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RAILWAY PERMANENT WAY MATERIAL PART 1 — STEEL RAILS



STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian National Railways
Public Transport Commission of N.S.W.
Queensland Railways
South Australian Railways
Tasmanian Railways
Victorian Railways
Bureau of Steel Manufacturers of Australia
Associated Chambers of Manufactures of Australia.

This standard, prepared by Committee CE/2, Railway Permanent Way Materials, was approved on behalf of the Council of the Standards Association of Australia on 14 January 1977, and was published on 1 July 1977.

The specification is intended to include the technical provisions necessary for the supply of the materials herein referred to, but does not purport to comprise all the necessary provisions of a contract.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD SPECIFICATION

**RAILWAY PERMANENT
WAY MATERIAL**

**Part 1
STEEL RAILS**

AS 1085, Part 1—1977

First published 1977

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PREFACE

This first part of AS 1085 was prepared by the Association's Committee on Railway Permanent Way Materials, as revision and metrication of AS E22 — 1964, Steel Rails, which it accordingly supersedes.

In addition to metric conversion, the opportunity was taken to add specification details for two further rail sections as well as requirements for hydrogen removal, and to bring the standard into line editorially with recently published steel specifications.

This standard does not preclude the adoption, by agreement between the purchaser and the manufacturer, of requirements other than those specified herein.

This standard may require reference to the following standards:

- AS 1050 Methods for the Analysis of Iron and Steel (Metric Units)
- AS 1213 Methods for the Sampling of Iron, Steel, Permanent Magnet Alloys and Ferro-Alloys
- AS 1391 Methods for Tensile Testing of Metals
- AS K1 Methods for the Sampling and Analysis of Iron and Steel.

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CONTENTS

SPECIFICATION	<i>Page</i>
1 Scope	4
2 Designation	4
3 Steelmaking Process	4
4 Branding	4
5 Chemical Analysis	4
6 Treatment for Hydrogen Removal	5
7 Tolerances on Dimensions and Mass	5
8 Straightness	6
9 Length	6
10 Holes for Fishbolts	6
11 Preparation of Test Pieces for Mechanical Testing	7
12 Impact Test Requirements	7
13 Rounding of Numbers	7
APPENDICES	
A Rail Profiles	8
B Impact Test	15
C Tensile Test	15
D Diffusion Treatment for Hydrogen Removal, for 60 kg Rail ...	16
E Rounding of Numbers	17
F Purchasing Requirements	19

STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard Specification
for
RAILWAY PERMANENT WAY MATERIAL**

PART 1 — STEEL RAILS

1 SCOPE. This specification applies to rolled steel rails for railways purposes.

NOTE: It is essential that the purchaser supply the manufacturer with certain information when enquiring about or ordering rails to this specification. Purchasing guidelines are given in Appendix F.

2 DESIGNATION. The nominal rail size shall be designated by the nominal mass, in kilograms, of a metre length of rail.

The nominal rail sizes are 31, 41, 47, 50, 53, and 60 kg and they shall be referred to as '31 kg rail', '41 kg rail', etc.

3 STEELMAKING PROCESS. The steel used for the manufacture of the rails shall be made by an open hearth, a basic oxygen, or an electric process. For the purpose of this specification, a basic oxygen process means the process of making steel in a basic converter blown with commercially pure oxygen.

4 BRANDING.

4.1 Rolled-in Brands. Each rail shall be distinctly branded with the mass per metre, a mark to identify the manufacturer, and the month and year in which it was rolled.

The letters and figures shall be rolled on the side of the web, and shall be raised not less than 0.5 mm from the plane surface of the rail.

4.2 Stamped Brands. The number of the cast, the ingot number, and a letter indicating the position of the ingot from which the rail was made shall be plainly stamped on the web of each rail.

The first rail from each ingot shall be lettered 'A' and the succeeding rails 'B', 'C', 'D' etc, consecutively.

On drilled rails these brands shall be located so that they are not subsequently covered by the fishplates.

5 CHEMICAL ANALYSIS.

5.1 Ladle Analysis. The manufacturer shall make a chemical analysis of the steel from each ladle to determine the proportion of the specified elements. This analysis shall be made from a sample taken during the pouring of the ladle, and shall comply with the limits set out in Table 1.