



水務署
Water Supplies Department

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Reference (11) in WSD 3318/50 Pt.6

14 June 2017

Distribution: To all Licensed Plumbers and Authorized Persons

Dear Sirs,

WSD Circular Letter No. 6/2017

Systematic Flushing for New Plumbing Works

The Water Authority (öWAö) introduces a systematic flushing protocol (as detailed in Paragraph 2 of this Circular Letter) for adoption in newly installed inside services for potable water purposes in unoccupied buildings¹ and village houses. For newly installed inside services for potable water purposes in occupied buildings, for which the implementation of systematic flushing protocol is generally considered not practicable, a protocol on pretreatment of fittings²/adoption of fittings³ with low leaching rate as detailed in WSD Circular Letter No. 5/2017 shall be adopted. The Water Supplies Department (öWSDö) has consulted the Technical Committee on Plumbing on the introduction of the systematic flushing protocol.

¹ Re-plumbing works carried out in completely vacated existing buildings are regarded as new plumbing works for the purpose of this Circular Letter.

² The protocol of pretreatment of fittings is set out in Appendix I of WSD Circular Letter No. 5/2017.

³ Low leaching rate fittings are fittings tested by öExtraction of Metalö tests stipulated in AS/NZS 4020:2005. The maximum allowable concentrations of the metals (Lead, Nickel, Chromium and Cadmium) shall not exceed the limits specified by the World Health Organisation (WHO) Guidelines for Drinking Water Quality.

Plumbing Works in Unoccupied Buildings

2. The building contractors/Licensed Plumbers (LP) are required to carry out three flushing cycles according to the following systematic flushing protocol [each cycle consists of steps (i) to (iv) below] for the completed inside services to cleanse the newly installed plumbing system-

- (i) Thoroughly flush the inside services at drinking water tap(s);
- (ii) Allow the water to stand for at least 3 hours;
- (iii) Thoroughly flush the inside services at drinking water taps(s) after (ii);
and
- (iv) Allow the water in the inside services to stand overnight for at least 12 hours.

The inside service shall be thoroughly flushed again at drinking water tap(s) upon completion of all systematic flushing cycles. This will help amongst others, further reduce the leaching of heavy metals from new metal pipe fittings before the new plumbing system is put into use.

3. To suit construction programme of individual plumbing works, the LPs may opt to carry out the systematic flushing before or after issuance of Form WWO 46 Part V by the WA. The responsible LP is required to submit to the WA an undertaking of carrying out the systematic flushing using the form in Annex I Part A of this Circular Letter together with Form WWO 46 Part IV. The responsible LP is also required to submit to the WA the report in Annex I Part B of this Circular Letter within 1 month after the issuance of Form WWO 46 Part V by the WA to confirm that systematic flushing on the plumbing works has been carried out. If the responsible LP fails to submit the report in Annex I Part B by the prescribed time mentioned above and/or it is found during WSD's random inspection that the systematic flushing has not been carried out, all other new plumbing projects undertaken by the responsible LP and covered by WSD Circular Letter No. 4/2017 "Random Inspection of New Plumbing

Works during Construction Stage⁴ will be given a higher weighting of being selected for random inspection. To facilitate the implementation of the systematic flushing before water supply is effected, the WSD will introduce a new arrangement for the LPs to apply for provision of temporary water supply if considered necessary by the LPs. Details of the arrangement are at **Annex II**.

4. This requirement will apply to all new plumbing works with Form WWO 46 Part IV submitted on or after 31 July 2017.

Plumbing Works in Occupied Buildings

5. For newly installed inside services for potable water purposes in occupied buildings, for which the implementation of systematic flushing is generally considered not practicable, the responsible LPs are required to arrange for pretreatment of fittings/adoption of fittings with low leaching rate in accordance with WSD Circular Letter No. 5/2017 which shall be applicable to works with tenders invited, or Form WWO 542 submitted (whichever is earlier), on or after 31 July 2017. In this connection, the applicants shall provide documentation proof of tenders invited, if applicable.

Enquiry

6. Should you have any enquiry, please contact our Engineer/Technical Support(4) at telephone no. 3428 5814.

Yours faithfully,

(Original signed)

(CHAN Chung Kun)
for Water Authority

Encl. (with Chinese translation)

⁴ The WSD Circular Letter No. 4/2017 stipulates a one-year pilot scheme for the random inspection of fresh water plumbing works under construction on a risk-based approach with effect from 1 April 2017, which covers new plumbing works in domestic buildings and buildings for sensitive consumers such as hospital, clinic, convalescent home, elderly home, school etc.

c.c.

Housing Department (Attn: SM/QM)

Buildings Department

Architectural Services Department

Fire Services Department

The Hong Kong Housing Society

The Hong Kong Institute of Architects

The Hong Kong Institution of Engineers

The Hong Kong Institute of Surveyors

The Chartered Institute of Plumbing and Heating Engineering - Hong Kong Council

Hong Kong Plumbing and Sanitary Ware Trade Association Ltd

Hong Kong Licensed Plumbing Professionals Association Ltd

Hong Kong Plumbing General Union

Hong Kong Water Works Professionals Association Ltd

The Hong Kong Institution of Plumbing and Drainage Ltd

Plumbing Technology Student Association

The Association of Registered Fire Service Installation Contractors of Hong Kong Ltd

Real Estate Developers Association of Hong Kong

Hong Kong Institute of Vocational Education

Construction Industry Council

Hong Kong Construction Association Ltd

Registered Minor Works Contractor Signatory Association Ltd

Hong Kong Registered Contractors Association Company Ltd

Building Services Operation and Maintenance Executives Society

The Hong Kong Air Conditioning and Refrigeration Association Ltd

Hong Kong General Building Contractors Association

Hong Kong Federation of Electrical and Mechanical Contractors Ltd

Contractors Authorised Signatory Association Limited

WSD 3318/15/81

Part A

Undertaking of carrying out systematic flushing in new plumbing works

To the Water Authority,

We hereby undertake that systematic flushing will be carried out in the Approved Plumbing Works covered by Form WWO 46 Part IV (ASN No. _____) using the prescribed systematic flushing protocol set out in WSD Circular Letter No. 6/2017.

Signature of Licensed Plumber

Name in full

Plumber's License No.

Date: _____

Part B

Report on the systematic flushing carried out for the new plumbing works

To the Water Authority,

We hereby confirm that systematic flushing has been carried out and was completed on _____ (date) for the Approved Plumbing Works inspected by Water Authority and covered by Form WWO 46 Part V (ASN No. _____) using the prescribed systematic flushing protocol set out in WSD Circular Letter No. 6/2017.

Signature of Licensed Plumber

Name in full

Plumber's License No.

Date: _____

Provision of Temporary Water Supply for Systematic Flushing

To facilitate the implementation of the systematic flushing protocol, the WSD will introduce the following arrangement for the LPs to apply for provision of temporary water supply when water supply has not yet been effected:-

Buildings

- (1) LP submits one Form WWO 542 for water supply to buildings and another Form WWO 542 for "construction meter for flushing purpose" (flushing meter) to WSD;
- (2) The LP reports partial completion (Form WWO 46 Part IV) for the sections of inside service for drinking water purposes from the connection to the sump tank as well as the parts with direct water supply, if any;
- (3) WSD will then carry out inspection on these completed sections;
- (4) If no irregularity is found in the inspection and with the support of satisfactory water sampling test results at the connection point, the LP can collect flushing meter and install it at master/check meter position. WSD will then effect water supply to the connection point for flushing purpose;
- (5) Upon completion of the remaining parts of the inside service, the LP will report completion to the WSD for the arrangement of a final inspection;
- (6) If no irregularity is found by the WSD and the water sampling tests for the remaining parts of inside service at the locations designated by WSD are satisfactory, LP can submit Form WWO 243 to terminate consumership of flushing meter with a record of its final meter reading. Form WWO 243 should only be specified with reason "changing to master meter" if flushing meter is installed at master meter position. (If the development is completed in phases, LP then submits another Form WWO 542 for another flushing meter for the next phase);

- (7) WSD will process Form WWO 243, remove the flushing meter if necessary and will issue Form WWO 46 Part V to the LP accordingly if the above are completed in order.
- (8) The LP shall submit the completed Meter Installation Table showing the updated meter reading after carrying out the systematic flushing of the new plumbing works and before issuance of Form WWO 46 Part V/Form WWO 1005 by WSD instead of at the time of submission of Form WWO 46 Part IV. The LP is also required to provide assistance to WSD for conducting the meters arrangement check.

Village Houses

- (1) LP submits one Form WWO 542 for water supply to new premises and another Form WWO 542 for "construction meter for flushing purpose" (flushing meter) to WSD and WSD will determine the appropriate type of meter required. In general, a section of exposed pipe between meter box and the connection point should be designed for installing two non-return valves and the meter for flushing purpose;
- (2) The LP reports completion (Form WWO 46 Part IV) for the whole inside services for drinking water purposes for WSD's inspection;
- (3) WSD will then carry out final inspection on these completed inside services;
- (4) If no irregularity is found, the LP can collect flushing meter and install it with double non-return valve arrangement on the exposed pipe between meter box and the connection point. WSD will then effect water supply to the connection point for flushing purpose;
- (5) LP conducts systematic flushing and arranges laboratory to take samples at the locations designated by WSD and connection point ;
- (6) If the water sampling tests results are satisfactory, LP can submit Form WWO 243 to terminate consumership of flushing meter with a record of its final meter reading and return the flushing meter to WSD. If the development is completed in phases, LP then submits another WWO 542 for another flushing meter for the next phase.

- (7) WSD will process Form WWO 243, issue domestic water meters and will issue Form WWO 46 Part V to the LP accordingly if the above are completed in order.