AS 1085.1—2002 Sup 1:2017

AS 1085.1 Supplement 1:2017

Railway track material—Steel rails—History (Supplement 1 to AS 1085.1—2002)

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- Australian Industry Group
- Monash University
- Permanent Way Institution, NSW
- Rail Industry Safety and Standards Board
- Rail Track Association Australia
- Railway Technical Society of Australasia

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Supplement through their representation on the Committee.

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PREFACE

This Supplement was prepared by the Standards Australia Committee CE-002, Railway Track Materials.

The objective of this Supplement is to provide users and maintainers of railway rail with information on old rail profiles for convenience of identification when such rails are encountered in the field.

This Supplement does not provide sufficient information to allow the old rail profiles to be manufactured. It may be of use in manufacturing other railway track materials for use with old profiles, such as fishplates. It is recommended that this document is not used to specify rails made to any of the old rail profiles as the appropriate details for the preferred Standard sizes are those given in the current edition of AS 1085.1.

The following sources were used for the information in this Supplement:

(a) Drawing by the Department of Railways NSW Way and Works Branch: No. 81–23 *Rail Section and Properties* which is now maintained by TfNSW Asset Standards Authority.

(b) Drawing by the South Australian Railways: D65/41 *Various Rail Sections in Track* (this plan superseded plan D43/55) which is now maintained by Department of Planning, Transport and Infrastructure (DPTI).

(c) Drawings by Commonwealth of Australia, Institute of Science and Industry: *Australian Standard* Rails and Fishplates, dated August 1919.

(d) Copies of drawings collected by a number of contributors, including David Griffiths and Pat McKay. These included a number from a 1958 document for rail in Victoria (signed off 7/5/1958). These are now maintained by Public Transport Victoria (PTV).

(e) Copies of drawings by Western Australian Railways, which are now maintained by Brookfield Rail.

Non-Standard profiles have been identified by the use of letters following the weight number. These letters are those given on the source drawings with the exception that the letter V has been added for those found in the Victorian 1958 document (see Section 11).

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Supplement provides information on rail profiles used in the past in Australia. The information provided is not complete. Information given includes the following:

(a) Drawings of the profiles.

(b) History.

This information will be of use to owners and maintainers of railways when old rails are encountered in the field.

1.2 REFERENCED DOCUMENTS

Documents referenced in this Supplement are listed in the Bibliography.

1.3 DEFINITIONS

For the purpose of this Supplement, the definitions given in AS 1085.1 and AS 1929 apply.

1.4 MEASURING UNITS

The old rail profiles are given with their original dimensions (in inches and mass in pounds per yard). Section properties given with these are also in imperial (inches). The figures have basic dimensions also given in millimetres in brackets. Metric profiles are dimensional in millimetres.

1.5 HISTORY OF AUSTRALIAN RAILS

1.5.1 General

Railways began to be built in the 1750s and were widespread in British mines and quarries by the 1790s. By 1830 there was an excess of different profiles in use, both plate rails for flat wheels and edge rails for profiled wheels.

For an indication of the variety of rails available, the Barlow rail (see Figure 1.1) invented in 1849, was used in some early railways in Australia [e.g. Sydney to Parramatta line (1855)]. It was designed to be laid direct on the ballast without requiring sleepers. However, it was not very successful because of lack of gauge holding ability, difficulty in laying curves and ongoing maintenance difficulties and disappeared from general use within 20 years of invention and introduction.

NOTE: Lengths of Barlow rail from the Parramatta line can be seen in the Powerhouse Museum, Sydney.