

Australian/New Zealand Standard™

National plumbing and drainage

**Part 3.2: Stormwater drainage—
Acceptable solutions**

Building Code of Australia
primary referenced Standard



Australian Building Codes Board



AS/NZS 3500.3.2:1998

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Australian/New Zealand Standard™

National plumbing and drainage

Part 3.2: Stormwater drainage— Acceptable solutions

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS/20, Stormwater, to supersede AS 2180—1986, *Metal rainwater goods—Selection and installation*, and AS 3500.3—1990, *National Plumbing and Drainage Code, Part 3: Stormwater drainage*.

This Standard is part of a series, as follows:

AS 3500.3.1 Part 3.1: Stormwater drainage—Performance requirements

AS/NZS 3500.3.2 Part 3.2: Stormwater drainage—Acceptable solutions (this Standard)

Stormwater drainage—Methods for verification (Part 3.3) is in the course of preparation.

The objective of this Standard is to provide installers with acceptable solutions for materials and products and design and installation of stormwater drainage systems. These solutions are not intended to exclude the use of other solutions.

This edition sets out acceptable solutions for the following:

(a) Roof drainage systems:

(i) A general method for design incorporating recent Australian research on the following:

(A) *Eaves gutter systems*—procedures similar to those of AS 2180—1986 but with significant decreases in the ratios for the effective cross-sectional area of eave gutter to vertical downpipes.

(B) *Box gutter systems*—procedures similar to those in AS 2180—1986 with additional procedures for sump/side overflow and sump/high-capacity overflow devices.

(C) *Valley gutters*—procedures based on research published in 1988 by Martin and Tilley (see Paragraph A2).

(ii) Installation, based on modifications and additions to AS 2180—1986.

(b) Surface drainage systems:

(i) Nominal and general methods for design.

(ii) Installation, based on modifications and additions to AS 3500.3—1990.

(c) Subsoil drainage systems design and installation, based on modifications and additions to AS 3500.3—1990.

The advantage of the roof drainage general method is the relative simplicity of its application. Continuing analysis of available experimental data is expected to result in new procedures for the design of—

(a) valley gutters; and

(b) eaves gutters with bends at various gradients for a wide range of cross-sections, sizes and depth to width ratios of 1:0.4 to 1:3.0.

Statements expressed in mandatory terms in notes to figures and tables are deemed to be requirements of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**National plumbing and drainage****Part 3.2: Stormwater drainage—Acceptable solutions**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE AND APPLICATION

1.1.1 Scope This Standard specifies acceptable solutions for materials and products, and design and installation of roof drainage systems, surface drainage systems and subsoil drainage systems to the point(s) of connection to the external stormwater drainage network.

1.1.2 Application This Standard will be referenced in the Building Code of Australia by way of BCA Amendment 3 to be published by 1 July 1998, thereby superseding the previous editions, AS 2180—1986 and AS 3500.3—1990, which will be withdrawn 12 months from the date of publication of this edition.

1.2 REFERENCED DOCUMENTS The documents referred to in this Standard are listed in Appendix A.

1.3 DEFINITIONS For the purpose of this Standard, and unless otherwise stated, the definitions referenced in the following Standards apply:

- (a) For terms relating to Part 3, as given in AS/NZS 3500.0.
- (b) For terms relating to buried flexible pipes, concrete pipes and vitrified clay pipes, as given in AS/NZS 2566.1, AS 3725 and AS 4060, respectively.

For other terms, the definitions below apply.

1.3.1 Average recurrence interval (ARI)—the expected or average interval between events of a rainfall intensity of a given magnitude being exceeded.

NOTE: The ARI is an average value based on statistical analysis. The actual time between exceedances will vary.

1.3.2 Box gutter—graded channel, generally of rectangular shape, for the conveyance of rainwater, located within the building. Includes a gutter adjacent to a wall or parapet. (See Figures I5, I7.)

1.3.3 Eaves gutter—channel, for the conveyance of rainwater, located along the eaves of a roof external to the fascia line. A concealed eaves gutter is located inside the fascia line and can also be called an internal eaves gutter.

1.3.4 External stormwater drainage network—a network that collects and conveys stormwater from individual properties.

NOTE: The network includes easement or inter-allotment drains, and street and trunk drainage systems.

1.3.5 Freeboard—the specified minimum vertical distance between the calculated and actual depths for a gutter, site stormwater channel or the like.



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