

Space engineering — Mechanical —

Part 7: Mechanical parts

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/68, Space systems and operations, which has the responsibility to:

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- 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.

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This European Standard was approved by CEN on 27 June 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 14607-7:2004) has been prepared by CMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

It is based on a previous version¹⁾ originally prepared by the ECSS Mechanical Engineering Standard Working Group, reviewed by the ECSS Technical Panel and approved by the ECSS Steering Board. The European Cooperation for Space Standardization (ECSS) is a cooperative effort of the European Space Agency, National Space Agencies and European industry associations for the purpose of developing and maintaining common standards.

This document is one of the series of space standards intended to be applied together for the management, engineering and product assurance in space projects and applications.

Requirements in this document are defined in terms of what shall be accomplished, rather than in terms of how to organize and perform the necessary work. This allows existing organizational structures and methods to be applied where they are effective, and for the structures and methods to evolve as necessary without rewriting the standards.

EN 14607 Space engineering - Mechanical is published in 8 Parts:

- Part 1: Thermal control
- Part 2: Structural
- Part 3: Mechanisms
- Part 4: ECLS
- Part 5: Propulsion
 - Part 5.1: Liquid and electric propulsion for spacecraft
 - Part 5.2: Solid propulsion for spacecraft, solid and liquid propulsion for launchers
- Part 6: Pyrotechnics
- Part 7: Mechanical parts
- Part 8: Materials

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¹⁾ ECSS-E-30 Part 7A

1 Scope

EN 14607 Part 7 of Space engineering - Mechanical defines the mechanical engineering requirements for mechanical parts.

This document defines the requirements applicable to the selection, design, verification and application of mechanical parts to promote the use of high-quality non-critical mechanical parts that achieve robust functionality and satisfy the mission performance requirements.

This document defines a pragmatic approach to the selection of parts by the mechanical and design engineer on the basis of their effect on the integrity of the equipment and to streamline the selection of space-proven rather than non space-proven parts during the design of a new equipment in order to select the least number of different parts to satisfy the mission requirements.

It defines performance, design, test, product assurance and support activity requirements for the use of mechanical parts in space applications.

When viewed from the perspective of a specific project context, the requirements defined in this document should be tailored to match the genuine requirements of a particular profile and circumstances of a project.

NOTE Tailoring is a process by which individual requirements of specifications, standards and related documents are evaluated, and made applicable to a specific project by selection, and in some exceptional cases, modification of existing or addition of new requirements.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 13290-4:2001, *Space project management — General requirements — Part 4: Project phasing and planning*.

EN 13291-1:1999, *Space product assurance — General requirements — Part 1: Policy and principles*.

EN 13291-2:2003, *Space product assurance — General requirements — Part 2: Quality assurance*.

EN 13291-3:2003, *Space product assurance — General requirements — Part 3: Materials, mechanical parts and processes*.

EN 13701:2001, *Space systems — Glossary of terms*.

EN 14607-2, *Space engineering — Mechanical — Part 2: Structural*.

EN 14607-8, *Space engineering — Mechanical — Part 8: Materials*.

EN 14725:2003, *Space engineering — Verification*.

References to sources of approved lists, procedures and processes can be found in the bibliography.