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Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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# EN 16603-32-02

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English version

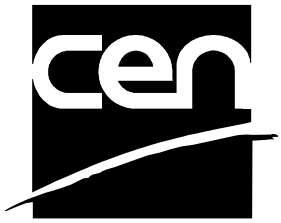
# Space engineering - Structural design and verification of pressurized hardware

Ingénierie spatiale - Conception structurelle et vérification des elements pressurisées

Raumfahrttechnik - Strukturdesign und -verifikation von druckbeaufschlagten Teilen

This European Standard was approved by CEN on 10 February 2014.





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# Foreword

This document (EN 16603-32-02:2014) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-32-02:2014) originates from ECSS-E-ST-32-02C Rev. 1.

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of an identical text or by endorsement, at the latest by February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been developed to cover specifically space systems and has therefore precedence over any EN covering the same scope but with a wider domain of applicability (e.g. : aerospace).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

# 1
# Scope

This Standard defines the structural design verification of metallic and non-metallic pressurized hardware which includes pressure vessels, pressurized structures, pressure components (such as valves, pumps, lines, fittings, and hoses), and special pressurized equipment (e.g. batteries, heat pipes, cryostats, sealed containers, hazardous fluids container). External supports and structural interfaces of pressurized hardware are not covered by this standard. Solid propellant motor cases are not covered by this standard.

Objectives of the associated verification process are primarily to demonstrate the qualification of design and performance, as meeting all specified requirements, and to ensure that the flight hardware is free from workmanship defects and acceptable for flight.

This Standard applies to all space products and in particular to launch vehicles, transfer vehicles, re-entry vehicles, spacecraft, space station, landing probes and rovers, sounding rockets, payloads and instruments.

This standard may be tailored for the specific characteristics and constraints of a space project in conformance with ECSS-S-ST-00.

# 2
# Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revision of any of these publications, do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the more recent editions of the normative documents indicated below. For undated references, the latest edition of the publication referred to applies.

| EN reference | Reference in text | Title |
|---|---|---|
| EN 16601-00-01 | ECSS-S-ST-00-01 | ECSS system – Glossary of terms |
| EN 16603-10-02 | ECSS-E-ST-10-02 | Space engineering – Verification |
| EN 16603-10-03 | ECSS-E-ST-10-03 | Space engineering – Testing |
| EN 16603-32 | ECSS-E-ST-32 | Space engineering – Structural general requirements |
| EN 16603-32-01 | ECSS-E-ST-32-01 | Space engineering – Fracture control |
| EN 16603-32-08 | ECSS-E-ST-32-08 | Space engineering – Materials |
| EN 16603-32-10 | ECSS-E-ST-32-10 | Space engineering – Reliability based mechanical factors of safety |
| EN 16602-20 | ECSS-Q-ST-20 | Space product assurance – Quality assurance |
| EN 16602-70 | ECSS-Q-ST-70 | Space product assurance – Materials, mechanical parts and processes |