

Australian Standard™

**Carbon and carbon-manganese steel—
Cold finished bars**

This Australian Standard was prepared by Committee MT-001, Iron and Steel. It was approved on behalf of the Council of Standards Australia on 28 November 2003 and published on 18 February 2004.

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Australasian Railway Association
Australian Building Codes Board
Australian Foundry Institute
Australian Steel Institute
Bureau of Steel Manufacturers of Australia
Institute of Materials Engineering Australia

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**Carbon and carbon-manganese steel—
Cold finished bars**

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee MT-001, Iron and Steel, to supersede AS 1443—1994, Carbon steels and carbon-manganese steels—Cold-finished bars. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify requirements for cold-finished carbon steel and carbon-manganese steel bars, manufactured from hot-rolled bars and semifinished products, for general engineering purposes.

The objective of this revision is to revise the specifications and quality requirements for suppliers and purchasers of carbon and carbon manganese steels that are manufactured as cold finished bars.

To reflect changes in steel-making technology and to meet industry requirements, the steel grades have been revised and grade prefix letters 'M' and 'U' introduced to indicate steel quality.

Steel grades with specified mechanical properties have been revised so that they align with other grades in this Standard. A table of mechanical properties of steels in the machined condition has been added.

Dimensional tolerances have been completely revised so that they align more closely with overseas Standards and industry practice.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard**Carbon and carbon-manganese steel—Cold finished bars****1 SCOPE**

This Standard specifies requirements for cold-finished carbon steel and carbon-manganese steel bars manufactured from hot-rolled bars and semifinished products (see AS 1442), for general engineering purposes. The Standard applies to steel supplied to specified chemical composition only or to specified chemical composition and mechanical properties. It permits the addition of elements, such as boron, and micro-alloying elements for the achievement of special properties.

NOTES:

- 1 Advice and recommendations on information that should be supplied by the purchaser at the time of enquiry and order are given in Appendix A.
- 2 Alternative means for determining compliance with this Standard are given in Appendix B.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

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| 1171 | Non-destructive testing—Magnetic particle testing of ferromagnetic products, components and structures |
| 1199 | Sampling procedures and tables for inspection by attributes |
| 1199.0 | Part 0: Introduction to the ISO 2859 attributes sampling system |
| 1199.1 | Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection. |
| 1391 | Method for tensile testing of metals |
| 1442 | Carbon steels and carbon-manganese steels—Hot-rolled and semifinished products |
| 1654 | ISO system of limits and fits |
| 1654.1 | Part 1: Bases of tolerances, deviations and fits |
| 1654.2 | Part 2: Tables of standard tolerances grades and limit deviations for holes and shafts |
| 1733 | Methods for the determination of grain size in metals |
| 2062 | Non-destructive testing—Penetrant testing of products and components |
| 2338 | Preferred dimensions of wrought metal products |
| 2706 | Numerical values—Rounding and interpretation of limiting values |
| 4177 | Caravan and light trailer towing components |
| 4177.2 | Part 2: 50 mm towballs |

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| 1050 | Methods for analysis of iron and steel |
| 1050.1 | Part 1: Sampling of iron and steel for chemical analysis |