

# Nuts, plain or slotted (castellated) — Procurement specification

ICS 49.030.30

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

**BSI**  
Documents

AVA

Document Sharing Hub

# National foreword

This British Standard reproduces verbatim ISO 9139:1998 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee ACE/12, Aerospace fasteners and fastening systems, to Subcommittee ACE/12/1, Aerospace fasteners and fastening systems (International), which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

### Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 14 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 March 1999

© BSI 05-1999

ISBN 0 580 32260 2

### Amendments issued since publication

| Amd. No. | Date | Comments |
|----------|------|----------|
|          |      |          |
|          |      |          |
|          |      |          |
|          |      |          |
|          |      |          |

# Contents

|                   | Page               |
|-------------------|--------------------|
| National foreword | Inside front cover |
| Foreword          | iii                |
| Text of ISO 9139  | 1                  |



# INTERNATIONAL STANDARD

**ISO  
9139**

First edition  
1998-12-15

---

---

## **Aerospace — Nuts, plain or slotted (castellated) — Procurement specification**

*Aéronautique et espace — Écrous ordinaires ou à créneaux —  
Spécification d'approvisionnement*



## Contents

|                                                                                             | Page |
|---------------------------------------------------------------------------------------------|------|
| Foreword                                                                                    | iii  |
| 1 Scope                                                                                     | 1    |
| 2 Normative references                                                                      | 1    |
| 3 Terms and definitions                                                                     | 1    |
| 4 Quality assurance                                                                         | 2    |
| 4.1 General                                                                                 | 2    |
| 4.1.1 Approval of manufacturers                                                             | 2    |
| 4.1.2 Qualification of nuts                                                                 | 2    |
| 4.1.3 Production acceptance of nuts                                                         | 2    |
| 4.2 Qualification inspection and test conditions                                            | 3    |
| 4.3 Production acceptance inspection and test conditions                                    | 3    |
| 4.4 Use of “Statistical process control (SPC)”                                              | 3    |
| 5 Technical requirements                                                                    | 3    |
| Annex A (normative) Types of permissible surface discontinuity                              | 14   |
| Annex B (informative) Cross-sectional area formula                                          | 14   |
| Figure A.1                                                                                  | 14   |
| Table 1 — Technical requirements                                                            | 4    |
| Table 2 — Summary of qualification and production acceptance inspections and tests          | 8    |
| Table 3 — Loads to be applied in the 80 % axial load test                                   | 9    |
| Table 4 — Loads to be applied in the 100 % axial load test                                  | 10   |
| Table 5 — Torques to be applied in the stress embrittlement test                            | 11   |
| Table 6 — Classification of visual and dimensional inspections                              | 11   |
| Table 7 — Sampling plans for visual and dimensional inspections                             | 12   |
| Table 8 — Sampling plans for the inspection of mechanical and metallurgical characteristics | 12   |
| Table 9 — Maximum depth of permissible surface discontinuities                              | 13   |

**Descriptors:** Aircraft industry, fasteners, MJ threads, nuts (fasteners), specifications, mechanical properties, quality assurance, marking, metric system.

## 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.

International Standard ISO 9139 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

Annex A forms an integral part of this International Standard. Annex B is for information only.

