BUILDING PERFORMANCE

Outcome of consultation
Building Code update 2022
Lead in plumbing products

Decisions for amending acceptable solution G12/AS1
15 November 2022

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Te Kāwanatanga o Aotearoa
New Zealand Government

Ministry of Business, Innovation and Employment (MBIE)

Hīkina Whakatutuki – Lifting to make successful

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and wellbeing of New Zealanders.

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The purpose of this document is to provide an update on the outcome of the consultation for proposed changes to the maximum lead content in certain plumbing products before final changes to the acceptable solution document are published. MBIE does not accept any responsibility or liability whatsoever whether in contract, tort (including negligence), equity or otherwise for any action taken as a result of reading, or for reliance on, any or all of the information contained in this document, or for any error, inadequacy, flaw in, or omission from this document.

ISBN 978-1-99-104198-2 (online)

November 2022

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Consultation process

Consultation is an important part of developing updates to the Building Code acceptable solutions and verification methods. Consultation provides the sector and public an opportunity to provide their feedback on proposed changes.

Between May and July 2022, MBIE sought feedback for proposals on:

- plumbing and drainage
- structural stability of hollow-core floors
- protection from fire for residential homes
- fire safety system standards.

In June 2022, MBIE conducted an additional consultation to extend the transition period for changes to insulation requirements for housing from the 2021 Building Code update. In July, MBIE released an outcome document advising the decision to extend the transition period for insulation for housing to May 2023, with a staged transition for windows and doors.

Submissions received

The 2022 Building Code update consultation received 111 submissions across the proposals for plumbing and drainage, structural stability of hollow-core floors, and protection from fire.

MBIE would like to thank the individuals and organisations who took the time to prepare a submission for this consultation.

Number of submissions received by occupation

Occupation	Number of submissions and percentage of total
Architects	2 (2%)
Designers or engineers	35 (31%)
Builders or tradespersons	9 (8%)
Building consent authorities	22 (20%)
Building product manufacturers	12 (11%)
Building owners, occupants or renters	4 (4%)
Other submitters including those who did not specify their occupation	27 (24%)
Total	**111**

Purpose of this document

This outcome document contains the decision made for the proposal on lead in plumbing products. The feedback received during the consultation was used to inform this decision. A similar document for the outcome of the proposal for structural stability of hollow-core floors is available on building.govt.nz.

Work is underway analysing submissions on the remaining proposals for plumbing and drainage and protection from fire. We want to fully understand the comments provided and ensure all feedback is taken into consideration before updating the provisions in the Building Code.

Due to the breadth of in-depth submissions received for these other topics in the consultation, MBIE will publish the remaining outcome documents no later than November 2023.

MBIE is committed to updating the Building Code so that keeps pace with innovation, current construction methods and the needs of modern society. The Building Code provides clarity, certainty and consistency to the building and construction sector.

Summary of the decision

MBIE is amending Acceptable Solution G12/AS1 to limit the maximum allowable content of lead permitted in plumbing products.

The amended document will limit the maximum lead content of any product that contains copper alloys, intended for use in contact with potable water for human consumption, to 0.25%. This includes products such as pipe fittings, valves, taps, mixers, water heaters, and water meters.

Verifying the lead content of these products will require a test report from an accredited laboratory in accordance with the standard NSF/ANSI/CAN 372.

Additionally, the amended document will clarify that all copper alloy water supply system components must be dezincification resistant to minimise premature corrosion. Dezincification resistant copper alloys will need to comply with the testing standard AS 2345.

This decision is being made following support of the proposed change during publication consultation.

This proposal received 40 submissions with 92% supporting the proposal. Thirty-one submissions supported the proposed transition date of 1 September 2025 or sooner.

The new provisions will have a transition date ending on 1 September 2025. As the transition period extends to 2025, the revised acceptable solution will be published in alignment with the rest of the plumbing and drainage updates in November 2023. The dezincification resistant copper alloy provisions will have a transition date ending at least one year from publication of the amended Acceptable Solution G12/AS1.

By announcing this decision prior to the publication of the revised acceptable solution, our aim is to provide certainty and direction to the sector and give manufacturers and suppliers additional time to implement the required change to the effected plumbing products.

In the meantime, MBIE will continue to work with our counterparts in Taumata Arowai and counterparts in Australia on the implementation of this change.

1. Lead in plumbing products

1.1. What we proposed

MBIE proposed to limit the allowable lead content in plumbing products which contain copper alloys and are intended for use in contact with drinking water to not more than 0.25%. These new requirements were proposed for inclusion in the acceptable solutions for Building Code clause G12 Water Supplies. The transition period was proposed to end on 1 September 2025 to provide plumbing product manufacturers and suppliers time to make the necessary changes.

The proposed changes included:

- Limiting the maximum lead content to 0.25% for any product that contains copper alloy and is intended for use in contact with potable water for human consumption. This would include products such as pipe fittings, valves, taps, mixers, water heaters, and water meters.
- Requiring the lead content for these products be verified through a test report from an accredited laboratory in accordance with the standard NSF/ANSI/CAN 372.
- Providing a transition period to 1 September 2025 which aligns with the time when equivalent requirements will come into force in Australia.
- Clarifying that copper alloy plumbing products must be suitably resistant to premature corrosion from dezincification.
- Amendments to Acceptable Solution G12/AS1:
    - Issuing a new Paragraph 2.1.3 and comment to limit the maximum allowable lead content within plumbing products that contain copper alloy and are intended for use in contact with potable water for human consumption, and cite the following testing standard for demonstrating compliance NSF/ANSI/CAN 372: 2020 Drinking Water System Components - Lead Content.
    - Issuing a new Paragraph 2.2.3 to require components to be dezincification resistant and cite the following testing standard AS 2345: 2006 (R2016) Dezincification resistance of copper alloys.

In the consultation, MBIE sought feedback on four questions:

- Do you support amending Acceptable Solution G12/AS1 as proposed to limit the allowable lead content in plumbing products?
- What impacts would you expect for you or your business from the proposed change to the transition period? These impacts may be economic/financial, environmental, health and wellbeing, or other areas.
- What support, if required would you or your business would need to implement the proposed changes if introduced?
- Do you agree with the proposed transition time of 34 months for these proposed new requirements to take effect on 1 September 2025?

Respondents were given tick box options for the first and fourth questions with space available for free text responses across all questions. Responses to the consultation were received through an online survey portal as well as through emails to MBIE directly.

1.2. What we heard

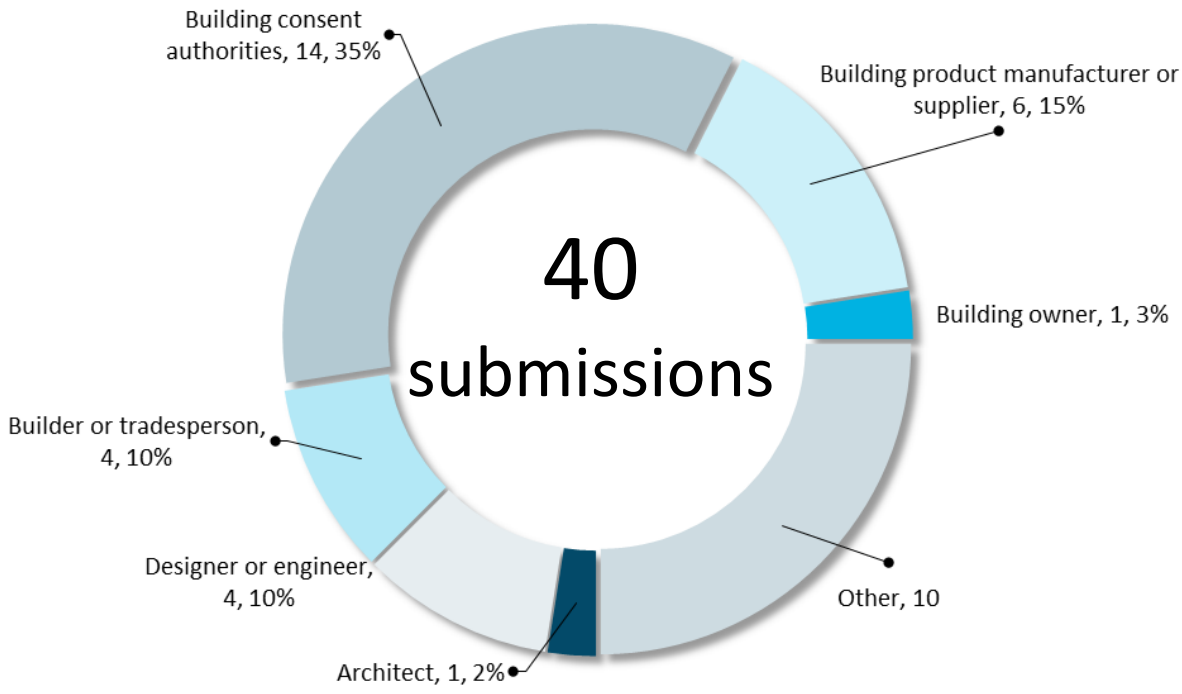
1.2.1. Who submitted on the proposal

There were 40 submissions on this consultation as shown in Table 1.1 and Figure 1.1. Feedback was primarily received from building consent authorities, industry bodies, and public health professionals.

TABLE 1.1: Number of submissions received on the proposal for lead in plumbing products

Occupation	Number of submissions and percentage of total
Architects	1 (3%)
Designers or engineers	4 (10%)
Builders or tradespersons	4 (10%)
Building consent authorities	14 (35%)
Building product manufacturers	6 (15%)
Building owners, occupants or renters	1 (3%)
Other submitters including those who did not specify their occupation	10 (25%)
Total	**40**

FIGURE 1.1: Number of submissions received on the proposal for lead in plumbing products



1.2.2. Submitter preferences on the proposal

Ninety-two percent of the submissions supported the proposal. Comments provided supported the potential health benefits of the proposed change. No submissions identified significant impacts to their business from the proposed change. However, the submissions also highlighted that the successful implementation of these changes should consider:

- information, guidance, and awareness campaigns

- updating product manufacturing standards to integrate equivalent provisions in the standards
- identifying compliance products including physical marking or labelling of in-scope plumbing products
- product assurance requirements.

One submission did not support the proposal and stated that the status quo (ie, compliance with the New Zealand Drinking Water Standards and testing to AS/NZS 4020) should be used to determine the safety of lead in drinking water and that the amount of lead in plumbing products does not dictate the amount of lead in the water. However, as noted in the consultation document, the World Health Organisation (WHO) recommends that all practical measures to reduce exposure to lead should be implemented, including the use of low lead alloy fittings in new plumbing installations or repairs[1].

TABLE 1.2: Responses to the question in the consultation: Do you support amending Acceptable Solution G12/AS1 as proposed to limit the allowable lead content in plumbing products?

Occupation	Response		
	Yes, I support the proposal	No, I don't support the proposal	Not sure/no preference
Architects	1	0	0
Designers or engineers	4	0	0
Builders or tradespersons	4	0	0
Building consent authorities	12	0	1
Building product manufacturers	5	0	1
Building owners, occupants or renters	1	0	0
Other submitters	9	1	0
Total	**36 (92%)**	**1 (3%)**	**2 (5%)**

1.2.3. Submitter preferences on the transition period

There were 36 responses to the question on the transition period (see Table 1.3 and Figure 1.2). Thirty-one submissions (86%) preferred a transition period of 1 September 2025 or sooner for the change to take effect. The submissions highlighted that the longer transition period was necessary to raise awareness of the proposed changes and to give time for manufacturers to comply with the proposed requirements. Submissions that supported an even shorter transition period preferred this because it would realise the potential health benefits of this change sooner.

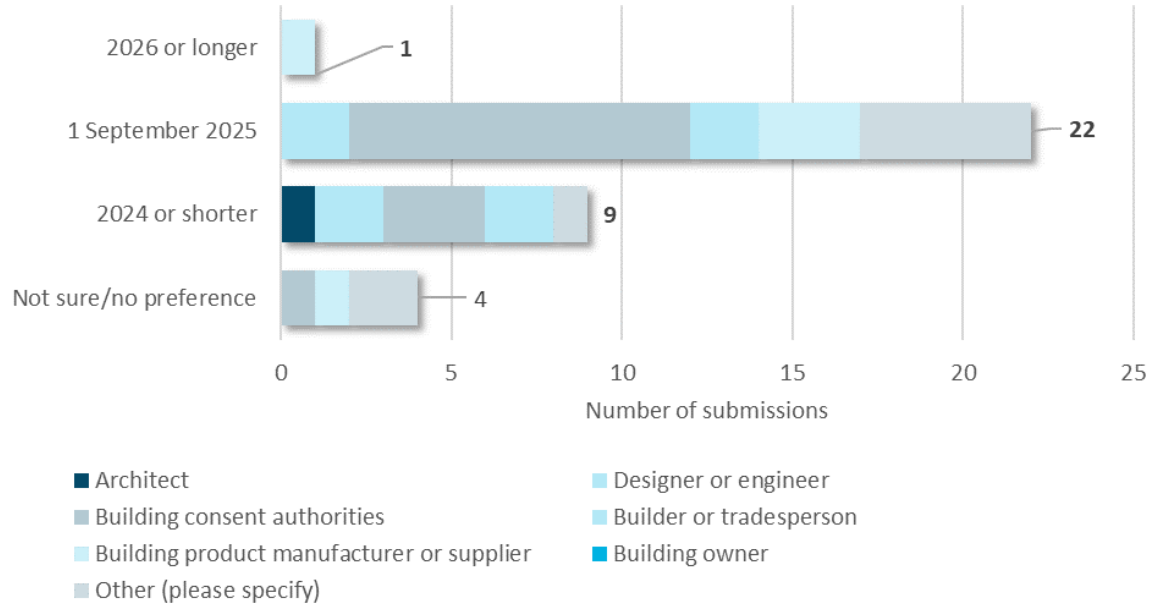
Four submissions had no preference on the transition period. Only one submission preferred that the change should be longer than 2025. This submission indicated that there was still uncertainty around the proposed changes and the return of the building product supply chain to pre-covid levels.

[1] WHO Guidelines for drinking-water quality, 4th edition, incorporating the 1st addendum

TABLE 1.3: Preferred transition period from the public consultation submissions

Occupation	Preferred end of the transition period			
	2026 or longer	1 September 2025	2024 or sooner	Not sure/No preference
Architects	0	0	1	0
Designers or engineers	0	2	2	0
Builders or tradespersons	0	2	2	0
Building consent authorities	0	10	3	1
Building product manufacturers	1	3	0	1
Building owners, occupants or renters	0	0	0	0
Other submitters	0	5	1	2
Total	**1 (3%)**	**22 (61%)**	**9 (25%)**	**4 (11%)**

FIGURE 1.2: Preferred transition period for the proposal for lead in plumbing products



1.3. What we are doing

Considering the feedback from the consultation, MBIE is amending Acceptable Solution G12/AS1 to limit the maximum quantity of lead permitted in certain plumbing products. The change to the Acceptable Solution G12/AS1 will have a transition period lasting until 1 September 2025. At the end of the transition period, the previous requirements will no longer be able to be used. On 1 September 2025, any product that contains copper alloy and is intended for use in contact with potable water for human consumption will have to have a weighted average lead content of no more than 0.25% verified in the form of a test report provided by a test facility with IANZ or equivalent accreditation in accordance with NSF/ANSI/CAN 372: 2020 Drinking Water System Components Lead Content.

Additionally, MBIE is amending Acceptable Solution G12/AS1 to require all copper alloy water supply system components to be dezincification resistant and comply with AS 2345: 2006 (R2016) Dezincification resistance of copper alloys. This change will have a transition date of at least one year from publication of the amended Acceptable Solution G12/AS1.

MBIE will continue to work with our counterparts in Taumata Arowai and in Australia during the implementation of this change. Additionally, MBIE's Building Systems Performance Branch have funded Aotearoa New Zealand's participation in a Standards Australia led project to revise the joint copper and copper alloy standards which will assist in the implementation of this change.

The amended paragraphs to be added to Acceptable Solution G12/AS1 are shown on the next page.

New paragraphs for the amended Acceptable Solution G12/AS1 Water Supplies as a result of this change (new text in blue)

2.0 Materials

2.1 Water quality

…

2.1.3 From 1 September 2025, any product that contains copper alloy and is intended for use in contact with *potable water* for human consumption shall have a weighted average lead content of no more than 0.25% verified in the form of a test report provided by a test facility with IANZ or equivalent accreditation in accordance with NSF/ANSI/CAN 372.

COMMENT:

1. Some examples of products subject to Paragraph 2.1.3 include:
   a) Copper alloy fittings
   b) Stainless-steel braided hoses
   c) Valves (such as valves for isolation, backflow prevention, alteration of pressure and temperature)
   d) Taps and mixers
   e) Water meters
   f) Pumps (for use with cold and heated water services)
   g) Water heaters
   h) Residential water filtration equipment
   i) Water dispensers (such as boiling and cooling units, drinking fountains and bottle fillers)
   j) Fire sprinkler systems connected to the cold water service that are not isolated from fixtures and fittings intended to supply water for human consumption
2. Some examples of products excluded by Paragraph 2.1.3 include:
   a) Showers for bathing
   b) Emergency showers, eye wash and/or face wash equipment
   c) Pumps used for irrigation, fire-fighting or other non-potable water purposes
   d) Fire-fighting water services and equipment
   e) Appliances, including washing machines and dishwashers
   f) Commercial boilers associated with heating, ventilation and air-conditioning systems
   g) Sanitary fixtures (such as toilets, cistern inlet valves, bidets, urinals)
   h) Non-potable water systems (such as recycled water systems)
   i) Products used exclusively for non-drinking uses such as manufacturing, industrial processing, irrigation or any other uses where the water is not anticipated to be used for human consumption
3. Paragraph 2.1.3 does not prevent use of products certified in accordance with 2.1.3 prior to 1 September 2025.

…

2.2 Pipe materials

…

2.2.3 All copper alloy water supply system components shall be dezincification resistant (DZR) and shall comply with AS 2345.