

AS 1548—1995

Australian Standard[®]

Steel plates for pressure equipment

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PREFACE

This Standard was prepared by the Standards Australia/Standards New Zealand Committee ME/1 on Pressure Equipment and supersedes AS 1548—1988, *Steel plates for boilers and pressure vessels*.

This Standard is the main material Standard referenced in AS/NZS 1200, *Pressure Equipment*. AS/NZS 1200 is the main Australia/New Zealand Standard for pressure equipment which outlines the general requirements for shell boilers, water-tube boilers, pressure vessels, pressure piping, welder certification and related matters.

In this edition, the concept of ‘interchangeability’ has been extended to 7—490R and 7—490RH grade plates. The Standard covers both continuous casting and ingot casting steelmaking practices.

A niobium addition of up to a maximum of 0.025 percent is permitted to Type 7 steels (L20 and below) in order to achieve good low temperature properties without affecting the weldability of steel plates. However, the addition of niobium is not permitted to R, RH, A and AH designation for Type 7 grades, thus not affecting its interchangeability as specified in Appendix C.

The impact energy values on RLO grades have been increased to bring them in line with those specified in AS 1210, *Unfired Pressure Vessels* (known as the SAA Unfired Pressure Vessels Code).

Impact tests in the transverse direction have not been made the base impact test requirement, as this is a rare requirement. As well, there are no provisions for transverse impact tests in AS 1210.

The verification option and the former Appendix C, which gave charts for verification of elevated temperature proof stress, has been deleted from this Standard. This aligns with ISO 9328-2—1991, *Steel plates and strips for pressure purposes—Technical delivery conditions, Part 2: Unalloyed and low-alloyed steels with specified room temperature and elevated temperature properties* and EN 10028-2—1992, *Flat products made from steel for pressure purposes, Part 2: Non-alloy and alloy steels with specified elevated temperature properties*.

A provision has been made to supply plates to three levels of reduction of area requirement in a through-thickness direction.

A new Clause A6 has been added for distributors or users to carry out any additional testing on base grade (e.g. elevated temperature test or impact test) without necessarily having to carry out the stress-relieving treatment.

Appendix D, Creep Rupture Properties, has been updated and aligned with ISO 9328-2 and EN 10028-2. In so doing, additional creep values for 10 000 hours and 250 000 hours are added. ISO/EN Standards do not give creep values for Type 5 (niobium bearing) steels. The 5-490 creep values are based on either historical data or calculated as 95% of 7-430/7-460 grades. As a result, these values are lowered in some cases.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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