VICTORIAN BUILDING AUTHORITY

PLUMBING PRACTICE NOTE

Roof Plumbing RP 04 | Downpipes

Audience

The audience/s for this Practice Note include/s:

- ☒ Architects/ Designers
- ☒ Builders
- ☒ Building Surveyors/ Inspectors
- ☒ Engineers
- ☐ Home Owners / Residential Tenants
- ☒ Owner Builders
- ☒ Plumbers
- ☐ Real estate management agents
- ☒ Trades and Maintenance (inc. Electricians)

Purpose

This Practice Note provides guidance on the requirements for installation of downpipes.

The content below provides guidance on:

- Definition of a downpipe
- Materials and products are fit for purpose
- External downpipe locations
- Internal downpipe installations
- Downpipe support systems

Abbreviations & Definitions

The abbreviations and definitions set out below are for guidance only. They are not intended to vary those set out in the Building Act 1993, the Plumbing Regulations 2018 or the National Construction Code.

- **Act –** Building Act 1993
- **Regulations** – Plumbing Regulations 2018
- **NCC** – National Construction Code 2022
- **AS/NZS -** Australian/ New Zealand Standard
- **AS** – Australian Standard

Definition of a downpipe

A downpipe is defined as a pipe to carry roof water from gutters and roof catchment to drains or storage tanks and is inclusive of both vertical and horizontal systems, as per AS/NZS 3500.0 Clause 3D.35.

VICTORIA State Government

Materials and products fit for purpose

Downpipes materials are commonly metal or PVC. The following materials are also acceptable if in compliance with the relevant Australian standards:

- Copper complying with AS 3795 (pipe) and AS 3517 (fittings)
- Aluminium complying with AS/NZS 1866
- Ductile iron complying with AS/NZS 2280
- Galvanised iron complying with AS 1074
- Polyethylene complying with AS/NZS 4129, AS/NZS 4130 or AS/NZS 4401
- Polyvinyl chloride (PVC) complying with AS/NZS 1254, AS/NZS 1260 and AS/NZS 1273 or AS/NZS 1477

As per, AS/NZS 3500.3 clause 2.3.1 roof drainage system components may be made from aluminium alloys, aluminium/zinc and aluminium/zinc/magnesium alloy-coated steel, copper, copper alloys, zinc-coated steel, stainless steel, and zinc if they conform with AS/NZS 2179.1.

Downpipes used for the collection of roof water supplying a rainwater tank that is used for drinking water must be AS/NZS 4020 compliant: Testing of products for use in contact with drinking water

External downpipe locations

Downpipes must have support systems that permit thermal expansion without detriment to the downpipe or accessories.

As defined in AS/NZS 3500.3 clause 4.5.6 when installing a downpipe, the location of downpipe shall be located:

- so that they do not interfere with the normal operation of any door, window, access opening or
- occupancy of a building
- where they do not cause a nuisance or lead to injury of a person
- as close as practicable to the supporting structure
- so that they are protected from mechanical damage

When installing a downpipe within buildings, the downpipe must be tested in accordance with AS/NZS 3500.3 Section 9 and must not have combustible downpipes in the encroachment space, as per the NCC: Volume 2.

Internal downpipe installations

Downpipes within buildings must be free of leaks when subjected to either—

a. a water test at a pressure of a head of water equal to the lesser of 10 m or the length of the downpipe for a period of not less than 10 min; or
b. an air test at a pressure of not less than 30 kPa for a period of not less than 3 min. Note: 1 kPa = 100 mm head of water.

The seams and joints must be watertight and—

a. clear of any structural member (e.g., beam, column, or party wall); or
b. not concealed in any wall construction in a manner that could interfere with the structural integrity of the wall.
c. Connections within buildings where a downpipe is connected to a site stormwater drain located below a slab- on-ground, the connection shall be located above the level
d. Inspection openings where provided must be accessible for testing and maintenance purposes, inspection openings shall have a nominal size of not less than the nominal diameter of the downpipe.

Downpipe support system

As defined in HB 39 Figure 5.7.6 downpipes must have support systems that permit thermal expansion without detriment to the downpipe or accessories.

Figure 1 depicts the support system with clip spacings:

- Horizontally 1 metre
- Vertical 2 metres

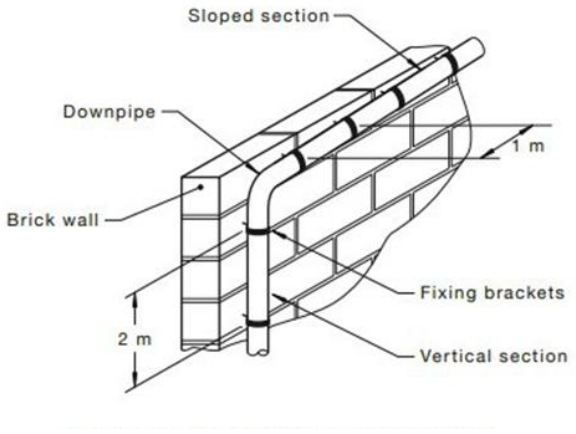

Figure 1 Downpipe support system
Reproduced with permission of Standards Australia Limited. Copyright in HB39 vests in Standards Australia Limited and Standards New Zealand.

The performance requirements of the PCA can also be met by a performance solution. Refer to the PCA on the requirements to develop a performance solution.

Related Documentation

- Building Act 1993
- Plumbing Regulations 2018
- National Construction Code 2022 VIC Part E3 Stormwater - Roof drainage systems
- AS/NZS 3500.3:2021 Part 0 - Glossary of terms
- AS/NZS 3500.3:2021 Part 3 - Stormwater drainage
- AS HB 39:2015 Amd 1:2021 Installation code for metal roof and wall cladding
- AS 4020:2018 Testing of products for use in contact with drinking water
- Plumbing Practice Note RP-01 | Regulatory Framework
- Plumbing Practice Note RP-02 | Box Gutters
- Plumbing Practice Note RP-04 | Downpipes
- Plumbing Practice Note RP-05 | Flashings
- Plumbing Practice Note RP-06 | Roof sizing and calculations

List of Amendments

- Updated to the current version of the NCC and referenced documents

Document history

Sector	Plumbing
Category	Roof Plumbing
Topic	Downpipes
Document number	04
Version	3.0
Superseded	• Version 2, published 03 May 2023 • Version 1, published 21 June 2021
Published	14 December 2023

Contact Us

If you have a technical enquiry, please email plumbingtechnicaladvice@vba.vic.gov.au or call 1300 815 127.

Victorian Building Authority
Goods Shed North
733 Bourke Street
Docklands VIC 3008

www.vba.vic.gov.au

Copyright and Disclaimer