

MOVING FORWARD WITH BACKFLOW

DIRTY WATER RETURNING TO A CLEAN AND SAFE WATER SOURCE HAS THE POTENTIAL TO CAUSE SICKNESS AND EVEN FATALITY TO AN UNSUSPECTING RESIDENT TAKING A DRINK FROM THEIR KITCHEN TAP.

Have you ever had a drink of tap water and found yourself becoming violently ill? While Australia's potable water may taste questionable at times, in most areas it is extremely unlikely that the water from our taps is unsafe to drink. There are two major reasons for this. Firstly, the products used to transfer and convey our potable water have been tested and screened as fit for purpose through the mandatory WaterMark scheme. The other not so commonly known reason is Australia's rigorous backflow prevention.

Backflow can be defined as the movement of water back from the direction it came from, which can lead to disastrous health effects. Even from a single outlet, backflow has the potential to affect thousands of buildings and the people within them.

Backflow prevention is used to protect our water supply network and is controlled in a number of ways. This includes mandatory certification of particular products as well as regulation and inspection of the finished installation. Historically speaking, plumbing products found within dwellings were standardised in design, hence their associated backflow risks were commonly known and easily accounted for. In recent times however, innovations have seen the nature and quantity of plumbing products and fixtures used in dwellings change significantly.

Australian Standards used to certify plumbing products under the Watermark scheme often include appropriate sections to ensure that backflow risks are controlled at a product level. This approach works well in most situations but there are a couple of major areas for concern. A contributor to backflow prevention risk is the rise of many products or appliances that rely on a connection to our potable water supply.

Technology and manufacturing advancements mean products such as drinking water filters, ice-makers, refrigerator water dispensers and even bidet douche seats are much more prevalent in modern homes. And when you include these with other more common appliances such as dishwashers, plumbing connection points for appliances could outnumber regular plumbing connection outlets.

It is important to note that appliances built to connect directly to the potable water mains are required to have mandatory WaterMark certification, which includes the need for integral backflow prevention. There is a downside though. Due to the ease in which these products can be connected, the licensed plumber is often removed from



Backflow can lead to disastrous health effects if not picked up early on in the piece.

the installation process. This leaves the home handyman responsible for ensuring adequate backflow prevention devices are used and installed correctly.

Plumbers play a pivotal role in making sure the customer has purchased a WaterMark certified product but can only do so if they are part of the equation. Unfortunately, DIY installations have also allowed for products to be offered on the market which have avoided the WaterMark certification process entirely.

With many appliances being offered without WaterMark certification, and many non-licensed practitioners taking responsibility for their installation, perhaps backflow prevention needs to be considered from an upstream location where plumbing regulation has more control. In the days gone by, before the introduction of ceramic cartridges, wall stop taps used jumper valves which had an inherent level of backflow associated with the design. Incorporating integral backflow prevention into wall stop taps protects the

water source using a built in plumbing fixture rather than a component of an appliance.

Another major backflow prevention is the manner in which some products are used or installed. Some products that do not require integral backflow prevention for certification may still have potential backflow risks, depending on how they are installed. This sometimes leads to confusion as to where responsibility lies.

Hand showers on flexible hoses, for example, do not require backflow prevention as part of their WaterMark certification. The standard shower connection point is typically 1.7m above the floor level and high enough to ensure a standard 1.5m shower hose poses no threat if left hanging off its mounting position. However, the increasing need for high density suburban developments has seen more showers mounted over a bathtub where a hand piece can now be left submerged in contaminated water. And in more recent years, hand showers are often used in multi-outlet shower assemblies where the hand shower connection is far lower than what could be considered a safe height above the floor level. Such installations have associated backflow risks and although the products may meet Australian Standards, the finished installation does not.

Plumbing inspectors have targeted these installations to determine that the required level of backflow prevention has been identified and provided. This has unfortunately meant that many shower assemblies have been condemned and ordered to be removed from finished bathrooms. Some of Australia's leading plumbing merchants have begun to address this from a product level with the inclusion of backflow prevention as integral components in their products. Plumbers can take comfort in knowing that these products carry no limitations in the manner that they can be installed. When in doubt, it is worth asking and getting confirmation from the merchant/manufacturer that the product will still meet backflow prevention requirements once it is installed.

The industry faces many challenges moving forward with the rapid development of plumbing products, the manner in which they are used, and the credentials of non-licensed practitioners performing the connections. The Australian Building Codes Board (ABCB) is also performing an overall review of the mandatory WaterMark scheme which, in the future, may have some bearing on the backflow prevention of our plumbing supply network. Regardless of any changes, it is up to all stakeholders to play their part - regardless of how trivial some requirements may seem - to secure the long term integrity of Australia's potable water supply. ■

Contact:

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