

DIN ISO 24394



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Supersedes
DIN ISO 24394:2020-06

**Welding for aerospace applications –
Qualification test for welders and welding operators –
Fusion welding of metallic components (ISO 24394:2018, Corrected
version 2020-11),
English translation of DIN ISO 24394:2021-05**

Schweißen im Luft- und Raumfahrzeugbau –
Prüfung von Schweißern und Bedienern von Schweißeinrichtungen –
Schmelzschweißen von metallischen Bauteilen (ISO 24394:2018, korrigierte Fassung
2020-11),
Englische Übersetzung von DIN ISO 24394:2021-05

Soudage pour applications aérospatiales –
Épreuve de qualification pour soudeurs et opérateurs –
Soudage par fusion des composants métalliques (ISO 24394:2018, Version corrigée 2020-11),
Traduction anglaise de DIN ISO 24394:2021-05

Document comprises 47 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.

A comma is used as the decimal marker.

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National foreword

This standard (ISO 24394:2018) has been prepared by Technical Committee ISO/TC 44 “Welding and allied processes” (Secretariat: AFNOR, France).

The responsible German body involved in its preparation was *DIN-Normenausschuss Schweißen und verwandte Verfahren* (DIN Standards Committee Welding and Allied Processes), Working Committee NA 092-00-17 AA “Welding in aerospace (DVS AG A 9)”.

The DIN documents corresponding to the documents referred to in this document are as follows:

ISO 2553	DIN EN ISO 2553
ISO 4063	DIN EN ISO 4063
ISO 5173	DIN EN ISO 5173
ISO 6520-1:2007	DIN EN ISO 6520-1:2007-11
ISO 6947	DIN EN ISO 6947
ISO 8596	DIN EN ISO 8596
ISO 9606-2	DIN EN ISO 9606-2
ISO 14731	DIN EN ISO 14731
ISO 14732	DIN EN ISO 14732
ISO 17636-1	DIN EN ISO 17636-1
ISO 17636-2	DIN EN ISO 17636-2
ISO 18490	DIN EN ISO 18490
ISO 23277	DIN EN ISO 23277
ISO 23278	DIN EN ISO 23278
ISO/TR 25901	DIN-Fachbericht ISO/TR 25901

Amendments

This standard differs from DIN ISO 24394:2013-12 as follows:

- a) welding equipment operator (3.4) who can be excluded from the test has been introduced;
- b) the definition of automatic welding (see 3.12) and mechanical welding (see 3.13) has been introduced;
- c) the requirements in 4.4 “Product types/semi-finished products applicable to welder qualification tests” have been rendered more precise;
- d) the ranges of qualification for welding positions for every test piece have been moved to a separate table;
- e) material groups have been adapted (see 4.5); material group F has been introduced;
- f) new subclause 4.6 “Material thickness” and new subclause 4.6.3 “Casting repair material thickness” have been added;
- g) requirements in 5.1 “Physical requirements for welder and welding operator” have been amended;
- h) new item g) has been introduced in 6.1.1;
- i) the requirement that the theory test shall be documented (see 6.2) has been introduced;
- j) references to the series of standards EN 462 for radiographs have been removed (see 8.4);
- k) in Clause 9 “Acceptance criteria”, it is now expressly stated that for test piece TP6, only the features created by welding shall be assessed;

- l) if a welder/welding operator needs corrected vision, this shall be noted on the qualification test certificate (see Clause 10);
- m) the period of validity of the qualification has been clarified (at the end of the corresponding month in which the test pieces had been welded + 2 years);
- n) the newly introduced material group F has been added to the tables in Annex A;
- o) the standard has been editorially revised.

Compared with DIN ISO 24394:2020-06, the following corrections have been made:

- a) in subclause 4.1.2, the sixth paragraph is now normative (applies to the German version only);
- b) in Table 4, the welding positions qualified by test welds have been corrected;
- c) in Table A.2, Footnote e has been added (applies to the German version only);
- d) in Table A.3, the position of Footnote a has been moved;
- e) the German translation has been adapted, and editorial corrections have been made.

Previous editions

LN 29591: 1969-06, 1975-10
DIN 29591: 1980-12, 1986-10, 1996-11, 2004-10
DIN 29591 Supplement 1: 1996-11
DIN 29591 Corrigendum 1: 2005-09
DIN ISO 24394: 2009-04, 2013-12, 2020-06

National Annex NA (informative)

Bibliography

DIN EN ISO 2553, *Welding and allied processes — Symbolic representation on drawings — Welded joints*

DIN EN ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

DIN EN ISO 5173, *Destructive tests on welds in metallic materials — Bend tests*

DIN EN ISO 6520-1:2007-11, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding (ISO 6520-1:2007)*

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

DIN EN ISO 8596, *Ophthalmic optics — Visual acuity testing — Standard and clinical optotypes and their presentation*

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

DIN EN ISO 14731, *Welding coordination — Tasks and responsibilities*

DIN EN ISO 14732, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials*

DIN EN ISO 17636-1, *Non-destructive testing of welds — Radiographic testing — Part 1: X- and gamma-ray techniques with film*

DIN EN ISO 17636-2, *Non-destructive testing of welds — Radiographic testing — Part 2: X- and gamma-ray techniques with digital detectors*

DIN EN ISO 18490, *Non-destructive Testing — Evaluation of vision acuity of NDT personnel*

DIN EN ISO 23277, *Non-destructive testing of welds — Penetrant testing — Acceptance levels*

DIN EN ISO 23278, *Non-destructive testing of welds — Magnetic particle testing — Acceptance levels*

DIN-Fachbericht ISO/TR 25901, *Welding and related processes — Vocabulary*