

AS 5100.7—2004  
AP-G15.7/04  
(Incorporating Amendment No. 1)

AS 5100.7—2004

Australian Standard<sup>®</sup>

**Bridge design**

**Part 7: Rating of existing bridges**



This Australian Standard® was prepared by Committee BD-090, Bridge Design. It was approved on behalf of the Council of Standards Australia on 22 August 2003. This Standard was published on 23 April 2004.

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The following are represented on Committee BD-090:

- Association of Consulting Engineers Australia
  - Australasian Railway Association
  - Austroads
  - Bureau of Steel Manufacturers of Australia
  - Cement and Concrete Association of Australia
  - Institution of Engineers Australia
  - Queensland University of Technology
  - Steel Reinforcement Institute of Australia
  - University of Western Sydney
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This Standard was issued in draft form for comment as DR 00380.

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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Originated as HB 77.7—1996.  
Revised and redesignated as AS 5100.7—2004.  
Reissued incorporating Amendment No. 1 (April 2010).

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Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 5500 3

## PREFACE

This Standard was prepared by the Standards Australia Committee BD-090, Bridge Design, to supersede HB 77.7—1996, *Australian Bridge Design Code*, Section 7: *Rating*.

*This Standard incorporates Amendment No. 1 (April 2010). 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 AS 5100 series represents a revision of the 1996 HB 77 series, *Australian Bridge Design Code*, which contained a separate Railway Supplement to Sections 1 to 5, together with new Section 6, *Steel and composite construction*, and Section 7, *Rating*. AS 5100 takes the requirements of the Railway Supplement and incorporates them into Parts 1 to 5 of the present series, to form integrated documents covering requirements for both road and rail bridges. In addition, technical material has been updated.

This Standard is also designated as AUSTROADS publication AP-G15.7/04.

The objectives of AS 5100 are to provide nationally acceptable requirements for—

- (a) the design of road, rail, pedestrian and bicycle-path bridges;
- (b) the specific application of concrete, steel and composite steel/concrete construction method, which embody principles that may be applied to other materials in association with relevant Standards; and
- (c) the assessment of the load capacity of existing bridges.

These requirements are based on the principles of structural mechanics and knowledge of material properties, for both the conceptual and detailed design, to achieve acceptable probabilities that the bridge or associated structure being designed will not become unfit for use during its design life.

Whereas earlier editions of the *Australian Bridge Design Code* were essentially administered by the infrastructure owners and applied to their own inventory, an increasing number of bridges are being built under the design-construct-operate principle and being handed over to the relevant statutory authority after several years of operation. This Standard includes clauses intended to facilitate the specification to the designer of the functional requirements of the owner, to ensure the long-term performance and serviceability of the bridge and associated structure.

Significant changes have been made to HB 77.7—1996 following recent research and experience in Australia. Load testing to supplement theoretical assessment of the load capacity of the structure has been included.

In line with Standards Australia policy, the words ‘shall’ and ‘may’ are used consistently throughout this Standard to indicate respectively, a mandatory provision and an acceptable or permissible alternative.

Statements expressed in mandatory terms in Notes to Tables are deemed to be requirements of this Standard.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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