
**Aerospace — Bolts, with MJ threads, made
of heat-resistant nickel-based alloy,
strength class 1 550 MPa — Procurement
specification**

*Aéronautique et espace — Vis à filetage MJ, en alliage résistant à chaud à
base de nickel, classe de résistance 1 550 MPa — Spécification
d'approvisionnement*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9154 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

Annex A forms a normative part of this International Standard. Annexes B and C are for information only.

Aerospace — Bolts, with MJ threads, made of heat-resistant nickel-based alloy, strength class 1 550 MPa — Procurement specification

1 Scope

This International Standard specifies the characteristics and quality assurance requirements for MJ threads bolts made of heat-resisting nickel-base alloy, of strength class 1 550 MPa, for aerospace construction.

It is applicable whenever it is referenced in a definition document.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*.

ISO 3452:1984, *Non-destructive testing — Penetrant inspection — General principles*.

ISO 4288:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture*.

ISO 5855-2:1999, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts*.

ISO 6507-1:1997, *Metallic materials — Vickers hardness test — Part 1: Test method*.

ISO 6508-1:1999, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*.

ISO 6892:1998, *Metallic materials — Tensile testing at ambient temperature*.

ISO 7870:1993, *Control charts — General guide and introduction*.

ISO 7961:1994, *Aerospace — Bolts — Test methods*.

ISO 7966:1993, *Acceptance control charts*.

ISO 8258:1991, *Shewhart control charts*.

ISO 9002:1994, *Quality systems — Model for quality assurance in production, installation and servicing*.

ISO 9227:1990, *Corrosion tests in artificial atmospheres — Salt spray tests*.

ISO/TR 13425:1995, *Guide for the selection of statistical methods in standardization and specification*.

3 Terms and definitions

For the purpose of this International Standard, the following terms and definitions apply.

3.1

production batch

quantity of finished bolts, manufactured using the same process, from a single material cast (single heat of alloy), having the same number of definition document, same thread and diameter code, heat-treated together to the same specified condition and produced as one continuous run

3.2

inspection lot

quantity of bolts from a single production batch having the same number of definition document

3.3

definition document

document specifying directly or indirectly all the requirements for bolts

NOTE The definition document may be an International Standard, an in-house standard or a drawing.

3.4

crack

rupture in the material which may extend in any direction and which may be intercrystalline or transcrystalline in character

3.5

seam

open surface defect

3.6

lap

surface defect caused by folding over metal fins or sharp corners and then rolling or forging them into the surface

3.7

crevice

hollow area at thread crest

3.8

inclusions

non-metallic particles originating from the material manufacturing process

NOTE These particles may be isolated or arranged in strings.

3.9

microstructural shearing

shear banding

V- or U-shaped rippled grain structure immediately below the thread root, or chevron shaped rippled grain structure within the thread crest