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Space engineering - Solid propulsion for spacecrafts and launchers

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/15

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Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, odbor SÚTN, 2015
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16603-35-02

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ICS 49.140

English version

Space engineering - Solid propulsion for spacecrafts and launchers

Ingénierie spatiale - Propulsion solide pour satellites et lanceurs

Raumfahrttechnik - Feststoffantriebe für Raumfahrzeuge und Trägerraketen

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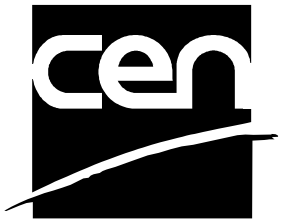

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Foreword

This document (EN 16603-35-02:2014) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-35-02:2014) originates from ECSS-E-ST-35-02C.

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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.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 prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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.

Introduction

The requirements in this Standard ECSS-E-ST-35-02C (and in the 3 other space propulsion standards ECSS-E-ST-35, ECSS-E-ST-35-01 and ECSS-E-ST-35-03) are organized with a typical structure as follows:

- functional;
- constraints;
- development;
- interfaces;
- design;
- GSE;
- materials;
- verification;
- production and manufacturing;
- in-service (operation and disposal);
- deliverables.

This standard forms parts of ECSS-E-ST-35 series which has the following structure;

- ECSS-E-ST-35 Propulsion general requirements
- ECSS-E-ST-35-01 Liquid and electric propulsion for spacecraft
- ECSS-E-ST-35-02 Solid propulsion for spacecraft and launchers
- ECSS-E-ST-35-03 Liquid propulsion for launchers
- ECSS-E-ST-35-06 Cleanliness requirements for spacecrafts propulsion hardware
- ECSS-E-ST-35-10 Compatibility testing for liquid propulsion components, subsystems, and systems

ECSS-E-ST-35 contains all the normative references, terms, definitions, abbreviated terms, symbols and DRD that are applicable for ECSS-E-ST-35, ECSS-E-ST-35-01, ECSS-E-ST-35-02 and ECSS-E-ST-35-03.

1
Scope

General requirements applying to all type of Propulsion Systems Engineering are defined in ECSS-E-ST-35. For solid propulsion activities within a space project the standards ECSS-E-ST-35 and ECSS-E-ST-35-02 are applied together.

This Standard defines the regulatory aspects that apply to the elements and processes of solid propulsion for launch vehicles and spacecraft. It specifies the activities to be performed in the engineering of these propulsion systems and their applicability. It defines the requirements for the engineering aspects such as functional, physical, environmental, quality factors, operational, and verification.

NOTE 1 Some solid propulsion systems use hot gas valves, for thrust or pressure modulation. The requirements applicable to these systems are not covered by the present document.

NOTE 2 For SRM with TVC, only moveable nozzle with flexseal are addressed.

This standard may be tailored for the specific characteristic and constrains 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 16603-20	ECSS-E-ST-20	Space engineering - Electrical and electronic
EN 16603-20-07	ECSS-E-ST-20-07	Space engineering - Electromagnetic compatibility
EN 16603-32	ECSS-E-ST-32	Space engineering - Structural general requirements
EN 16603-32-08	ECSS-E-ST-32-08	Space engineering - Materials
EN 16603-32-10	ECSS-E-ST-32-10	Space engineering - Structural factors of safety for spaceflight hardware
EN 16603-33-11	ECSS-E-ST-33-11	Space engineering - Explosive systems and devices
EN 16603-35	ECSS-E-ST-35	Space engineering - Propulsion general requirements
EN 16602-20	ECSS-Q-ST-20	Space product assurance – Quality assurance
EN 16602-40	ECSS-Q-ST-40	Space product assurance - Safety
EN 16602-70	ECSS-Q-ST-70	Space product assurance - Materials, mechanical parts and processes

koniec náhľadu – text ďalej pokračuje v platenej verzii STN