

INTERNATIONAL STANDARD

ISO
5857

First edition
1988-02-15



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Aerospace — Alloy steel protruding head bolts with strength classification 1 250 MPa and MJ threads — Procurement specification

*Aéronautique et espace — Vis à tête saillante en acier allié, de classe de résistance 1 250 MPa
et à filetage MJ — Spécification d'approvisionnement*

Reference number
ISO 5857:1988 (E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5857 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Aerospace — Alloy steel protruding head bolts with strength classification 1 250 MPa and MJ threads — Procurement specification

1 Scope and field of application

This International Standard specifies the characteristics and quality assurance requirements for bolts with protruding heads, made of alloy steel, having a tensile strength classification of 1 250 MPa and MJ threads, and intended for use in aerospace construction.

This International Standard applies to bolts as defined above, provided that reference is made to this International Standard in the product standard or definition document.

2 References

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1 : Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection.*¹⁾

ISO 3534, *Statistics — Vocabulary and symbols.*

ISO 5855-2, *Aerospace construction — MJ threads — Part 2 : Dimensions for bolts and nuts.*

ISO 6507-1, *Metallic materials — Hardness test — Vickers test — Part 1 : HV 5 to HV 100.*

ISO 6508, *Metallic materials — Hardness test — Rockwell test (scales A — B — C — D — E — F — G — H — K).*

ISO 7961, *Aerospace — Bolts — Test methods.*²⁾

3 Definitions

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 basic part number and diameter, 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 with the same part number which completely defines the bolt.

3.3 Discontinuities

3.3.1 crack : Rupture in the material which may extend in any direction and which may be intercrystalline or transcrystalline in character.

3.3.2 seam : Open surface defect resulting from extension of the material.

3.3.3 lap : Surface defect caused by folding over metal fins or sharp corners and then rolling or forging them into the surface.

3.3.4 inclusions : Non-metallic particles originating from the material manufacturing process. These particles may be isolated or arranged in strings.

3.4 simple random sampling : The taking of n items from a population of N items in such a way that all possible combinations of n items have the same probability of being chosen.³⁾

3.5 critical defect : A defect that, according to judgement and experience, is likely to result in hazardous or unsafe conditions for individuals using, maintaining or depending upon the considered product, or that is likely to prevent performance of the function of a major end item.³⁾

3.6 major defect : A defect, other than critical, that is likely to result in a failure or to reduce materially the usability of the considered product for its intended purpose.³⁾

3.7 minor defect : A defect that is not likely to reduce materially the usability of the considered product for its intended purpose, or that is a departure from established specification having little bearing on the effective use or operation of this product.³⁾

3.8 sampling plan : A plan according to which one or more samples are taken in order to obtain information and possibly to reach a decision.³⁾

3.9 limiting quality (LQ) : In a sampling plan, a quality level which corresponds to a specified and relatively low probability of acceptance for the purposes of this International Standard, a 10 % probability of acceptance (LQ_{10}). It is the limiting lot quality characteristic that the consumer is willing to accept with a low probability that a lot of this quality would occur.³⁾

3.10 acceptable quality level (AQL) : A quality level which in a sampling plan corresponds to a specified but relatively high probability of acceptance.

1) At present at the stage of draft. (Revision, in part, of ISO 2859 : 1974.)

2) At present at the stage of draft.

3) Definition taken from ISO 3534 : 1977. (ISO 3534 is currently being revised by ISO/TC 69, *Applications of statistical methods.*)