

Plumbing information sheet No. 6

Audit: Hot Water System Installation

Level 1

- Are the materials used fit for their intended purpose and where required appropriately authorised or approved e.g. mixed pipework systems and their compatibility?
- Do all pipe materials, fixtures and appliances meet the Building Code standard requirements for use in New Zealand?
- Have the fixtures and appliances been installed correctly?
- Are all cross-connection and backflow prevention provisions in accordance with the Building Code (correct device for the associated risk level, correct pipe ID)?
- Is/are the hot water cylinder(s) and/or water tanks seismically restrained correctly?
- Does the minimum storage temperature of 60° Celsius comply?
- Do water heaters with uncontrolled a heat source comply?
- Does the means of prevention of legionella growth within a pipework circulation system comply?
- Does the maximum delivery temperature and sanitary fixtures and appliances comply with the requirements?
- Do all connected storage tanks have overflow and safe tray provisions that comply?
- Does the temperature-pressure-relief (TPR) valve terminate in a safe location?
- Do the heated water service provisions for people with disabilities, for schools, and rest homes comply?
- Has the pipe work been insulated and/or heat traps provided for heat retention as required?
- Has the installation passed the required hydrostatic test?
- Have the tests for verification been carried out by an authorised person and the results recorded?
- Do all valves, cisterns, taps and temperature and/or pressure relief valves perform?
- Do all relief drains terminate in the correct location?
- If terminating a relief drain into a waste water drain has the material of the waste water drain been taken into consideration regarding the expected water temperatures it will receive?

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Level 2

- Have the correct flow rates at outlets been achieved?
- Has the static pressure at the outlets within a building been maintained at or below the maximum pressure each component within the system can receive?
- Where a solar water heater is installed have the manufactures specifications been used and adhered to?
- Have the acceptable solutions in the New Zealand Building Code clause G12/AS2 for Solar Water Heaters been considered?
- Are the materials used and the installation suitable for the potentially high temperatures associated with an uncontrolled heat source?
- Is the tempering valve suitable for use on a solar, or other uncontrolled heat source, water heater?
- Has any associated gasfitting work been carried out by an authorised gasfitter and if so are the gasfitter's details recorded and a gasfitting certificate been provided?
- Does the installation have the minimum internal diameter pipe size (this can affect the velocity of the water flowing through the pipework system if too small)?
- Does the installation comply with the proximity to other services?
- Does the installation have isolating valves where required?
- Does the installation have the correct pipework support and seismic restraints?
- Does the installation have the correct depth of cover where required?
- Does the installation have frost protection where required?
- Where penetrating concrete has the pipework been protected?
- Where penetrating the vapour barrier has the pipework been correctly flashed?
- Does the hot water tapware have the required indicators?
- Has the pipework been labelled correctly?
- Has the installation been commissioned and data recorded?
- Where relevant, has documentation for an alternative solution been provided?
- Have the names of all persons carrying out the sanitary plumbing been recorded?

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Compliance documentation

- Where a relevant, has the Building Consent (BC) documentation been sighted (before starting the work)?
- Have any amendments to the BC been approved, documented and recorded (this should happen prior to installing any modifications)?
- Where relevant, has compliance documentation been provided?
- Have the manufacturer's installation instructions been adhered to?
- Where practical/relevant have photos been taken and recorded?
- Are you satisfied the installation complies with the New Zealand Building Code?

References

Does the installation comply with the minimum requirements outlined in the relevant documentation such as:

- NZBC G12 – Water Supplies
- NZBC G1 – Personal Hygiene
- NZBC G2 - Laundering
- NZBC G3 - Food preparation and prevention of contamination
- NZBC B2 - Durability
- NZBC E3 - Internal moisture
- AS/NZS 3500.4 – Plumbing and Drainage – Heated water services
- AS/NZS 2032 – Installation of PVC pipe systems
- The relevant manufacturer's installation instructions

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Notes

The compliance documentation and audit items on this checklist are intended as a guide only and are not an exhaustive list.

Other New Zealand Building Code clauses and standards may be applicable to the installation and should be referenced as required.

Additionally, audit items may alter dependant on the actual work conducted and the final installation.

Practitioners should ensure they are using the relevant edition of the prescribed building code compliance documentation, at the time of installation.

It is important to understand that regardless of whether a Building Consent is required or not all building work must comply with the New Zealand Building Code.