



Flexible spray hoses

This technical note provides information on the appropriate backflow prevention requirements when installing flexible spray type hoses in close proximity to toilet pans and other soil fixtures. This practice may result in cross contamination and the introduction of substances into the drinking water supply that are of high hazard to human health.

Applicable legislation

AS/NZS 3500.1:2018, clause 4.2.2 states that no device or system that may cause contamination of a water supply shall be connected directly or indirectly to any part of a water service without appropriate cross-connection or backflow prevention control, suitable for the degree of hazard. Additionally AS/NZS 3500.1:2018, clause 4.4.3 requires a hose tap within a zone protected area to have the same level of backflow protection. This means it is the licensed plumbing contractor's responsibility to assess any potential hazard that may be caused by the installation of hose taps and flexible hoses. This applies in new and existing buildings as the scope of the plumbing standards covers alterations, additions and repairs to plumbing services.

Definition of high hazard rating

The definition of a high hazard is as follows:

'Any condition, device or practice that, in connection with the water supply system has the potential to cause death'.

Installation

With the increase in flexible hoses with spray heads being fitted adjacent to new and existing toilet pans, there is some confusion regarding the type of backflow device that needs to be fitted. If the flexible hose has the capability to enter the toilet pan and remains lodged below the rim of the pan, this constitutes a high hazard cross connection. The danger of cross contamination from this installation shall be removed by means of a backflow protection device appropriate for high hazards.

In the event a licensed plumbing contractor is requested to provide a water point that is capped off for the connection of a flexible hose at a later date, the provisions above shall still apply.

From AS/NZS 3500.1:2018, table 4.4.1 the following testable backflow prevention devices are suitable for the potential high hazard connection with the installation of the flexible spray hose:- reduced pressure zone device (RPZD), registered air gap (RAG) or registered break tank (RBT).



Photo 1: Example of a non-compliant installation

Testing of backflow devices

Testable backflow prevention devices shall be commissioned and tested after installation and prior to service. They shall be maintained in working order and tested for operational function at intervals not exceeding 12 months.

Although there is no regulatory requirement on the licensed plumbing contractor who installs these devices to perform the yearly test, it is their responsibility to ensure a maintenance program is established. This program may be as simple as setting up a reminder system and administered by either the licensed plumbing contractor, the building owner or strata body.

Notes:

1. Backflow prevention devices shall be installed in accordance with AS/NZS 3500.1:2018, clause 4.6.
2. Piping conveying water downstream of a backflow prevention device, installed for high or medium hazard protection, other than a backflow prevention device used for containment, shall be clearly and permanently labelled at every outlet with a prohibition sign conforming to Clause 9.7.2 see example below.
3. For information on potential issues with flexible shower hoses from showers in access facilities see Plumbers Licensing Board technical note Accessible sanitary facilities published May 2019, available from the link below:

www.dmirs.wa.gov.au/building-and-energy

4. Showers with flexible hoses that can fall below the rim of waste fixtures such as basins, baths and showers with hobs is considered a low hazard cross connection. The risk of cross contamination from this installation shall be removed by means of a backflow protection device appropriate for low hazards, for example a dual check valve.



Photo 2: Reduced pressure zone device (RPZD)



Photo 3: Example of a not for drinking warning sign

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) applicable to plumbing work in Western Australia.

Each technical note is to be read in conjunction with Part 6 of the Regulations that currently adopt the Plumbing Code of Australia (PCA) and the deemed to satisfy provisions of AS/NZS 3500:2018, parts 0, 1, 2 and 4 but modified in certain matters to suit the State's building approach and other local conditions.

Feedback

The Plumbers Licensing Board welcomes your feedback. If you have any questions on this technical note or any suggestions on any areas of plumbing work that the technical notes should cover, please contact the Board's Senior Technical Officer on (08) 6251 1377.

Copies

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