

Australian Standard<sup>®</sup>

**Waterproofing membrane systems for  
exterior use—Above ground level**

**Part 1: Materials**



This Australian Standard® was prepared by Committee BD-013, External Waterproofing Membranes. It was approved on behalf of the Council of Standards Australia on 14 May 2009.

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The following are represented on Committee BD-013:

- Australian Building Codes Board
  - Australian Chamber of Commerce and Industry
  - Australian Society of Building Consultants
  - Australian Institute of Building
  - Australian Institute of Waterproofing
  - Australian Tile Council
  - CSIRO Manufacturing and Infrastructure Technology
  - Housing Industry Association
  - Master Builders Australia
  - Plastics and Chemical Industries Association Incorporation
  - South Australian Housing Trust
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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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## PREFACE

This Standard was prepared by the Standards Australia Committee BD-013, External Waterproofing Membranes, to supersede AS CA55—1970, *Code of recommended practice for the design and installation of bituminous fabric roofing*.

This Standard has been prepared in response to numerous requests from industry representatives in the field of external waterproofing, especially in the areas of roofs, decks and balconies.

The objective of this Standard is to provide a consistent and reliable approach to the materials used in the design and installation of external waterproofing membrane systems.

This Standard is Part 1 of a series of Standards on external waterproofing, as follows:

AS

4654 Waterproofing membrane systems for exterior use above ground level

4654.1 Part 1: Materials

4654.2 Part 2: Design and installation

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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## FOREWORD

This Standard sets out the requirements for materials forming part of a waterproofing system on the surface of building materials, to prevent the ingress of water. These requirements are based on the need to identify suitable criteria for the range of waterproofing materials that have proliferated from the time when only bituminous bag felts manufactured from oxidized bitumen or coal tar pitch were available in the 1970s.

Industry research and experience has shown that the design of roofs, decks, balconies and planter boxes contributes to many of the failures of waterproofing mediums used, and by setting a standard for materials design and installation for construction, the failure rate will be dramatically reduced.

The sole Australian Standard for the design and installation of waterproofing building elements (such as roofs and similar horizontal surfaces and retaining walls and similar vertical surfaces) was published in 1970 (CA55). It covered the use of the most commonly used material at the time, bituminous felts manufactured from oxidized bitumen and coal tar pitch and fabrics (either saturated or coated), which included—

- (a) organic fibre felt;
- (b) asbestos fibre felt; and
- (c) glass fibre fabrics.

These bituminous felts were covered in separate Standards, which have now been withdrawn.

# STANDARDS AUSTRALIA

## Australian Standard

### Waterproofing membrane systems for exterior use—Above ground level

#### Part 1: Materials

## SECTION 1 SCOPE AND GENERAL

### 1.1 SCOPE

This Standard sets out the requirements for the end performance of materials used in external waterproofing membrane systems, for all buildings, including planter boxes and landscaped areas, which can affect the waterproof integrity of the building or cause deterioration and damage to adjoining finishes or structural elements.

The required properties of materials and the relevant test methods for determining them are listed. Where applicable, specific performance limits to assist in specification are included.

This Standard is not intended for use in applications such as swimming pools and spas and excludes concrete admixtures or penetrant sealers or similar and decorative coatings.

### 1.2 APPLICATION

This Standard applies to all areas of Australia, and is intended for use by designers, manufacturers, specifiers and installers of external waterproofing membrane systems. It may also be used as a specification for new and remedial building work.

### 1.3 NEW SYSTEMS AND MATERIALS

This Standard shall not be interpreted as preventing the use of materials that meet the criteria set out in the Standard, by independent testing.

### 1.4 NORMATIVE REFERENCES

The following documents are indispensable to the application of this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS	
1145	Determination of tensile properties of plastics materials (all parts)
4654	External waterproofing membrane systems
4654.2	Part 2: Design and installation
AS/NZS	
4020	Testing of products for use in contact with drinking water
ASTM	
E96	Standard Test Methods for Water Vapor Transmission of Materials
C794	Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
D1242	Standard Test Method for Resistance of Plastic Materials to Abrasion
D6207	Standard Test Method for Dimensional Stability of Fabrics to Changes in Humidity and Temperature