1085 Railway permanent way material
Part 4—1988 Fishbolts and nuts A4 7pp C

Specifies requirements for steel non-heat-treated or heat-treated fishbolts and nuts for use in conjunction with steel rails and fishplates rolled in accordance with AS 1085.1 and AS 1085.2.

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AS 1085.4-1988

RAILWAY PERMANENT WAY MATERIAL

Part 6—NUTS FOR FISHBOLTS

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

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 9 October 1979 and was published on 1 December 1979.

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AUSTRALIAN STANDARD

RAILWAY PERMANENT WAY MATERIAL

Part 6 NUTS FOR FISHBOLTS

AS 1085, Part 6—1979

First published (included in AS E25 and E26 ... 1928
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PREFACE

This revised edition of Part 6 of AS 1085 was prepared by the Association's Committee on Railway Permanent Way Materials.

The standard has been brought in line with other Australian standards on threaded fasteners. A distinguishing identification mark for nuts for fishbolts has been adopted and tolerances now correspond to international practice.

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 1085	Railway Permanent Way Material Part 1—Steel Rails Part 4—Non-heat-treated Fishbolts (Interference Fit) Part 5—Heat-treated Fishbolts (Medium Thread Class)
AS 1213	Methods for the Sampling of Iron, Steel, Permanent Magnet Alloys and Ferro-alloys
AS 1252	General Grade High-strength Steel Bolts with Associated Nuts and Washers for Structural Engineering (ISO Metric Series)
AS 1275	Metric Screw Threads for Fasteners
AS 1391	Methods for Tensile Testing of Metals
AS 1442	Carbon Steels and Carbon-manganese Steels—Hot-rolled Bars and Semi-finished Products
AS 1654	Limits and Fits for Engineering
AS 1815	Method for Rockwell Hardness Test Part 1—Testing of Metals
AS 1816	Method for Brinell Hardness Test Part 1—Testing of Metals
AS 1817	Method for Vickers Hardness Test Part 1—Testing of Metals
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 6—NUTS FOR FISHBOLTS

1 SCOPE. This standard sets out requirements for nuts for fishbolts specified in AS 1085, Parts 4 and 5.

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

2 STEEL MAKING PROCESS. The steel used for the manufacture of the nuts 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.

3 CHEMICAL COMPOSITION.

3.1 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.

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

TABLE 1
CHEMICAL COMPOSITION
(LADLE ANALYSIS)

percent

Carbon	Manganese	Phosphorus	Sulphur
0.58 max.	0.30 min.	0.05 max.	0.15 max.

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

4 MANUFACTURE AND IDENTIFICATION.

4.1 Method of Production. Nuts shall be produced by cold or hot forging with or without subsequent machining, or may be machined from bar stock.

4.2 Heat Treatment. Nuts shall be heat treated under uniform conditions by hardening and tempering, to obtain the mechanical properties specified in Clause 7.

4.3 Identification. Nuts shall be identified as nuts for fishbolts by having a complete circumferential line indented in one or both bearing faces.

5 SHAPE, DIMENSIONS AND FINISH.

5.1 General. The shape, dimensions and finish of nuts shall be in accordance with Fig. 1, Table 2 and the requirements of this Clause 5.

Nuts shall be cleanly finished, sound and free from defects detrimental to their end use.

TABLE 2
DIMENSIONS OF NUTS FOR FISHBOLTS

millimetres

Nominal nut dia. *D*	Pitch *p*	Thickness *m*		Width across flats *s*	
		max.	min.	max.	min.
[illegible]24	3.0	25.3	24	41	40
[illegible]22	2.5	23.3	22	41	40
[illegible]	2.5	21.3	20	41	40

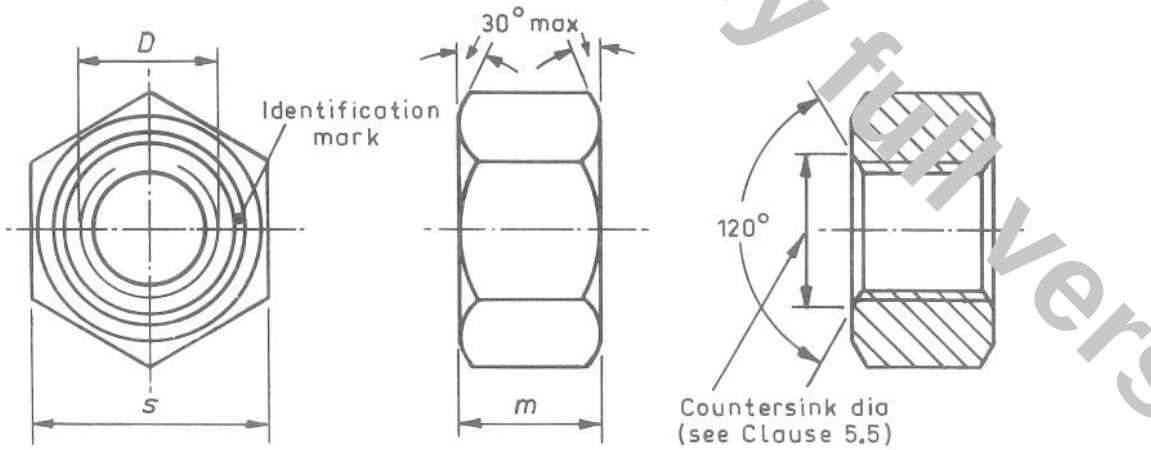

Fig. 1. PROFILE OF NUTS FOR FISHBOLTS