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Australian STANDARD

Welding—Measurement of preheating temperature, interpass temperature and preheat maintenance temperature

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Australasian Corrosion Association
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Australian Steel Association
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Welding—Measurement of preheating temperature, interpass temperature and preheat maintenance temperature

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Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee WD-003, Welding of Structures, to supersede AS ISO 13916—2003, *Welding — Guide on the measurement of preheating temperature, interpass temperature and preheat maintenance temperature.*

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 Standard is to specify requirements for the measurement of preheating temperature, interpass temperature and preheat maintenance temperature for fusion welding.

This Standard may also be applied as appropriate in the case of other welding processes.

This Standard does not cover the measurement of post weld heat treatment temperatures.

This Standard is identical with, and has been reproduced from, ISO 13916:2017, *Welding — Measurement of preheating temperature, interpass temperature and preheat maintenance temperature*, parent document.

As this Standard is reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Quality management in the field of welding*.

This second edition cancels and replaces the first edition (ISO 13916:1996), which has been technically revised.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

Australian Standard®

Welding—Measurement of preheating temperature, interpass temperature and preheat maintenance temperature

1 Scope

This document specifies requirements for the measurement of preheating temperature, interpass temperature and preheat maintenance temperature for fusion welding. This document can also be applied as appropriate in the case of other welding processes. This document does not cover the measurement of post weld heat treatment temperatures.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
preheating temperature
T_p
temperature of the workpiece in the weld zone immediately prior to any welding operation

Note 1 to entry: It is normally expressed as a minimum and is usually equal to the minimum interpass temperature.

3.2
interpass temperature
T_i
temperature in a multi-run weld and adjacent parent metal immediately prior to the application of the next run

Note 1 to entry: It is normally expressed as a maximum temperature.

3.3
preheat maintenance temperature
T_m
minimum temperature in the weld zone which to be maintained if welding is interrupted

4 Requirements

4.1 Point of measurement

The temperature measurement shall normally be made on the surface of the workpiece facing the welder, at a distance of $A = 4 \times t$, but not more than 50 mm, from the longitudinal edge of the groove (see Figure 1). This shall apply for workpieces thickness t not exceeding 50 mm in the weld.

When the thickness exceeds 50 mm, the required temperature shall exist in the parent metal for a distance of minimum 75 mm or as otherwise agreed in any direction from the joint preparation. Where practicable, the temperature shall be measured on the face opposite to that being heated. Otherwise,