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Welding for aerospace applications — Qualification test for welders and welding operators — Fusion welding of metallic components

Soudage pour applications aérospatiales — Épreuve de qualification pour soudeurs et opérateurs soudeurs — Soudage par fusion des composants métalliques

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Foreword

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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 document 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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 14, *Welding and brazing in aerospace*.

This third edition cancels and replaces the second edition (ISO 24394:2018), which has been technically revised.

The main changes are as follows:

— 3.8: note to entry added;

— Table 4 revised;

— editorial revisions.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html. Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

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Introduction

A welder or welding operator qualification test properly passed in accordance with this document demonstrates that the welder or welding operator concerned has been proven to possess the minimum degree of skill and knowledge required for the fusion welding of aerospace hardware.

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Welding for aerospace applications — Qualification test for welders and welding operators — Fusion welding of metallic components

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1 Scope

This document specifies requirements for the qualification of welders and welding operators for fusion welding of metallic materials for aerospace applications.

NOTE Success in the test is an essential precondition for the qualification of welders and welding operators in new production and repair work in aerospace. However, welding equipment operators do not need to be qualified according to 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 6520-1, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding*

ISO 6947, *Welding and allied processes — Welding positions*

ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys*

ISO 14731, *Welding coordination — Tasks and responsibilities*

ISO 18490, *Non-destructive testing — Evaluation of vision acuity of NDT personnel*

EN 4179, *Aerospace series — Qualification and approval of personnel for non-destructive testing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6520-1, ISO 9606-2 and ISO 14731 and the following apply.

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

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

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

3.1
parent material form
type of the semi-finished product

Note 1 to entry: Semi-finished products are sheets or plates, tubes and castings.

3.2
welder
person who holds and manipulates the electrode holder, welding torch or blowpipe by hand

Note 1 to entry: In this document, a blowpipe is considered to be a gas welding torch.

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