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Australian Standard 1085, Part 9—1979

RAILWAY PERMANENT WAY MATERIAL

Part 9—ROLLED STEEL CLIP FASTENING SLEEPER PLATES



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

Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Railways of Australia Committee
SAA Committee on Threaded Fasteners

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AUSTRALIAN STANDARD

**RAILWAY PERMANENT
WAY MATERIAL**

**Part 9
ROLLED STEEL CLIP
FASTENING SLEEPER PLATES**

AS 1085, Part 9—1979

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PREFACE

This standard was prepared by the Association's Committee on Railway Permanent Way Materials, and covers an additional item of railtrack hardware not previously included in the AS 1085 series.

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.

This standard may require reference to the following standards:

AS 1050	Methods for the Analysis of Iron and Steel (Metric Units)
AS 1085	Railway Permanent Way Material Part 1—Steel Rails
AS 1100	Drawing Practice Part 10—Geometry Tolerancing
AS 1213	Methods for the Sampling of Iron, Steel, Permanent Magnet Alloys and Ferro-alloys
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

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

RAILWAY PERMANENT WAY MATERIAL

PART 9—ROLLED STEEL CLIP FASTENING SLEEPER PLATES

1 SCOPE. This standard applies to clip fastening rolled steel sleeper plates for use in conjunction with steel rails rolled in accordance with AS 1085, Part 1.

NOTES:

1. The sleeper plates may also be used for rail sizes not currently covered in Part 1.
2. It is essential that the purchaser supply the manufacturer with certain information when enquiring about or ordering sleeper plates to this standard. Purchasing guidelines are given in Appendix C.

2 DESIGNATION. The sleeper plates shall be designated by the fastening system and type of rail seating, i.e. whether taper or level base, the number of this Australian standard, and the nominal rail base width, e.g.—

Clip fastening taper base sleeper plate to AS 1085, Part 9 for 146 mm rail base.

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

4 ROLLED-IN BRANDS. The sleeper plates shall be distinctly branded with figures denoting the nominal base width of the rails with which the sleeper plates are intended to be used and a mark to signify the manufacturer, e.g. 146 XXX.

Letters and figures shall be rolled on the outside of the shoulder on the datum side of the sleeper plates, and shall be raised not less than 0.5 mm from the surface. A portion of the markings shall appear on each finished sleeper plate.

5 CHEMICAL COMPOSITION.

5.1 General. The method of sampling for chemical analysis shall be in accordance with AS 1213. Chemical composition shall be determined by any of the procedures commonly used such as emission spectroscopy, X-ray spectroscopy, atomic absorption spectroscopy, combustion techniques or classical volumetric and gravimetric methods.

5.2 Ladle Analysis. The reported ladle analysis shall comply with the limits set out in Table 1.

TABLE 1
CHEMICAL COMPOSITION
(LADLE ANALYSIS)

percent				
Carbon	Silicon	Manganese	Phosphorus	Sulphur
0.15 to 0.30	0.35 max.	0.40 to 0.80	0.050 max.	0.050 max.

5.3 Product Analysis. The permitted variation on product analysis shall comply with the limits given in Table 8 of AS 1442.

6 FINISH. The sleeper plates shall be free from injurious warp, harmful burrs and other defects detrimental to their subsequent use. However, localized areas of deformation caused by shearing and punching shall be permitted.

7 DIMENSIONS AND TOLERANCES. Dimensions and shapes shall conform to the appropriate profiles in Appendix A, subject to the tolerances prescribed in Table 2.

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

TABLE 2
DIMENSIONAL TOLERANCES

Description	Tolerance mm
Rail seat width	± 1.0
Rail seat flatness (Notes 1 and 2)	1.0 max.
Thickness	± 1.0
Rolled width	± 5.0
Sheared length	± 5.0
Size of hole	± 0.6
Position of holes	± 0.8
Shearing out-of-squares	6.0 max.
Other dimensions (unless otherwise specified)	± 1.0
Local areas of deformation	0.5 max.

NOTES:

1. Tolerance applies as maximum value, except for local areas of deformation caused by shearing.
2. For interpretation, refer to AS 1100, Part 10.

8 BEND TEST.

8.1 Preparation of Test Piece. Full section samples for bend testing shall be cut transversely from the as-rolled bar, or a finished sleeper plate. Full cross-section test pieces 40 ± 2 mm in the rolling direction shall be used for the bend test.

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

8.2 Number of Tests. One bend test shall be made from each heat.