SLOVENSKI STANDARD
kSIST FprEN 16602-70-57:2014

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Zagotavljanje varnih proizvodov v vesoljski tehniki - Zmanjšanje biološke obremenitve s suho vročino za letalsko strojno opremo

Space product assurance - Dry Heat Bioburden Reduction for Flight Hardware

Raumfahrtproduktsicherung - Reduktion der Gesamtkeimzahl bei trockener Hitze für Flughardware

Assurance produit des projets spatiaux - Réduction par chaleur sèche de la charge microbienne des matériels de vol

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49.140	Vesoljski sistemi in operacije	Space systems and operations

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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Foreword

This document (FprEN 16602-70-57:2014) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN (Germany).

This document (FprEN 16602-70-57:2014) originates from ECSS-Q-ST-70-57C.

This document is currently submitted to the Unique Acceptance Procedure.

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

Introduction

The UN Outer Space Treaty of 1967 sets up the general principles applicable to the exploration and use of outer space. Article IX of the Outer Space Treaty constitutes the primary statement of international law:

> "*States parties shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, when necessary, adopt appropriate measures for this purpose.*"

Harmful contamination in that sense is defined as biological contamination, including organic-constituents, to protect the environment in order to allow future exobiology research. The Committee On Space Research (COSPAR) has established some planetary protection guidelines, based on the Outer Space Treaty. These guidelines impose requirements on spaceflight missions according to target body/mission type combinations.

The objective of this Standard is to ensure that proper procedures for reducing the microbiological contamination on flight hardware are in place to meet the planetary protection constraints.

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Scope

This standard defines procedures for the reduction of microbiological contamination of flight hardware using heat.

The procedures described in this standard cover:

- Reduction of microbiological contamination on exposed surfaces, mated surfaces and encapsulated in materials.
- Reduction of microbiological contamination in dry, ambient and uncontrolled humidity environments.

This standard also sets requirements for the conditioning of the flight hardware, bioburden reduction cycle development, and equipment to be used for applying a bioburden reduction procedure.

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