AS 3920:2015

Pressure equipment—Conformity assessment

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- Australasian Institute of Engineer Surveyors
- Australasian Institute of Engineering Inspectors
- Australian Aluminium Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
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- Energy Networks Association
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- 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—Conformity assessment

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PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/ Standards New Zealand Committee ME-001, Pressure Equipment, to supersede AS 3920.1—1993, *Assurance of product quality*, Part 1: *Pressure equipment manufacture*. With this revision, the Standard will now be known as AS 3920, *Pressure equipment—Conformity assessment*.

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 Australia/New Zealand Standard.

When first issued, this Standard was a most advanced Standard which responded to the increasing recognition of quality systems as alternatives to, or supplements for, inspection, and the potential to reduce conformity assessment (CA) effort as the level of hazard is reduced.

The changing laws and industry needs, including the increased prevalence of imported pressure equipment, have now made it essential to revise the Standard to address conformity assessment.

This Standard is expected to become a significant document used by industry in Australia to provide guidance in ensuring that all pressure equipment used in Australia, including imported pressure equipment, is safe and conforms with an accepted Standard. Conformity assessment requirements have been included to provide reasonable compatibility with overseas pressure equipment practices, such as those required by the ASME *Boiler and Pressure Vessels Code* and the EU-PED European Union—Pressure Equipment Directive.

The amount of conformity assessment follows the same basic principles as international codes but an over-riding principle remains in applying more stringent requirements as the consequences of pressure equipment failure (i.e. hazard level) increases.

Changes since the 1993 edition now include the following:

(a) Removal of Appendix B, ‘Hazard levels of pressure equipment’ to a separate Standard, AS 4343—2005, *Pressure equipment—Hazard levels*.

(b) Incorporation of AS 3920.1—1993, Amendment 1:1995 and Amendment 2:1999.

(c) Changes to align with the new work health and safety (WHS) laws recognizing the need for prescriptive requirements for self-regulation by industry.

(d) Requirements for whole of life conformity assessment, with reference to AS/NZS 3788 for conformity assessment at the vital commissioning and in-service stages.

(e) Modification to Table 2.1 to improve flexibility and understanding of requirements, to ensure Australian practices with design verification are clarified, and to provide alignment and guidance on leading overseas practices in recognition of increased use of overseas-designed pressure equipment in Australia.

(f) Recognition and use of the latest international quality Standards, e.g. AS/NZS ISO 9001 and AS/NZS ISO 3834 (the latter being appropriate for welded manufacture), and specifying the requirements for the practices and independence of inspection and design verifying bodies, using AS/NZS ISO/IEC 17020 in place of outdated requirements.

(g) Normative Appendix F included on competent bodies and persons, design verification and manufacture inspection.

(h) Updating of terms, references and some details.

The above changes are expected to improve safety and economy for all pressure equipment from any source used in Australia at a reasonable cost appropriate to the hazard presented by the equipment.

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

CONTENTS

Page

SECTION 1 SCOPE AND GENERAL
1.1 SCOPE 6
1.2 OBJECTIVE 6
1.3 APPLICATION 7
1.4 REFERENCED DOCUMENTS 8
1.5 DEFINITIONS 8
1.6 STATUS OF STANDARD 10
1.7 ABBREVIATIONS 11

SECTION 2 BASIC REQUIREMENTS
2.1 CONFORMITY ASSESSMENT 12
2.2 ALTERATIONS 14
2.3 TYPES OF INSPECTION AND VERIFICATION BODIES 15
2.4 SUB-CONTRACTORS 15
2.5 DOCUMENT LANGUAGE 15
2.6 ASSESSMENT OF PRESSURE EQUIPMENT WITH LIMITED DATA 15
2.7 DESIGN AND MANUFACTURE VALIDATION 16

SECTION 3 QUALITY SYSTEMS—DESIGN AND MANUFACTURE
3.1 GENERAL 17
3.2 QUALITY SYSTEM REQUIREMENTS 17
3.3 OPERATION OF QUALITY SYSTEM 18
3.4 QUALITY SYSTEM DOCUMENTATION 18

SECTION 4 DESIGN VERIFICATION
4.1 GENERAL 19
4.2 PURPOSE 19
4.3 BASIS OF DESIGN CONFORMITY ASSESSMENT 19
4.4 STAGE OF DESIGN VERIFICATION 19
4.5 INFORMATION FOR DESIGN VERIFICATION 20
4.6 AMOUNT OF DESIGN VERIFICATION 20
4.7 DESIGN STANDARD AND SPECIFICATION 20
4.8 DESIGN VERIFYING BODIES AND DESIGN VERIFIERS 20
4.9 ELEMENTS AND METHOD OF DESIGN VERIFICATION 21
4.10 COMPUTER-AIDED DESIGN VERIFICATION 23
4.11 DESIGN VERIFICATION CERTIFICATE 23
4.12 DESIGN REGISTRATION 23
4.13 DESIGN VERIFICATION WITH LIMITED DATA 23
4.14 DESIGN VERIFICATION TO CHANGED STANDARD 24
4.15 CONFIDENTIALITY 24

SECTION 5 TYPE TESTING
5.1 GENERAL 25
5.2 REQUEST FOR VERIFICATION OF TYPE TESTING 25
5.3 WITNESS AND ASSESSMENT 25
5.4 TYPE TESTING METHOD 26
5.5 TYPE TESTING CERTIFICATE 26
5.6 MANUFACTURE INSPECTION 26
5.7 ALTERATIONS 26

Page

SECTION 6 MANUFACTURE INSPECTION
6.1 GENERAL 27
6.2 INFORMATION FOR MANUFACTURE INSPECTION 27
6.3 AMOUNT OF MANUFACTURE INSPECTION 27
6.4 MANUFACTURING INSPECTION METHOD 27
6.5 FACILITIES FOR INSPECTION 27
6.6 MANUFACTURE INSPECTION BODY 28
6.7 INSPECTION REPORT 28
6.8 CONFIDENTIALITY 28

SECTION 7 CONFORMITY ASSESSMENT MARKING AND REPORTS
7.1 MARKING 29
7.2 DESIGN VERIFICATION CERTIFICATE 29
7.3 MANUFACTURER'S DECLARATION OF CONFORMITY 29
7.4 IN-SERVICE INSPECTION REPORT 29

SECTION 8 REGISTRATION 30

APPENDICES
A REFERENCED DOCUMENTS 31
B DESIGN VERIFICATION PROCESS 33
C DESIGN VERIFICATION CERTIFICATE 35
D MANUFACTURE INSPECTION 36
E DECLARATION OF CONFORMITY FOR THE DESIGN AND MANUFACTURE OF PRESSURE EQUIPMENT 38
F REQUIREMENTS FOR CONFORMITY ASSESSMENT BODIES AND PERSONNEL 39
G CONCEPT OF CONFORMITY ASSESSMENT INFRASTRUCTURE 42

STANDARDS AUSTRALIA

Australian Standard
Pressure equipment—Conformity assessment

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 the minimum requirements for the assessment for conformity of boilers, pressure vessels and pressure piping, including pressure-retaining accessories, to a nominated, recognized pressure equipment Standard or Code.

This Standard details specific requirements for conformity assessment of design and manufacture; however, it can equally be used more generally over the whole life cycle of pressure equipment, including repairs. For conformity assessment associated with commissioning and other in-service inspection, refer to AS/NZS 3788.

NOTE: Failure to consider conformity assessment at the early stages of the life cycle of pressure equipment can add significantly to the time and costs of the project. In the worst case inappropriate conformity assessment may force the rejection of prior work.

Optional methods for conformity assessment (CA) are provided through various combinations of—

(a) design and manufacture quality systems; and

(b) design verification, type testing and manufacture inspection.

The selection of the appropriate method of conformity assessment depends on the hazard levels determined by AS 4343.

NOTE: Figure 1.1 provides information on the main elements of the conformity assessment process covered by this Standard.

Additional requirements may be specified provided these are not lower than the level of conformity in this Standard and are negotiated by the relevant parties, e.g. purchaser, designer, manufacturer, repairer, design verifying body, manufacture inspection body and accreditation or certification bodies.

1.2 OBJECTIVE

The objective of this Standard is to—

(a) specify clear, safe, minimum requirements for conformity assessment of pressure equipment;

(b) assist all parties involved in the provision and use of safe pressure equipment;

(c) provide alternative conformity assessment methods that are appropriate to the hazard level of the equipment and acceptable to the parties concerned; and

(d) help ensure that the pressure equipment conforms to relevant requirements during its lifetime.

