

Australian Standard™

**Certification of welders and welding
supervisors**



This Australian Standard was prepared by Committee ME-001, Pressure Equipment. It was approved on behalf of the Council of Standards Australia on 15 June 2001 and published on 1 August 2001.

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Australian Standard™

Certification of welders and welding supervisors

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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 1796—1993 *Certification of welders and welding supervisors*.

This Standard incorporates Amendment No. 1 (March 2002). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee ME-001. 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.

Consensus means general agreement by all interested parties. Consensus includes an attempt to remove all objections and implies much more than the concept of a simple majority, but not necessarily unanimity. It is consistent with this meaning that a member may be included in the Committee list and yet not be in full agreement with all the clauses of this Standard.

This edition introduces the following changes:

- (a) With the withdrawal of the ‘Regulatory Authorities’ as examiners, the term ‘Examining Authorities’ has been replaced by the introduction of specific requirements for an ‘Examining Body’.
- (b) The definition of ‘Examining Body’ has been added to overcome the deletion of ‘Examining Authorities’.
- (c) The dressing requirements and amended lengths for test welds have been revised.
- (d) Editorial changes, including the following:
 - (i) Clarification of the meanings of several Clauses.
 - (ii) Update of the List of Standards and the List of Referenced Documents.
 - (ii) Alignment with current Standards Australia style.
- (e) The syllabi have been expanded to account for a clearer content, learning outcomes and assessment.

For the purposes of this Standard, the terms ‘welder’ and ‘welding operator’ are deemed to be synonymous.

As drawings in this Standard are complete only to the extent necessary for illustration, reference is to be made to the requirements specified in the text.

It is not intended that the publication of this edition will invalidate certificates that were issued in respect of previous editions 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.

Notes expressed in mandatory terms in footnotes to tables and within tables are deemed to be requirements of this Standard.

CONTENTS

| | <i>Page</i> |
|--|-------------|
| FOREWORD..... | 4 |
| SECTION 1 SCOPE AND GENERAL | |
| 1.1 SCOPE..... | 5 |
| 1.2 APPLICATION | 5 |
| 1.3 TITLES AND TYPES OF CERTIFICATES..... | 5 |
| 1.4 REFERENCED DOCUMENTS..... | 5 |
| 1.5 DEFINITIONS..... | 6 |
| 1.6 EXAMINING BODY | 11 |
| 1.7 ASSESSOR | 13 |
| 1.8 INTERPRETATION OF THIS STANDARD | 14 |
| SECTION 2 WELDER CERTIFICATION | |
| 2.1 PRE-EXAMINATION REQUIREMENTS..... | 15 |
| 2.2 THEORY EXAMINATION | 18 |
| 2.3 PRACTICAL TESTS..... | 25 |
| 2.4 ASSESSMENT OF PRACTICAL TESTS..... | 37 |
| 2.5 CERTIFICATE..... | 51 |
| 2.6 FAILURE IN PART | 53 |
| SECTION 3 WELDING SUPERVISOR CERTIFICATION | |
| 3.1 PRE-EXAMINATION REQUIREMENT | 55 |
| 3.2 SCOPE OF EXAMINATION | 55 |
| 3.3 EXAMINATION SYLLABUS | 56 |
| 3.4 CERTIFICATE..... | 65 |
| 3.5 FAILURE IN PART | 65 |
| APPENDICES | |
| A LIST OF REFERENCED DOCUMENTS | 66 |
| B LIST OF STANDARDS | 68 |
| C MATERIAL GROUPS | 72 |

FOREWORD

The Standard refers to the certification of welders and welding supervisors where the requirements of industry demand a prescribed degree of quality in welding to meet the needs of safety and performance.

The Standard is related in particular to the boiler and pressure vessel industry, but recognizes that there are other industries and applications where quality in welding is also of considerable importance. In these cases, certification in accordance with this Standard may be useful or desirable, particularly where an application Standard does not specify welder qualification.

Note that all the tests are made on carbon steel test pieces, but provision can be made for certification using other materials where these are readily available.

The form of the practical tests is suitable not only for the convenience of training establishments in regard to the supply of material, but also because the form adopted amply serves to demonstrate the attainment of the prescribed standard of practical welding to specific processes and techniques.

Candidates are encouraged to follow a welding procedure specification when making test welds.

It is expected that candidates will become familiar during training with the techniques required for satisfactory deposition of weld metal when using the different types of consumables referred to in this Standard.

The possession of a welder's certificate indicates that the holder has a sound knowledge of the theory of safe welding and has demonstrated the ability required to make a welds using the appropriate process.

The welding supervisor's certification specified in this Standard is aimed at assisting the welding industry by stating the requirements which will be acceptable throughout Australia for the certification of technical personnel who are required to supervise the welding of boilers, pressure vessels and associated piping. Such supervision is aimed at ensuring that welding is carried out in accordance with the relevant application Standard and other specified requirements, and is performed safely.

The possession of a welding supervisor's certificate indicates that the holder has a high degree of knowledge of the theory and practice of welding and also has the ability and capacity to direct and supervise welding in accordance with the appropriate requirements of an application Standard.

Recognition has been given to the move to competency-based education and training.

STANDARDS AUSTRALIA

Australian Standard Certification of welders and welding supervisors

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the requirements necessary for the granting of certificates to experienced and competent welders engaged in the operation of various welding processes used in the manufacture of pressure equipment such as boilers, pressure vessels and associated piping as defined in AS/NZS 1200, as well as other applications requiring a prescribed standard in the theory and practice of welding.

Certification in welding is related primarily to basic welding techniques and processes and not to the parent metal of the joint.

Welder certification should not be confused with welder qualification (see Clauses 1.5.24 and 1.5.30). The requirements for welder qualification are specified in the appropriate application Standards.

1.2 APPLICATION

A certificate shall be granted to:

- (a) A welder who complies with the requirements of Section 2.
- (b) A welding supervisor who complies with the requirements of Section 3.

A candidate for a welder's certificate or a welding supervisor's certificate shall be examined for knowledge of the theory and safe practice of welding.

In addition, a candidate for a welder's certificate shall demonstrate the ability to weld, and to thermal-cut and gouge metal by carrying out a number of practical tests which shall be examined, tested, and assessed.

1.3 TITLES AND TYPES OF CERTIFICATES

The titles and types of certificates shall be as follows:

Certificate No. 1—Manual metal-arc welding (MMAW) of welds in carbon steel plate and carbon steel pipe over 600 mm outside diameter (single vee welded from both sides).

Certificate No. 1E—Manual metal-arc welding (MMAW) of welds in carbon steel plate and carbon steel pipe over 270 mm outside diameter (single vee welded from one side only).

Certificate No. 2—Manual metal-arc welding (MMAW) of welds in carbon steel pipe (single vee weld from one side only).

Certificate No. 3—Manual metal-arc welding (MMAW) of welds using hydrogen controlled electrodes in alloy steel plate and alloy steel pipe over 600 mm outside diameter (single vee welded from both sides).

Certificate No. 3E—Manual metal-arc welding (MMAW) of welds using hydrogen controlled electrodes in alloy steel plate and alloy steel pipe over 270 mm outside diameter (single vee welded from one side only).