

AUSTRALIA FORGES AHEAD WITH LEAD REDUCTION REGULATIONS

The Australian Building Codes Board (ABCB) has decided to limit the allowable lead content in plumbing products that contain copper alloys and are for use in contact with drinking water that is intended for consumption. This move has the strong support of leading stakeholders in the Australian plumbing industry.

ABCB is a standards writing body responsible for the [National Construction Code](#), [WaterMark](#) and [CodeMark Australia](#) Certification Schemes. The 2022 edition of the [National Construction Code](#) (NCC) Vol. 3, Plumbing Code of Australia (PCA), introduces a new limit for the allowable level of lead in plumbing products used for drinking water. From 1 May 2026, copper alloy plumbing products containing more than 0.25% lead, on a weighted average basis, will no longer be authorised for installation in a plumbing system used to convey drinking water.

The move by the board comes amid a renewed global push to eliminate lead from drinking water. Australia has a key leadership role to play in achieving this very important global goal.

The use of lead (Pb) in the manufacture of plumbing products has been common practice for many centuries. Throughout much of the world and in Australia, lead is used in plumbing products to improve machinability. Lead is mostly found in copper alloys and can be present in fittings valves, taps, mixers, appliances, water heaters and water dispensers. It can also be found in sprinklers, toilets, boilers, and recycled water systems.

Lead is toxic.

There is an ever-growing and irrefutable catalogue of scientific research and data that clearly shows the direct causal link between lead content in drinking water and irreversible detrimental impacts on human neurological and cognitive development. Lead is a cumulative toxicant and there is no blood lead level that is considered safe. Once lead enters the blood, it is distributed to organs such as the brain, kidneys, liver, and bones. At high levels of exposure, lead has been known to cause coma, convulsion, and death. The health impacts of lead are most profound in children under 4 years of age and pregnant women. At blood lead levels that were previously considered safe, lead is now known to be associated with a spectrum of health consequences that include cognitive impairment, behavioural changes (such as reduced attention span and increased antisocial behaviour), anaemia, hypertension, renal impairment, immunotoxicity and toxicity to reproductive organs. These effects are generally irreversible. People can be exposed to lead from ingestion of airborne dust, water, food, and soil.

The most common source of lead in drinking water is lead leaching from plumbing products, either from within the premises or upstream of the meter.

A5G4**Evidence of suitability – Volume Three (PCA)**

[2019: A5.3]

- (1) Any *product* that is intended for use in contact with *drinking water* must comply with the relevant requirements of AS/NZS 4020, verified in the form of either—
 - (a) a test report provided by an *Accredited Testing Laboratory*, in accordance with AS/NZS 4020; or
 - (b) a *WaterMark Licence* issued in accordance with (3), if it includes compliance with AS/NZS 4020.
- (2) Any *product* that contains copper alloy and is intended for use in contact with *drinking water* must have a *weighted average lead content* of not more than 0.25% verified in the form of either—
 - (a) a test report provided by an *Accredited Testing Laboratory*, in accordance with NSF/ANSI/CAN 372; or
 - (b) a *WaterMark Licence* issued in accordance with (3), if it includes compliance with NSF/ANSI/CAN 372.

Relevant section of NCC 2022 Vol 3 Plumbing Code of Australia

Lead is **currently permitted in small proportions** in the raw materials used to manufacture some plumbing products. Under previous versions of the PCA, and throughout the transition period, products must still comply with the mandatory plumbing product **certification requirements**. This applies not only to plumbing products containing copper alloy that are in contact with drinking water (to which the ABCB's new requirement is limited) but to all potable water contact materials used in plumbing products that are connected to the drinking water supply.

This process involves certification that can be achieved by undertaking laboratory type testing to *AS/NZS 4020, "Testing of products for use in contact with drinking water"* (See relevant extract from NCC Vol 3 above) and is intended to ensure that any lead in water contact materials did not leach into the drinking water supply at a higher rate than the limits outlined in the Australian Drinking Water Guidelines.

Transition period

The new lead-free requirements are mandatory from May 2026, with the three-year transition having commenced on 1 May 2023, for products listed as requiring lead-free certification. The clock is ticking. During the transition period products may be Lead Free WaterMark certified and supplied to the market with the Lead-Free WaterMark trademark; however, it will not be mandatory for identified products to do so until 1 May 2026. This means products certified to the non-lead-free requirements will remain authorised for installation during the transition period.

Lead free or low lead?

A key issue raised in the lead-up to the setting of the new requirements was determining the difference between "lead free" and "low lead" terminology. The ABCB settled on a definition of lead free, which included plumbing products or material in contact with drinking water that has a weighted average lead content of not more than 0.25%. This definition is in line with the definitions of lead free that underpin the regulatory frameworks for lead in the United States, Canada, and other places.

Compliance with the ABCB/NCC requirements

All plumbing products containing copper alloy that are intended for use in contact with drinking water that are listed in the ABCB [WaterMark Schedule of Products](#) and are identified as "Lead-Free Applies" must be WaterMark certified as being "Lead Free" when assessed in accordance with NSF/ANSI/CAN 372 "Drinking Water System Components – Lead Content."

As part of the lead-free assessment, WaterMark Conformity Assessment Bodies (WMCAB) will review technical information such as detailed drawings, bills of materials (BOMs),

material compositions, wetted surface areas and test reports to verify compliance with the lead-free standard. This is in addition to other requirements that products must meet to achieve WaterMark certification; for example, dezincification resistance, AS/NZS4020 for drinking water contact and the relevant performance requirements outlined in the product standard. As per the existing WaterMark Scheme Rules, all lead-free testing related must be undertaken at an accredited laboratory.

While Clause (a) of A5G4 would indicate that compliance can be verified by an accredited NSF/ANSI/CAN 372 laboratory test report, this ONLY applies to plumbing products that are listed in ABCB [WaterMark Schedule of Excluded Products](#) (WMSEP) that are identified as requiring NSF/ANSI/CAN 372 as “Evidence of Suitability.” These are products that do not require WaterMark certification but are still connected to a drinking water supply. Examples of such products listed on the WMSEP include refrigerators that dispense water/ice, built-in domestic coffee machines and domestic steam ovens.

In addition to the initial lead-free assessments undertaken by the WMCAB, ongoing surveillance of the manufacturing locations has been mandated via an ABCB Notice of Direction. This ensures that manufacturers are following their processes with regard to inward goods confirmation of the material design control and any lead-free specific processes are controlled with results recorded accordingly in the batch release testing program.

The thorough certification and surveillance procedures ensure that practitioners can have confidence that the products that carry the Lead-Free WaterMark have been assessed and monitored appropriately.

SWIFT ACTION REQUIRED

From 1 May 2026 only lead-free versions of identified products will be authorised for use in plumbing systems used to convey drinking water. From this date consumers, plumbing practitioners and regulators will need to look for the Lead-Free WaterMark trademark on a plumbing product to ensure the product being purchased or installed is authorised for use.

Eliminating lead from plumbing products is both vital and achievable. It is also urgent, with action required now if we are to meet the 2026 deadline.

MORE INFORMATION

The [ABCB Lead in Plumbing Products Implementation Plan](#) provides information about implementation of this initiative and its health benefits, the details of clause A5G4 of the PCA 2022, and compliance at the point of installation.

The [ABCB Notice of Direction on certification transition arrangements for lead free plumbing products](#) provides detailed information and directions on transition arrangements for documentation, certification, marking, materials, enforcement at the point of installation and voluntary lead free certification.

The [ABCB Notice of Direction on acceptable copper alloys for the manufacture of lead free plumbing products](#) provides detailed information and directions on acceptable alternative materials. This includes prescriptive or performance options to meet the lead-free material requirements.

The [ABCB Notice of Direction on marking requirements for lead free plumbing products](#) provides information about product marking requirements for Lead Free WaterMark certified products.

The [ABCB Notice of Direction on Annual factory inspections of lead free plumbing products](#) provides direction on the requirement for annual factory inspections for Lead Free WaterMark certified products.

The [ABCB Lead Free plumbing products Frequently Asked Questions \(FAQs\)](#)

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