

Space product assurance - Application of paints and coatings on space hardware

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16602-70-31:2014 sisaldab Euroopa standardi EN 16602-70-31:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 16602-70-31:2014 consists of the English text of the European standard EN 16602-70-31:2014.
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English version

Space product assurance - Application of paints and coatings on space hardware

Assurance produit des projets spatiaux - Application des peintures et revêtements des matériels d'un projet spatial

Raumfahrtproduktsicherung - Anwendung von Farben und Beschichtungen auf Raumflug-Hardware

This European Standard was approved by CEN on 11 April 2014.

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Foreword

This document (EN 16602-70-31:2014) has been prepared by Technical Committee CEN/CLC/TC 5 "Space", the secretariat of which is held by DIN.

This standard (EN 16602-70-31:2014) originates from ECSS-ST-Q-70-31C.

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of an identical text or by endorsement, at the latest by April 2015, and conflicting national standards shall be withdrawn at the latest by April 2015.

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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).

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Introduction

This Standard describes in a generic way the methods and techniques that can be used for application of paints on space hardware. This document is prepared to replace all existing ECSS-Q-70 paint standards, i.e. ECSS-Q-70-25A, ECSS-Q-70-33A, ECSS-Q-70-34A and ECSS-Q-70-35A. It also covers the acceptance criteria for paints.

The parameters to be defined are:

- For substrate:
 - Cleanliness
 - Roughness or other preparation
- For primer:
 - Quality
 - Thickness
 - Adhesion
 - Time between application of primer and application of paint
- For paint:
 - Aspect
 - Thickness
 - Adhesion
 - Thermo-optical properties
 - Electrical properties

NOTE This list is not exhaustive.

1 Scope

This Standard defines the approach for producing a defined surface finish to spacecraft or associated equipment, by means of the controlled application of a paint. This also includes measurements and verifications to be performed.

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

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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 16602-10-09	ECSS-Q-ST-10-09	Space product assurance - Nonconformance control system
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
EN 16602-70-02	ECSS-Q-ST-70-02	Space product assurance - Thermal vacuum outgassing test for the screening of space materials
EN 16602-70-09	ECSS-Q-ST-70-09	Space product assurance - Measurement of thermo-optical properties of thermal control materials
EN 16602-70-13	ECSS-Q-ST-70-13	Space product assurance - Measurement of the peel and pull-off strength of coatings and finishes using pressure-sensitive tapes
EN 16602-70-22	ECSS-Q-ST-70-22	Space product assurance - Control of limited shelf-life materials
	ASTM D1005-95	Standard Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
	ASTM D1400-94	Standard Test Method for Non-destructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base
	ISO 2409:2007	Paints and Varnishes – Cross-cut test
	ISO 2360:2003	Non-conductive coatings on non-magnetic electrically conductive basis materials – Measurement of coating thickness – Amplitude-sensitive eddy current method

	EC 1907/2006	European regulation for the registration, evaluation, authorisation and restriction of chemicals
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