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1085.2—1986

RAILWAY PERMANENT WAY MATERIAL
Part 2—FISHPLATES

1993 ED.

STANDARDS ASSOCIATION OF AUSTRALIA
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AS 1085
Railway permanent way material

AS 1085.2—1993
Fishplates 11pp *DD*
Specifies dimensions, properties and materials for bar-type fishplates for use with steel rails rolled in accordance with AS 1085, Part 1. Full development profile and purchasing requirements are included. Major alterations in this edition are that the requirements have been extended to include forged fishplates, dimensional changes in Appendix B and minor editorial amendments.
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AUSTRALIAN STANDARD

RAILWAY PERMANENT WAY MATERIAL

Part 2 FISHPLATES

AS 1085.2—1986

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PREFACE

This edition of this standard was prepared by the Association's Committee on Railway Permanent Way Materials to supersede AS 1085, Part 2—1979.

The only changes to the standard are the inclusion of a Note to Clause 5, a change in the chemical composition requirements in Clause 6, and a number of dimensional changes in Appendix A.

This standard does not preclude the adoption, by agreement between the purchaser and the manufacturer, of requirements other than those specified herein. The drawings in Appendix A show typical punchings only; alternative punchings may be negotiated with respect to hole configurations, dimensions and tolerances.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
RAILWAY PERMANENT WAY MATERIAL

PART 2—FISHPLATES

1 SCOPE. This standard applies to bar-type steel fishplates for use in conjunction with steel rails rolled in accordance with AS 1085, Part 1.

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

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1050	Methods for the Analysis of Iron and Steel
AS 1085	Railway Permanent Way Material Part 1—Steel Rails
AS 1213	Iron and Steel—Methods of Sampling
AS 1391	Methods for Tensile Testing of Metals
AS 1442	Carbon Steels and Carbon-manganese Steels—Hot-rolled Bars and Semi-finished Products
AS K1	Methods for the Sampling and Analysis of Iron and Steel

3 DESIGNATION. Fishplates shall be designated by the number of this Australian standard and the nominal rail size, e.g.—

Fishplate to AS 1085, Part 2, for 53 kg rail.

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

5 ROLLED-IN BRANDS. Each fishplate shall be distinctly branded with figures denoting the mass per metre of rails for which the fishplates are intended, a mark to identify the manufacturer and the year in which they were rolled, e.g. 53 XXX 86.

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

NOTE: The year of manufacture is to be used for the purpose of identification only and should not be used as a basis for rejection of the fishplates.

6 CHEMICAL COMPOSITION.

6.1 General. The steel used for the manufacture of fishplates shall comply with the requirements of AS 1442.

6.2 Material specification. The steel grades used shall be selected from the appropriate grades in Table 3 or Table 4 of AS 1442 and comply with the chemical composition limits (cast analysis) as set out in Table 1.

7 HOLES FOR FISHBOLTS. The holes for fishbolts shall be either drilled or punched, and shall be to the centres and dimensions shown in the appropriate drawings in Appendix A, subject to the tolerances given in Table 2.

NOTE: This requirement does not preclude the negotiation between the manufacturer and purchaser of dimensions and tolerances of holes and hole centres other than those specified herein.

8 FINISH. Fishplates shall be free from defects detrimental to their end use, but localized areas of deformation caused by shearing or punching and conforming to the tolerance limits given in Table 2 shall be permitted.

9 TOLERANCES ON SECTION AND DIMENSIONS.

9.1 Section. The section shall conform to the appropriate profile in Appendix A. A variation of 2.0 mm horizontally outwards shall be permitted, i.e. if a fishplate template is placed on the rolled bar, it shall not vary horizontally outwards by more than 2.0 mm from the nominal position.

9.2 Dimensions. Fishplates shall conform to the dimensions indicated for the appropriate profile given in Appendix A, subject to the tolerances given in Table 2.

10 CALCULATED MASS PER PAIR OF FISHPLATES. Calculated mass values per pair of fishplates (unpunched) are set out in Table 3.

NOTE: These are theoretical values based on nominal dimensions.

11 MECHANICAL PROPERTIES. The mechanical properties of test pieces sampled and tested in accordance with Clause 12 shall comply with the limits given in Table 4.

12 TENSILE TESTS.

12.1 General. Samples for tensile testing shall be selected from any two fishplate bars to represent each ladle and each individual rolling.

It shall be permissible to discard a test piece which shows defective rolling or develops flaws, and to submit another test piece.

12.2 Tensile test pieces. Test pieces shall be circular-section proportional test pieces of 150 mm^2 cross-sectional area, prepared and tested in accordance with AS 1391.

If a test piece breaks outside the middle third of its gauge length, resulting in an elongation below the specified value, the test may, at the manufacturer's option, be discarded and another test piece made from the same test sample.