INTERNATIONAL STANDARD

ISO 16338

Second edition
2017-01

Welding for aerospace applications — Resistance spot and seam welding

Soudage pour applications aérospatiales — Soudage par résistance par points et à la molette

Reference number
ISO 16338:2017(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

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 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 ISO/TC 44, *Welding and allied processes*, Subcommittee SC 14, *Welding and brazing in aerospace*.

This second edition cancels and replaces the first edition (ISO 16338:2013), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

a) notes on different determination of clear annulus zone for radiographic and metallographic examination have been added under the keys of Figures 8 and 9;

b) transposed numbering in column *t* in Table 14 has been corrected: row changed for 0,60 mm and 0,65 mm;

c) 17.5.1.2 Span *S* is no longer expressed in %;

d) to correct a hanging paragraph, a 14.1.3.1 "General" subheading has been introduced;

e) other editorial revisions.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 14 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

Welding for aerospace applications — Resistance spot and seam welding

1 Scope

This document specifies requirements for resistance spot and seam welding for aerospace applications.

This document does not apply if resistance welding is simply an intermediate operation and does not affect the quality of the end product, for example when tacking basic parts prior to assembly with another process.

Resistance welding of dissimilar material group combinations is not covered by this document.

Safety and health issues and concerns are not covered by this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6520-2, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 2: Welding with pressure*

ISO 14731, *Welding coordination — Tasks and responsibilities*

ISO 17677-1:2009, *Resistance welding — Vocabulary — Part 1: Spot, projection and seam welding*

ISO/TR 25901-1:2016, *Welding and allied processes — Vocabulary — Part 1: General terms*

ISO/TR 25901-3, *Welding and allied processes — Vocabulary — Part 3: Welding processes*

ISO/TR 25901-4, *Welding and allied processes — Vocabulary — Part 4: Arc welding*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6520-2, ISO 14731, ISO 17677-1, ISO/TR 25901-1, ISO/TR 25901-3, ISO/TR 25901-4 and the following apply.

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

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

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

3.1
chisel test
destructive or non-destructive test in which welds are tested by applying a predominantly tensile force that results in stresses primarily normal to the surface of the joint interface

[SOURCE: ISO 10447:2015, 3.1, modified — “or non-destructive test” has been added and the note 1 to entry has been deleted.]

3.2
close spaced welds
spot welds with weld pitch of less than two diameters