GOVERNMENT OF WESTERN AUSTRALIA

Department of **Local Government Industry Regulation and Safety**

Building and Energy

Technical Note

DRAFT #4

Technical Advice Line 1300 360 897 **www.lgirs.wa.gov.au/building-and-energy**

Support and fixing of pipework

This technical note has been issued to clarify the current support and fixing requirements in the deemed-to-satisfy documents referenced in the Plumbing Code of Australia 2025 for the installation of cold, heated water and sanitary pipework above ground.

Water service pipework

AS/NZS 3500.1:2025, clause 5.7.2 for cold water and AS/NZS 3500.4:2025, clause 4.5.2 for heated water services have similar provisions for the support and fixings of pipework that must be fit for purpose. Support and fixing for above-ground pipe work in these standards state that brackets, clips and hangers

shall be —

- formed from a suitable material compatible with the pipe;
- securely attached to the building structure and not any other service;
- designed to withstand the applied loads;
- protected against corrosion if exposed to a corrosive environment;
- of like material or lined with a non-abrasive, inert material for that section where contact with the piping may occur;
- clamped securely to prevent movement, unless designed to allow for thermal movement;
- restrained to prevent lateral movement; and;
- installed so that no movement can occur while a valve is being operated and that the weight of the valve is not transferred to the pipework.



Photo 1: Non-compliant clipping using duct tape.

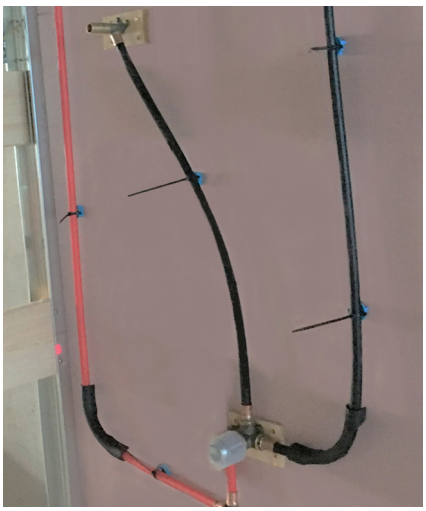


Photo 2: Non-compliant clipping using cable ties.

Cable ties do not meet the current deemed-to-satisfy requirements for pipe supports listed in the previous column. However they may be permitted using evidence submitted under a performance solution in accordance with the Plumbing Code of Australia.

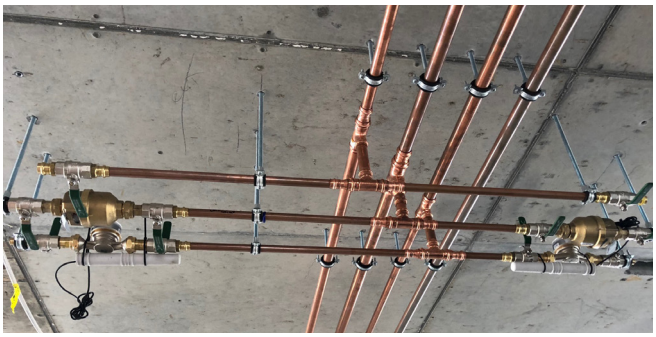


Photo 3: Compliant clipping using approved clips.

There are maximum spacing of brackets, clips and hangers for cold water services installed above ground listed in AS/NZS 3500.1:2025, table 5.7.4 and for heated water services in AS/NZS 3500.4:2025, table 4.5.4.

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Support of valves and water meters

In-line valves, for example testable backflow devices and water meters are required to be supported so that associated valves can be operated or serviced without pressure being transferred to the pipework.

Licensed plumbing contractors should make themselves aware of any literature provided by the manufacturer of the piping system. It may contain additional support requirements over and above the plumbing standards.

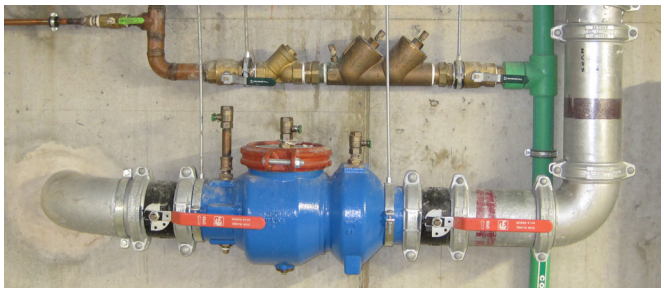


Photo 4: Compliant support of internal valves.



Photo 5: Compliant support of external valves.

Piping in framed walls

Pipes in framed walls shall meet AS/NZS 3500.1:2025, clause 5.5.2.1 for cold water and AS/NZS 3500.4:2025, clause 4.6.1.1 for heated water services.

Pipes in timber framework must be protected by either a collar of lagging/insulation material or a neutral cure silicone around the pipe to fill the annular space.

Pipes in steel-framework shall be installed in existing preformed holes where possible, additional holes shall be no larger than the preformed holes or 32 mm when there are not pre-existing holes.

Pipes must be protected using suitable grommets, lagging/insulation or a short sleeve of oversize piping firmly secured in the framework around the pipe. There shall be no direct contact between the pipe and framework while allowing free longitudinal movement of the pipe through the protective material.

Neutral cure silicone sealant is not to be used in place of a grommet or sleeve when installing water service pipework through metal-framed walls.

The requirements above pipe protection and do not satisfy support and fixing requirements listed in AS/NZS 3500:2025. Therefore, suitable brackets, clips or hangers must be installed when support is required by the plumbing standards.

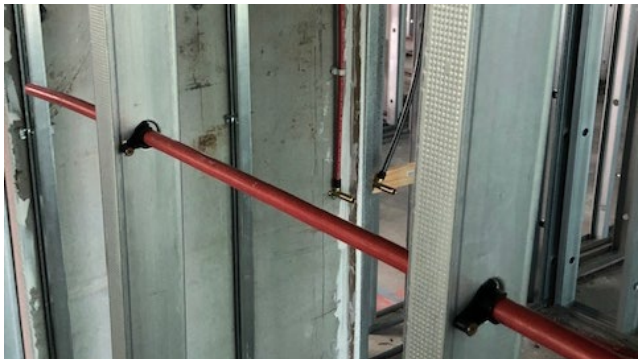


Photo 6: Compliant clipping in metal framework.

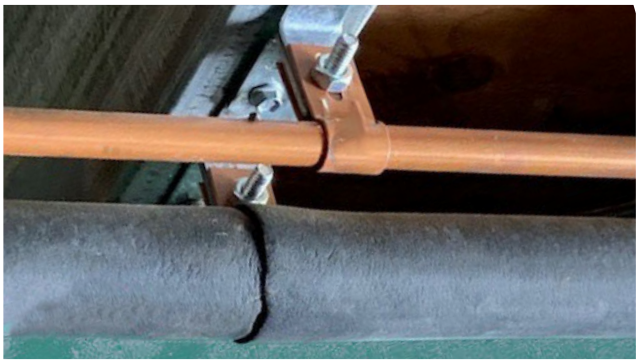


Photo 7: Compliant clipping of insulated pipework.

Separation of water services

The provisions for water services and their proximity from other services are listed in AS/NZS 3500.1:2025, clause 5.3 and for heated water services in AS/NZS 3500.4:2025, clause 4.3.

Please note that these conditions vary for below and above-ground pipework.

Sanitary system pipework

The requirements for brackets, clips and hangers for supporting pipework in sanitary plumbing and drainage are listed in AS/NZS 3500.2:2025, clause 10.2.1. Supports must be spaced at intervals as specified in table 10.2.1 and shall also be—

- securely attached to the building structure and not to any other service;
- designed to withstand the applied loads;
- protected against corrosion, where exposed to a corrosive environment;
- made from compatible materials;
- clamped securely to prevent movement, unless designed to allow for thermal movement;
- restrained to restrict lateral movement; and;
- designed so that pipes and fittings are supported with minimal load being taken by the joints.
- Brackets, clips and hangers shall be fit for purpose, which means the material used to construct the clip must be designed to withstand the applied loads.

Other referenced installation standards

In addition to the provisions above, AS/NZS 3500.2:2025 states that PVC-U pipes must be installed as specified in AS/NZS 2032:2006, Installation of PVC pipe systems. Clause 6.3.2.2 requires vertical and horizontal PVC-U pipes be supported at or adjacent to, every bend where pipes are suspended on the soffit of concrete slabs.

PVC-U pipes, subject to hot discharges at temperatures exceeding 60^{0}C shall be supported at half the intervals for pipes carrying cold discharges.



Photo 8: Non-compliant fabricated hoop iron clips on sanitary pipework



Photo 9: Non-compliant bend support of sanitary pipework as per AS/NZS 2032:2006



Photo 10: Compliant clipping at all bends in sanitary pipework in accordance with AS/NZS 2032:2006

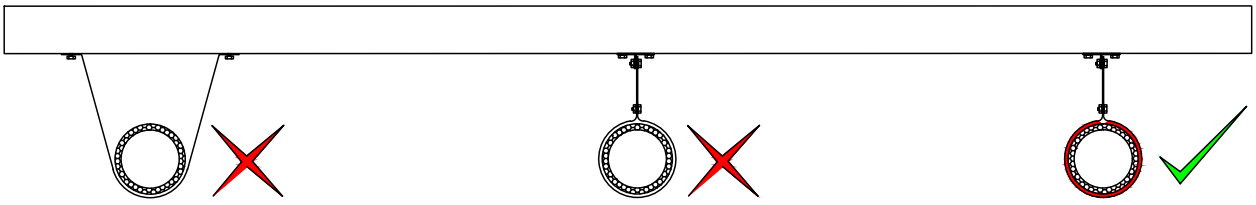
Pipe supports

Pipes shall not be supported by brazing or welding short sections of any material to the pipe surface, nor by clamping, brazing or welding to adjacent pipes.

Brackets, clips and hangers incorporating PVC shall not be used in contact with stainless steel pipes.

The Plumbers Licensing and Plumbing Standards Regulations 2000, regulation 52 states that the installation specifications of the manufacturer must be complied with for water supply, sanitary and drainage pipework. This means that the manufacturer cannot set lower standards but may have conditions over and above the plumbing standards.

Plastic pipes shall be protected from any metallic material that may cause abrasion due to expansion and contraction as shown in photo 10 and diagram 1 below.



Strapping (hoop iron) without protection between strap and pipe. Pipe not supported vertically.

Strapping (hoop iron) without protection between strap and pipe.

Strapping (hoop iron) with protection between strap and pipe.

Diagram 1: Guidelines for strapping or hoop iron used to support and clip PVC-U or other plastic pipes

Pipe identification

AS/NZS 3500 2025, part 1 clause 5.19, part 4 clause 4.13.2 and part 2 clause 10.10 require accessible cold, heated and sanitary pipework to be permanently marked so as to be readily identifiable as part of the plumbing services within:

All Class 2 to 9 buildings including multi-unit, commercial and industrial buildings.

Identification marking shall be placed —

(i) at spacings not exceeding 6 m;

(ii) adjacent to branches, junctions, valves, service appliances, bulkheads, wall and floor penetrations; and

(iii) at every floor level within vertical ducts and riser cupboards.

Refer to AS 1345:1995 for information on identification tags and labels.



Photo 11: Compliant labeling of pipework

Notes:

1. Detailed information regarding allowance for expansion and contraction including specialised fixings are listed in AS/NZS 3500.4:2025, appendix N.
2. In addition to the provisions listed in AS/NZS 3500.2:2025, PE-HD piping systems shall be installed in accordance with AS/NZS 2033:2024 that requires PE-HD pipes and fittings passing through concrete footings be wrapped with an impermeable flexible sheath not less than 6 mm thick.
4. Copper and copper alloy pipes require additional provision for expansion and shall be installed in accordance with AS/NZS 3500.2:2025, clause 10.6.
5. Installation of vacuum drainage pipework is covered in AS/NZS 3500.2:2025, section 16.

Notes

The technical note series is issued by the Building and energy 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) as the standards that apply to the carrying out of plumbing work in WA. The PCA contains specific deemed to satisfy provisions and applies AS/NZS 3500:2025, parts 1, 2 and 4 to plumbing work. PCA, schedule 11 applies variations to certain matters to suit the state's building approach and other local conditions.

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