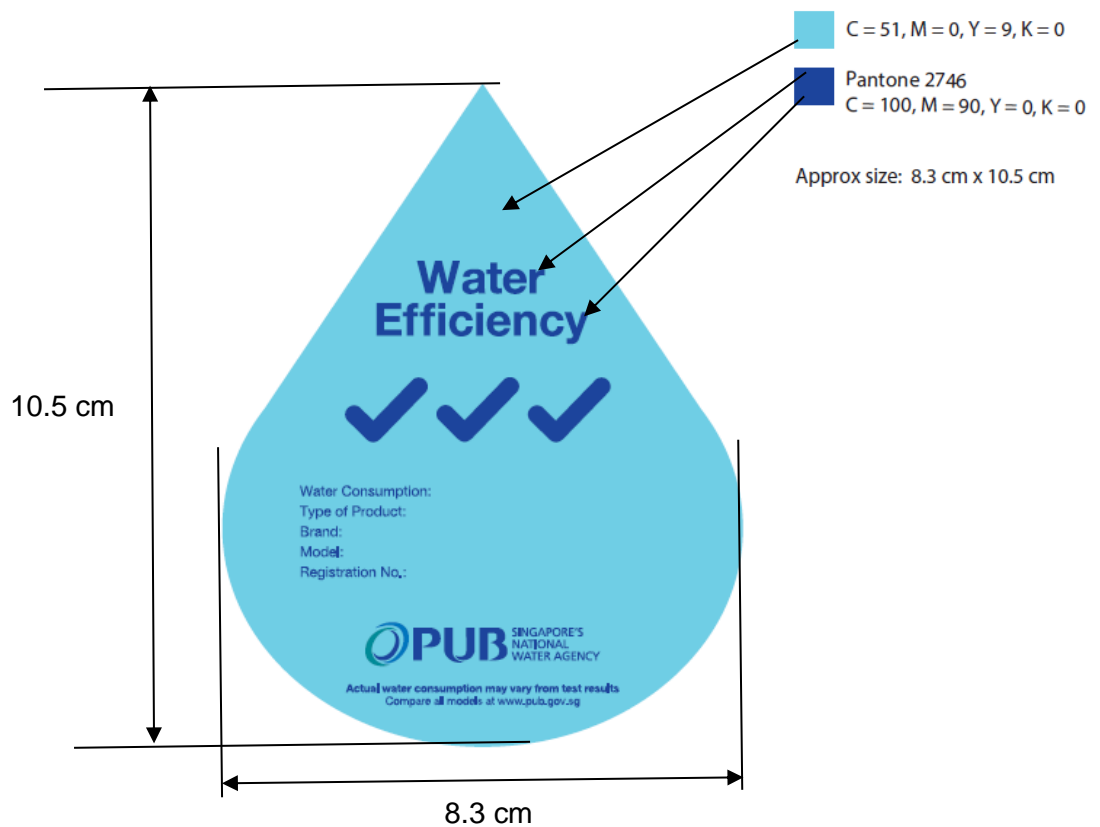
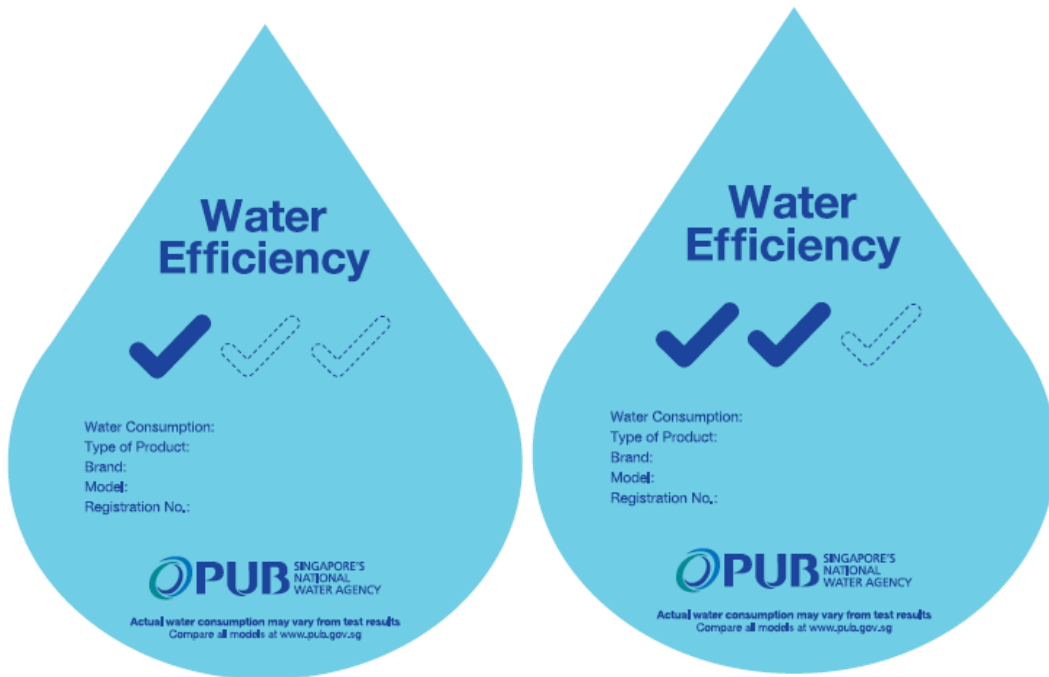
- a) The title “Water Efficiency”
- b) Ticks that indicate the water efficiency rating of the labelled water fitting, appliance, apparatus or product
- c) Water Consumption
- d) Type of product (To indicate type of water fitting, appliance, apparatus or product)
- e) Brand name
- f) Model number
- g) 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
I	Shower Tap & Mixer	SHT
II	Basin Tap & mixer	BST
III	Sink/Bib Tap & Mixer	SKT/BT
IV	Low Capacity Flushing Cisterns	WC
V	Clothes Washing Machine	WM
VI	Dishwasher	DW

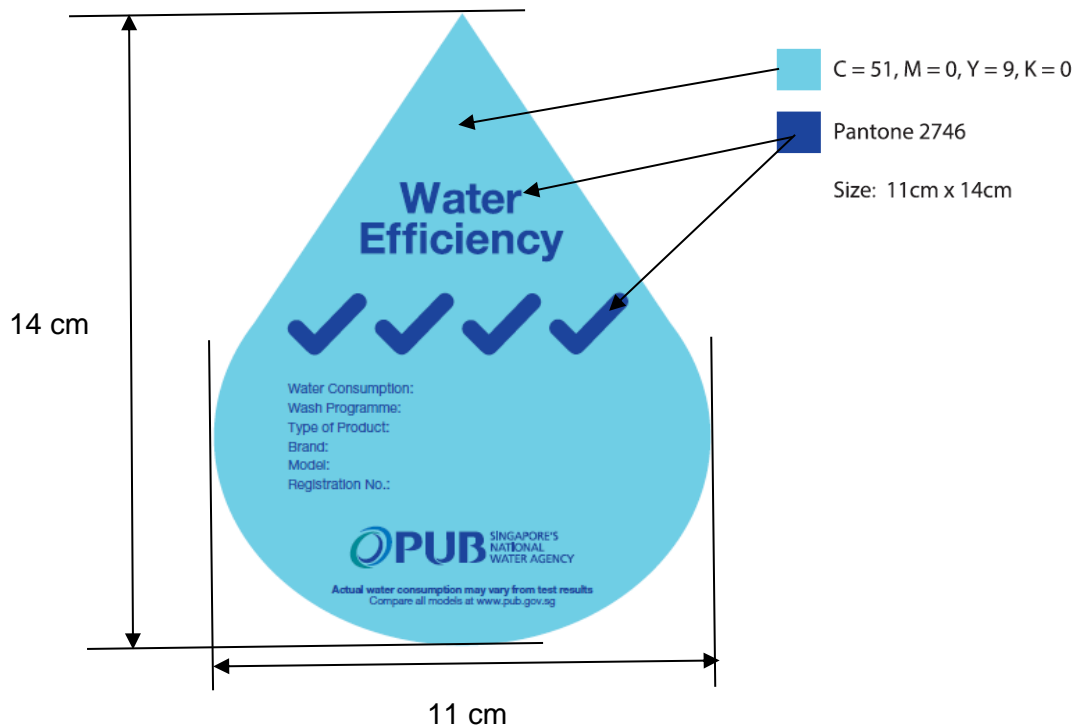
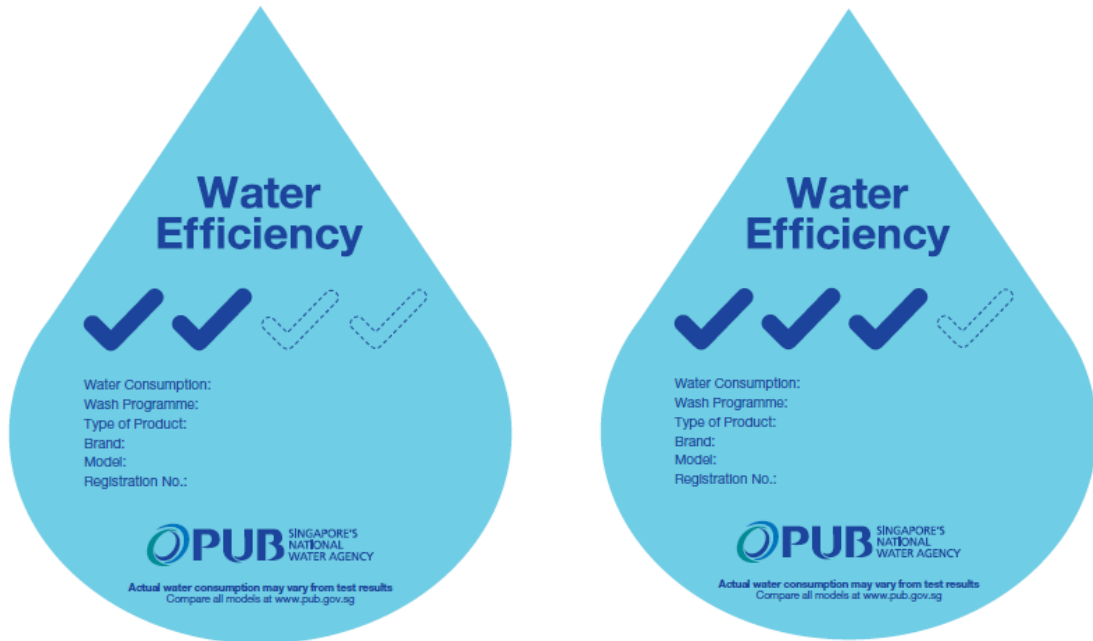
- ii. YYYY – Year of registration
- iii. 000000 – running number issue by the system
- iv. ZZZ – represent of the certification body that certify the product (will be issued by PUB)

DESIGN OF WELS LABELS



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

DESIGN OF WELS LABELS



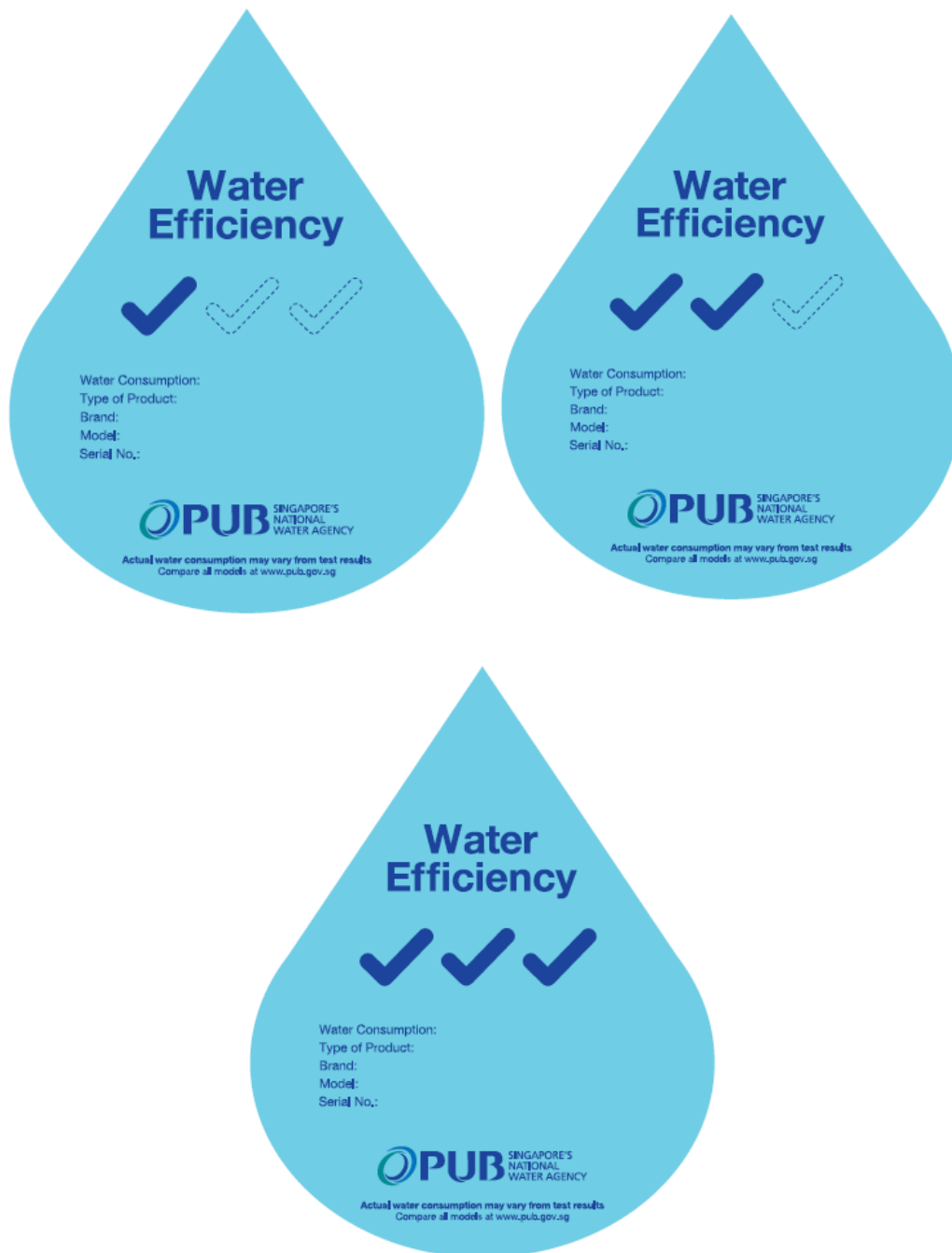
Water Efficiency Label for Clothes Washing Machines and Dishwashers (Mandatory WELS)

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 that —

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

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

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

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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).

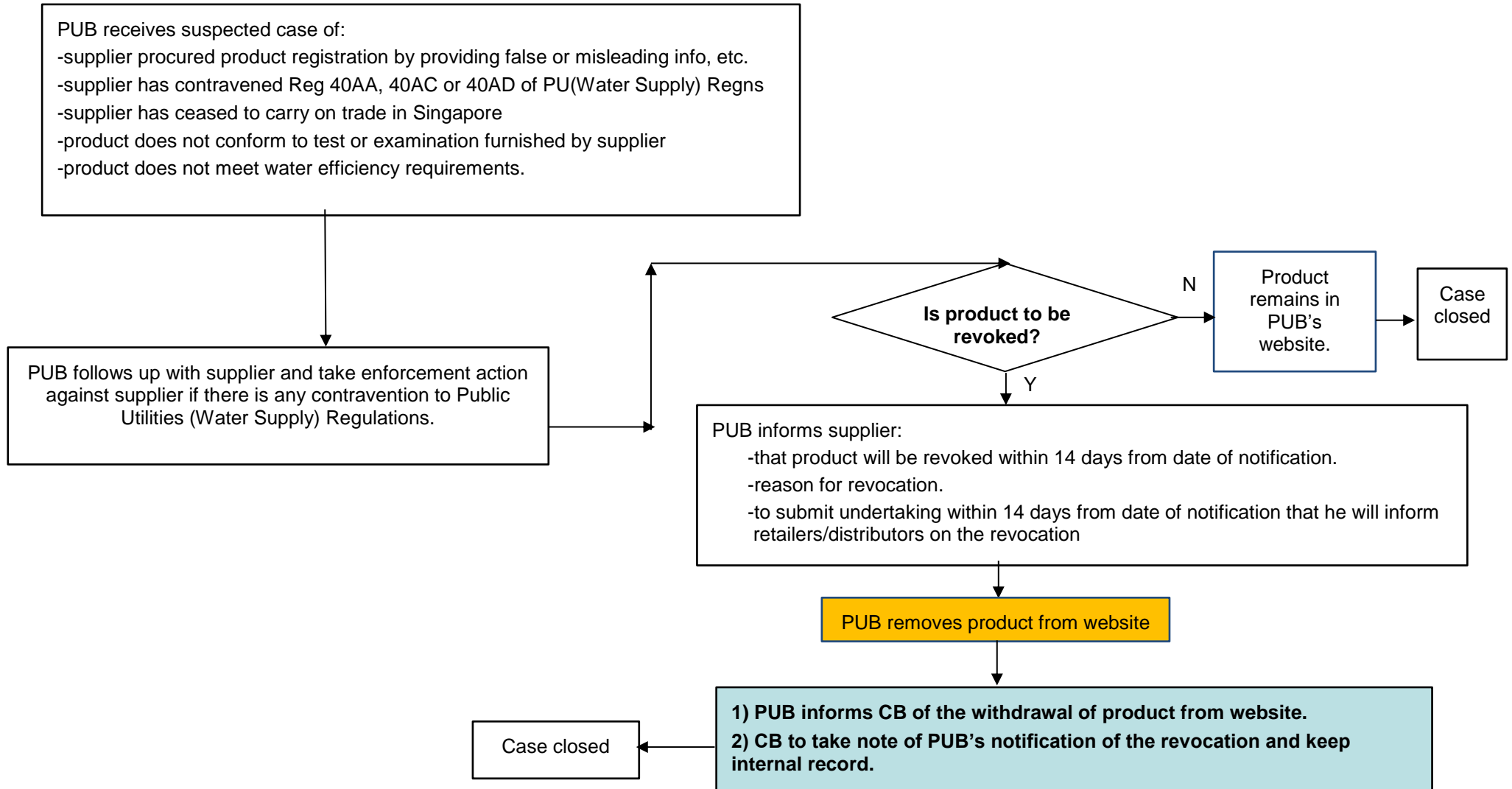
- (3) A Water Efficiency Label must be affixed on a registered water fitting in accordance with the following requirements:
 - (a) where the Water Efficiency Label is not printed onto the packaging of the registered water fitting, the Water Efficiency Label must be affixed securely on the registered 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.

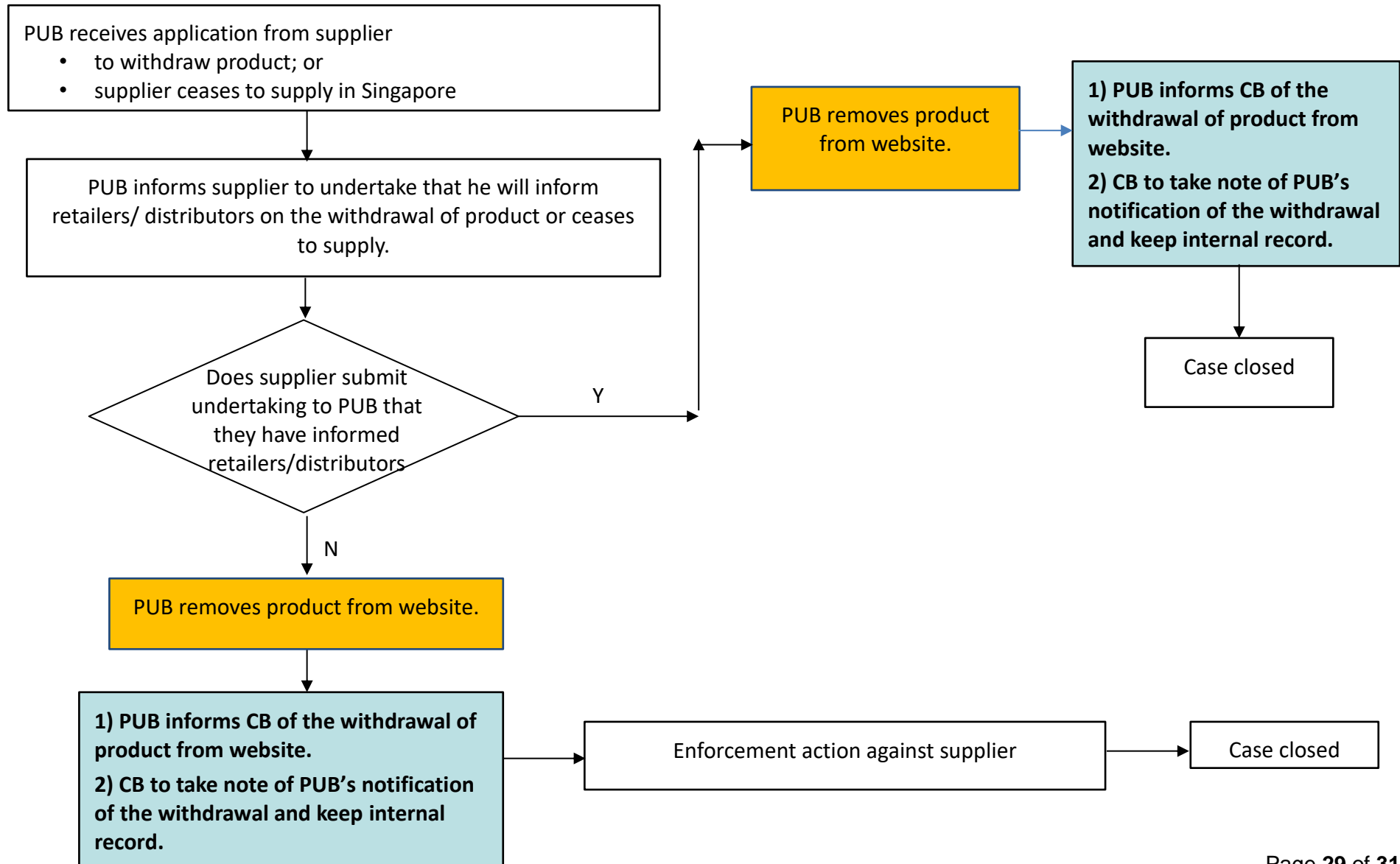
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Workflow of Revocation of Product

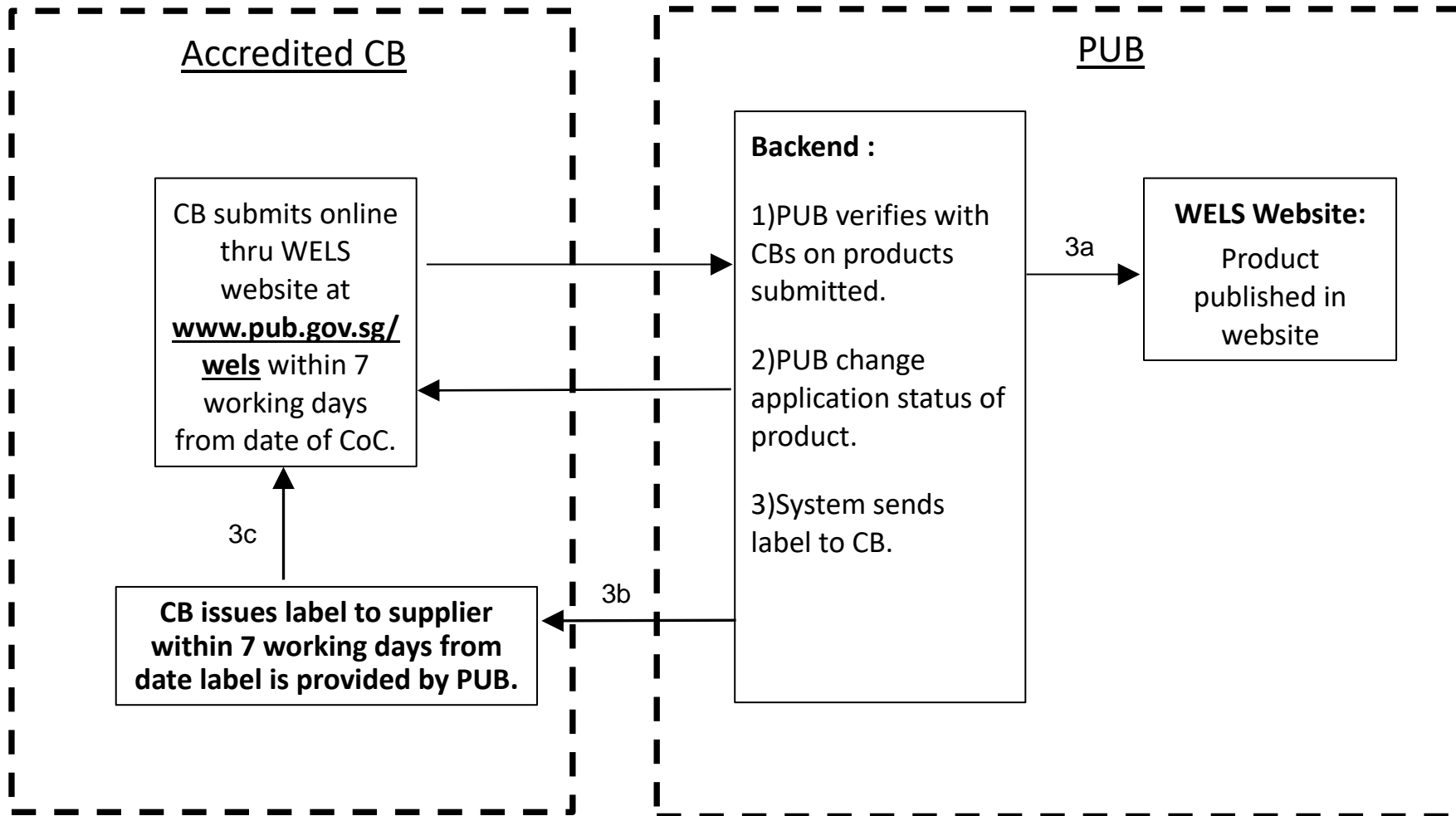


Workflow of Withdrawal of Product

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.

3c – CB is required to issue label to supplier. Please also read Clause 9 of the WELS Guidebook.