Australian Standard™

Carbon and carbon-manganese steel—Cold finished bars

STANDARDS AUSTRALIA

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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Australian Foundry Institute

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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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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.

AS

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

AS/NZS

1050 Methods for analysis of iron and steel

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