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AS 3597—2008

Australian Standard®

Structural and pressure vessel steel—Quenched and tempered plate

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- Association of Consulting Engineers Australia
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Steel Institute
- Bureau of Steel Manufacturers of Australia
- Business New Zealand
- Steel Construction New Zealand
- University of New South Wales
- University of Sydney
- University of Western Australia

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Structural and pressure vessel steel—Quenched and tempered plate

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PREFACE

This Standard was prepared by the Standards Australia Committee BD-023, Structural Steel, to supersede AS 3597—1993.

The objective of this Standard is to cover the technical aspects of supply of intermediate and high-strength quenched and tempered steel plates for structural and pressure vessel applications.

This edition incorporates the following major changes to the previous edition:

(a) The introduction of grades of steel with good weldability, formability and low temperature toughness.

(b) The introduction of a minimum thickness of 3 mm to a maximum thickness of 110 mm for intermediate and high-strength quenched and tempered low-alloy steel plates.

(c) The introduction of new Grades 900 and 1000. Grades 500, 600, 700, 900 and 1000 high-strength low-alloy steels are intended for use in structural applications and mechanically tested on a batch basis in line with the requirements of ASTM A514, *Specification for High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding* and BS EN 10025-6, *Hot Rolled Products of Structural Steels*, Part 6: *Technical Delivery Conditions for Flat Products of High Yield Strength Structural Steels in the Quenched and Tempered Condition*.

(d) The introduction of new Grades 500PV and 600PV. Grades 500PV, 600PV and 700PV low-alloy steels intended for use in pressure vessels and mechanically tested in line with the requirements of ASTM A517, *Specification for Pressure Vessel Plates, Alloy Steel, High-Strength, Quenched and Tempered* and BS EN 10028-6, *Flat Products Made of Steels for Pressure Purposes*, Part 6: *Weldable Fine Grain Steels, Quenched and Tempered*.

The only significant differences between Grades 500, 600, 700, 900, 1000 and 500PV, 600PV and 700PV are the nature and frequency of mechanical tests. The mechanical properties of each Grade are developed by quenching and tempering after plate rolling.

The unification of these Grades into one Standard is meant to provide maximum availability for users and to reduce costs. Grades 500, 600 and 700 may be used in lieu of Grades 500PV, 600PV and 700PV respectively, if the results of additional testing are satisfactory (see Appendix D).

A statement expressed in mandatory terms in a note to a table in the body of this Standard is deemed to be a requirement of this Standard.

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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