AS 4343:2014

Pressure equipment—Hazard levels

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- Australasian Corrosion Association
- Australasian Institute of Engineer Surveyors
- Australasian Institute of Engineering Inspectors
- Australian Aluminium Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Industry Group
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- Energy Networks Association
- Engineers Australia
- Materials Australia
- National Association of Testing Authorities Australia
- Welding Technology Institute of Australia
- WorkCover New South Wales
- Worksafe Victoria
- Worksafe Division, Department of Commerce, WA

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Australian Standard®

Pressure equipment—Hazard levels

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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 4343—2005.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this revision is to include improvements suggested by users of this Standard.

Significant changes are as follows:

(a) Adoption of the numerical method of calculating hazard level. This has been done to remove the inconsistencies that arise when calculating modified PV values and remove the unneeded conservatism in the hazard level.

(b) Clarification of parameters used to calculate hazard levels—removal of some inconsistency between design and operating parameters.

(c) Revision of fluid criteria to remove anomalies and remove contradictory requirements in the Standard.

(d) Identifying the role of purchasers and owners in determining hazard levels.

In determining and allocating the hazard level values, input has been received from regulatory authorities and users, and the practices adopted in industrialized countries and those in the European Union Pressure Equipment Directive have been taken into account.

The impact of this revision is expected to be negligible, except to resolve a number of issues raised in the use of the Standard, and to facilitate its use. Specifically, the adoption of the calculation method for determining hazard level simplifies and enhances the automation of hazard level calculation.

The basis for hazard level in this Standard is the maximum amount of stored energy that could be released in 5–10 seconds and the level of exposure. For boilers and pressure vessels, calculation involves pressure and volume, while for piping, pressure and diameter are used similarly to that in EU-PED for ease of use.

Changes introduced in this edition do not require alteration to hazard level of existing pressure equipment determined in accordance with the previous edition of AS 4343.

The use (or implementation) of this Standard is subject to the requirements of the applicable regulator, for example, in some States and Territories the superseded Standard may apply until regulations are amended.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

Statements expressed in mandatory terms in Notes to Tables are deemed to be requirements of this Standard.

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STANDARDS AUSTRALIA

Australian Standard
Pressure equipment—Hazard levels

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 specifies criteria for determining the hazard levels of various types of pressure equipment to AS/NZS 1200. It also classifies fluids for use with pressure equipment.

1.2 OBJECTIVE

This Standard is intended to provide a uniform, practical, generic system for assessing the level of hazard associated with various pressure equipment, that is, the potential to harm people, or damage property and the environment, as a consequence of pressure equipment loss of containment by rupture, serious leakage or collapse.

These hazard levels may be used for a number of purposes, including—

(a) selecting the appropriate levels of control for safety purposes and risk management;

(b) providing a basis for registration of boilers and pressure vessels and their design with authorities; and

(c) providing a basis for in-service inspection of pressure equipment.

1.3 APPLICATION

This Standard is intended to be used in the design, manufacture, inspection, conformity assessment, use and ultimate disposal of pressure equipment.

This Standard is not intended to apply to gas cylinders. For further information, see AS 2030 series and ADG Code.

The controls at each of the above phases should be proportionate to the hazard that the equipment presents to provide an overall acceptable level of risk to the community.

This Standard uses the main characteristics of pressure equipment hazards to determine the hazard level. In certain cases, the hazard levels determined by this Standard might need to be increased based on sound engineering rationale.

NOTE: State and Territory regulations usually reference this Standard and may require design registration for boilers and pressure vessels of hazard levels A, B, C and D and item registration of such equipment with hazard levels A, B or C (see relevant State and Territory regulations for pressure equipment).

The hazard level should be recorded on the equipment and the associated documentation.

The purchaser shall supply the necessary information so as to allow the appropriate hazard level to be determined.

Where there is a fundamental change in design condition, such as the design pressure or the location of the pressure equipment, the hazard level shall be reviewed and the classification shall either be reaffirmed or changed accordingly.

