AS 1228:2016

Pressure equipment—Boilers

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Australian Standard®

Pressure equipment—Boilers

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-001, Pressure Equipment, to supersede AS 1228—2006. 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 revision is to bring the Standard into line with the developments taking place worldwide.

Table 2.1, Materials, includes references to EN material standards. The design strength values for these materials may be derived from the appropriate EN material properties, in conjunction with the principles as set out in Appendix D of this Standard. A number of British (BS) material standards have been withdrawn in favour of the EN standards; however, reference to the BS standards has been retained in Table 2.1 and Table 2.2.1 at this time, in recognition that material stocks may still be available.

The design strength values in Table 2.2.1 have generally been revised and updated to fall in line with the latest editions of the AS (e.g. AS 1548), BS and ASME material specifications and standards, which were available at the time of this Standard being published. Time-dependent design strength values in the table have been *italicized*, to assist in determining the calculation pressure for components designed in this range.

Users of this Standard are reminded that it has no legal authority in its own right, but may acquire legal standing in one or more of the following circumstances:

(a) Adoption by a government or other authority having jurisdiction.

(b) Adoption by a purchaser as the required standard of construction when placing a contract.

(c) Adoption where a manufacturer states that a boiler is in accordance with 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.

Statements expressed in mandatory terms in notes to figures and tables are deemed to be requirements of this Standard.

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STANDARDS AUSTRALIA

Australian Standard
Pressure equipment—Boilers

S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard sets out requirements for materials, design, manufacture, inspection and testing of boilers as defined in AS/NZS 1200.

NOTE: The Scope of this Standard covers requirements for cast iron in addition to welded boilers inclusive of vapour-generating and hot fluid units subject to internal vapour or liquid pressure. Other forms of design and manufacture should be by agreement between the parties concerned.

It also applies to all pressure parts containing fluid up to and including the valves separating the pressure parts from—

(a) steam piping to and from other equipment;

(b) water piping to and from other equipment;

(c) drain piping;

(d) the surrounding atmosphere, except that for safety valves, their vent piping to the atmosphere is also covered; and

(e) for equipment such as reheaters which may not incorporate valves at their supply and return connection points, the Standard applies to the equipment included between the inlet to the inlet header and the outlet from the outlet header of such equipment (see Appendix B).

This Standard also provides guidance on locomotive and other heritage boilers, and on the design of blowdown vessels.

Requirements for boiler safety, water and firing management systems are specified in AS 2593.

1.2 REFERENCED DOCUMENTS

A list with titles of the documents referred to in this Standard is given in Appendix A.

1.3 DEFINITIONS

For the purposes of this Standard the definitions given in AS 4942 and those given in this Clause apply. For calculations, AS ISO 1000, the international system of units, has been applied.

1.3.1 Actual thickness

The actual thickness of the material used in the pressure part, which may be taken as the nominal thickness minus any applicable manufacturing tolerances.

1.3.2 Calculation pressure

Except as specified in Item (b) below, the calculation pressure for all pressure parts is as given in Item (a):

(a) The design pressure increased, where applicable, to take into account the pressure differential and hydrostatic head corresponding to the most severe conditions of operation.

