

Australian Standard™

**Formwork for concrete**

This Australian Standard was prepared by Committee BD-043, Formwork. It was approved on behalf of the Council of Standards Australia on 18 January 1995 and published on 5 April 1995.

---

The following are represented on Committee BD-043:

Aluminium Development Council  
Australian Federation of Construction Contractors  
AUSTROADS  
Building Management Authority of W.A.  
Cement and Concrete Association of Australia  
Department of Employment, Vocational Education, Training and Industrial Relations  
Department of Occupational Health Safety and Welfare, Western Australia  
Formworks Contractors of W.A.  
Housing Industry Association  
Metal Trades Industry Association of Australia  
National Precast Concrete Association Australia  
Plywood Association of Australia  
Queensland University of Technology  
The Association of Consulting Engineers Australia  
Workcover Authority of N.S.W.

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.com.au](mailto:mail@standards.com.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

*This Standard was issued in draft form for comment as DR 93275.*

# Australian Standard™

## Formwork for concrete

Originated in part as AS CA70— 1971.  
Previous edition AS 3610— 1990.  
Second edition 1995.  
Reissued incorporating Amendment No. 1 (January 2003).

### **COPYRIGHT**

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd  
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7262 9658 9

## PREFACE

This Standard is a new edition of AS 3610—1990 and incorporates a number of changes and corrections to the previous edition, specifically in Clauses 1.3, 1.6, 3.4.5.2, 4.5.5.3, 4.5.6.3, 4.6.3, 5.4.3.2, 5.4.4 and 5.6.4.2; Paragraphs A4.4.3, A4.4.4, A5.3 and A6; Tables 3.4.1, 3.4.2, 4.4.1, 4.5.1, 4.5.2, 4.5.3, 4.5.4, 5.3.1 and 5.4.2; and Figure 5.3.1.

*This Standard incorporates Amendment No. 1 (January 2003). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to set out requirements for the design, fabrication, erection and stripping of formwork as well as evaluation of the formed concrete surface.

Where mandatory notes to tables are used in this Standard, they are deemed to form an integral part of the Standard.

Photographic charts for the assessment of colour and surface finish are provided in the appendices. Additional copies of these charts are available as AS 3610, Supplement 1.

AS 3610 Supplement 2 provides a commentary on this Standard. The commentary includes background information on the Standard, guidance on its use, and suggestions on good practice.

<sup>A1</sup> | Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

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.

## CONTENTS

	<i>Page</i>
SECTION 1 GENERAL	
1.1 SCOPE .....	4
1.2 APPLICATION.....	4
1.3 REFERENCED DOCUMENTS .....	4
1.4 NEW MATERIALS OR METHODS .....	5
1.5 DEFINITIONS.....	5
1.6 NOTATION.....	8
SECTION 2 THE PROJECT DOCUMENTATION	
2.1 SCOPE OF SECTION.....	11
2.2 GENERAL.....	11
2.3 INFORMATION TO BE PROVIDED IN THE PROJECT DOCUMENTATION .....	11
SECTION 3 SURFACE FINISH	
3.1 SCOPE OF SECTION.....	13
3.2 APPLICATION OF SECTION .....	13
3.3 CLASSES OF SURFACE FINISH.....	13
3.4 PHYSICAL QUALITY .....	13
3.5 COLOUR CONTROL OF UNTREATED SURFACES .....	19
3.6 TEST PANELS .....	22
SECTION 4 STRUCTURAL DESIGN AND DOCUMENTATION	
4.1 SCOPE OF SECTION.....	24
4.2 APPLICATION OF SECTION .....	24
4.3 DESIGN REQUIREMENTS.....	24
4.4 LOADS .....	25
4.5 ANALYSIS AND DESIGN .....	34
4.6 CONSTRUCTION CONSIDERATIONS.....	42
4.7 FORMWORK DOCUMENTATION .....	43
SECTION 5 CONSTRUCTION	
5.1 SCOPE OF SECTION.....	45
5.2 APPLICATION OF SECTION .....	45
5.3 GENERAL FORMWORK REQUIREMENTS—IN SITU CONCRETE .....	45
5.4 FORMWORK CONSTRUCTION—IN SITU CONCRETE .....	47
5.5 FORMWORK CONSTRUCTION—PRECAST CONCRETE .....	54
5.6 EVALUATION OF COMPLETED WORK AND REPAIRS.....	54
APPENDICES	
A TESTING OF FORMWORK .....	61
B BLOWHOLE AND COLOUR EVALUATION CHARTS.....	69

## STANDARDS AUSTRALIA

---

**Australian Standard**  
**Formwork for concrete**


---

## SECTION 1 GENERAL

**1.1 SCOPE**

This Standard sets out requirements for the design, fabrication, erection and stripping of formwork, as well as the specification, evaluation and repair of the quality of the formed concrete surface and the influence of this activity on the design and construction of an in situ concrete structure. Design by testing is considered separately, the requirements being set out in Appendix A. Some Sections of the Standard are also applicable to precast concrete, in particular some aspects of Sections 3 and 5.

This Standard does not apply to unformed concrete surfaces, e.g. tops of slabs.

**1.2 APPLICATION**

Formwork requirements in the project documentation shall comply with Section 2. The concrete surface finish shall comply with Section 3. The structural design of formwork shall comply with Section 4. The procedures to be followed in construction, checking the completed work and carrying out repairs shall be in accordance with Section 5.

**1.3 REFERENCED DOCUMENTS**

The documents below are referred to in this Standard:

## AS

1170	Minimum design loads on structures (known as the SAA Loading Code)
1170.2	Part 2: Wind loads
1170.4	Part 4: Earthquake loads
1576	Scaffolding
1657	Fixed platforms, walkways, stairways and ladders—Design, construction and installation
1664	Rules for the use of aluminium in structures (known as the SAA Aluminium Structures Code)
1720	Timber Structures (known as SAA Timber Structures Code)
2082	Visually stress-graded hardwood for structural purposes
2271	Plywood and blockboard for exterior use
2858	Timber—Softwood—Visually stress-graded for structural purposes
3600	Concrete structures
3700	Masonry in buildings (known as the SAA Masonry Code)
3972	Portland and blended cements
4100	Steel structures
AS/NZS	
2269	Structural plywood