
**Welding for aerospace applications —
Fusion welding of metallic
components —**

**Part 2:
Acceptance criteria**

*Soudage pour applications aéronautiques — Soudage par fusion des
composants métalliques —*

Partie 2: Critères d'acceptation



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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 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).

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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*.

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>.

A list of all parts in the ISO 17927 series can be found on the ISO website.

Welding for aerospace applications — Fusion welding of metallic components —

Part 2: Acceptance criteria

1 Scope

This document specifies acceptance criteria for fusion weldments on metallic components.

It is to be applied provided it is referenced or approved by the responsible engineering/design authority.

This document covers the following processes given in [Table 1](#) and the material groups given in [Table 2](#).

Table 1 — Fusion welding processes covered by this document

| Process | Process number (ISO 4063:2009) |
|---|--------------------------------|
| Oxyfuel welding | 31 |
| Gas shielded arc welding with non-consumable tungsten electrode, gas tungsten arc welding | 14 |
| Plasma arc welding | 15 |
| Electron beam welding | 51 |
| Laser welding, laser beam welding | 52 |

Table 2 — Material groups covered by this document

| Material group | Description |
|----------------|---|
| A | Unalloyed steel, low alloyed steels, high alloyed ferritic steels |
| B | Austenitic, martensitic and precipitation hardening steels |
| C | Titanium and titanium alloys, niobium, zirconium and other reactive metals |
| D | Aluminium and magnesium alloys |
| E | Materials that do not conform to other material groups (e.g. molybdenum, tungsten, copper alloys) |
| F | Nickel alloys, cobalt alloys. |

NOTE Material groups according to ISO 24394.

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*

3 Terms and definitions

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