

ESA Approved Standards

Version 1.4

**Issued by the ESA Standardization
Steering Board (ESSB)**

ESA-ESTEC
TOS-QR
Requirements & Standards Division
Noordwijk, The Netherlands

EUROPEAN SPACE AGENCY

ESA Standardization Steering Board (ESSB)

ESA Approved Standards

Space Project Management¹

ID	Title	Status
ECSS-M-00B	Policy and principles	published 29 August 2003
ECSS-M-00-02A	Tailoring of space standards	published 25 April 2000
ECSS-M-00-03A	Risk management	published 25 April 2000
ECSS-M-10B	Project breakdown structures	published 13 June 2003
ECSS-M-20B	Project organisation	published 13 June 2003
ECSS-M-30A	Project phasing and planning	published 19 April 1996
ECSS-M-30-01A	Organization and conduct of reviews	published 1 September 1999
ECSS-M-40A	Configuration management	published 19 April 1996
ECSS-M-50A	Information/documentation management	published 19 April 1996
ECSS-M-60A	Cost and schedule management	published 19 April 1996
ECSS-M-70A	Integrated logistic support	published 19 April 1996

Space Product Assurance

ID	Title	Status
ECSS-Q-00A	Policy and principles	published 19 April 1996
ECSS-Q-20B	Quality assurance	published 8 March 2002
ECSS-Q-20-07A	Quality assurance for test facilities	published 31 July 2002
ECSS-Q-20-09B	Nonconformance control system	published 8 March 2002
PSS-01-202	Preservation, Storage, Handling and Transportation of ESA Spacecraft Hardware	
PSS-02-204	Particulate Contamination Control of Clean Rooms by Particle Fall-out Measurement	

¹ ESA Management Manual — External Management Requirements shall be applicable to all Agency activities, with its content used selectively to provide requirements and guidelines when preparing invitations to tender and during contract execution, and to all internal general and project management activities [ESA/ADMIN(2000)23].

Space Product Assurance

ID	Title	Status
ECSS-Q-30B	Dependability	published 8 March 2002
PSS-01-301	Derating Requirements applicable to Electronic, Electrical and Electro-mechanical Components for ESA Space Systems	
ECSS-Q-30-02A	Failure modes, effects and criticality analysis (FMECA)	published 7 Sep 2001
ECSS-Q-40B	Safety	published 17 May 2002
Q-40-02A	Hazard analysis	published 14 Feb 2003
PSS-01-402	Design Safety Requirements	
PSS-01-403	Hazard Analysis and Safety Risk Assessment	
ECSS-Q-40-04A Part 1	Sneak analysis - Part 1: Method and procedure	published 14 October 1997
ECSS-Q-40-04A Part 2	Sneak analysis - Part 2: Clue list	published 14 October 1997
ECSS-Q-40-12A	Fault tree analysis - Adoption notice ECSS / IEC 61025	published 14 October 1997
ECSS-Q-60A	EEE components	published 19 April 1996
ECSS-Q-60-01A	European preferred parts list (EPPL) and its management	published 4 October 1999
PSS-01-604	Generic Specification for Silicon Solar Cells	
PSS-01-605	Capability Approval Programme for Hermetic Thin Film Hybrid Micro-Circuits	
PSS-01-606	Capability Approval Programme for Hermetic Thick Film Hybrid Micro-Circuits	
PSS-01-608	Generic Specification for Hybrid Micro-circuits	
ECSS-Q-70A	Materials, mechanical parts and processes	published 19 April 1996
PSS-01-700	The Technical Reporting and Approval Procedure for Materials, Mechanical Parts and Processes	
PSS-01-701	Data for the Selection of Space Materials	
ECSS-Q-70-01A	Contamination and cleanliness control	published 11 Dec. 2002
ECSS-Q-70-02A	Thermal vacuum outgassing test for the screening of space materials	published 26 May 2000
PSS-01-703	The Black-Anodising of Aluminium with Inorganic Dyes	October 1982
ECSS-Q-70-04A	Thermal cycling test for the screening of space materials and processes	published 4 October 1999
PSS-01-705	The Detection of Organic contamination of Surfaces by Infrared Spectroscopy	
PSS-01-706	The Particle and Ultraviolet (UV) Radiation Testing of Space Materials	March 1983
ECSS-Q-70-07A	Verification and approval of automatic machine wave soldering	published 20 January 1998

Space Product Assurance

ID	Title	Status
ECSS-Q-70-08A	Manual soldering of high-reliability electrical connections	published 6 August 1999
ECSS-Q-70-09A	Measurement of thermo-optical properties of thermal control materials	published 29 August 2003
ECSS-Q-70-10A	Qualification of printed circuit boards	published 23 November 2001
ECSS-Q-70-11A	Procurement of printed circuit boards	published 23 November 2001
ECSS-Q-70-13A	Measurement of the peel and pull-off strength of coatings and finishes using pressure E-sensitive tapes	published 4 October 1999
ECSS-Q-70-18A	Preparation, assembly and mounting of RF coaxial cables	published 31 Aug 2001
ECSS-Q-70-20A	Determination of the susceptibility of silver-plated copper wire and cable to "red-plague" corrosion	published 19 December 2000
ECSS-Q-70-21A	Flammability testing for the screening of space materials	published 4 October 1999
ECSS-Q-70-22A	The control of limited shelf-life materials	published 21 Jan 2000
ECSS-Q-70-25A	The application of the black coating Aeroglaze Z306	published 30 July 1999
ECSS-Q-70-26A	Crimping of high-reliability electrical connections	published 13 February 2001
ECSS-Q-70-28A	The repair and modification of printed circuit board assemblies for space use	published 21 June 2002
ECSS-Q-70-29A	The determination of offgassing products from materials and assembled articles to be used in a manned space vehicle crew compartment	published 30 July 1999
ECSS-Q-70-30A	The wire wrapping of high-reliability electrical connections	published 4 October 1999
ECSS-Q-70-33A	The application of the thermal control coating PSG 120 FD	published 30 July 1999
ECSS-Q-70-34A	The application of the black electrically conductive coating Aeroglaze H322	published 30 July 1999
ECSS-Q-70-35A	The application of the black electrically conductive coating Aeroglaze L300	published 30 July 1999
ECSS-Q-70-36A	Material selection for controlling stress-corrosion cracking	published 20 January 1998
ECSS-Q-70-37A	Determination of the susceptibility of metals to stress-corrosion cracking	published 20 January 1998
PSS-01-738	High-reliability soldering for surface-mount and mixed-technology printed circuit boards	March 1991
ECSS-Q-70-45A	Standard methods for mechanical testing of metallic materials	published 29 August 2003
PSS-01-746	General Requirements for Threaded Fasteners	June 1993
PSS-01-748	Requirements for ESA-Approved Skills Training and Certification (Electronic Assembly Techniques)	May 1992
ECSS-Q-80	Software product assurance	published 10 October 2003

Space Engineering

ID	Title	Status
ECSS-E-00A	Policy and principles	published 19 April 1996
ECSS-E-10A	System engineering	published 19 April 1996
ECSS-E-10-02A	Verification	published Nov 1998
ECSS-E-10-03A	Testing	published 15 February 2002
ECSS-E-10-04A	Space environment	published 21 Jan 2000
ECSS-E-10-05A	Functional analysis	published 13 April 1999
ECSS-E-20A	Electrical and electronic	published 4 October 1999
PSS-02-10	Power Standard, Vol. 1, Issue1	November 1992
E-20-01A	Multipaction design and test	5 May 2003
ECSS-E-30	Mechanical	
Part 1A	Thermal Control	published 25 April 2000
Part 2A	Structural	published 25 April 2000
Part 3A	Mechanisms	published 25 April 2000
Part 5.1A	Propulsion — Liquid and electric propulsion for spacecraft	published 2 April 2002
Part 6A	Pyrotechnics	published 25 April 2000
Part 7A	Mechanical parts	published 25 April 2000
Part 8A	Materials	published 25 April 2000
ECSS-E-30-01A	Fracture control	published 13 April 1999
MIL-Std-1522A	Structural design and verification of pressurized hardware	
PSS-03-40	Environmental Control and Life Support	
PSS-03-401	Atmosphere Quality Standards in Manned Space Vehicles	
PSS-03-402	Water Quality Standards in Manned Space Vehicles	
PSS-03-70	Human factors	
ECSS-E-40A	Software	published 13 April 1999
ECSS-E-50 pt. 1A	Communications	published 20 October 2003
ECSS-E-50-05A	Radio frequency and modulation	published 24 Jan 2003
ECSS-E-50-12A	SpaceWire — Links, nodes, routers and networks	published 24 Jan 2003
CCSDS 101.0-B5	TM Coding	
PSS-04-104	Ranging	March 1991
CCSDS 102.0-B-5	Packet Telemetry	
CCSDS 201.0-B-3	Packet Telecommand — Channel Service	
CCSDS 202.0-B-3	Packet Telecommand — Data Routing Service	

Space Engineering

ID	Title	Status
CCSDS 202.1-B-2	Packet Telecommand — Command Operation	
CCSDS 203.0-B-2	Packet Telecommand — Data Management Service	
CCSDS 701.0-B-3	AOS (Advanced Orbiting Systems)	
PSS-04-255 MIL1553-B-Notice 4	On-Board Interfaces	
CCSDS 301.0-B-2	Time Code Formats	
CCSDS 121.0-B-1	Lossless Compression	
CCSDS 727.0-R-5	File Transfer (CFDP)	
ECSS-E-70	Ground systems and operations	
Part 1A	Part 1: Principles and requirements	published 25 April 2000
Part 2A	Ground systems and operations - Part 2: Document requirements definitions (DRD)	published 2 April 2001
ECSS-E-70-41A	Telemetry and telecommand packet utilization	published 30 January 2003
CCSDS-911.1-B-1	Space Link Extension — Return all frames service specification	
CCSDS-912.1-B-1	Space Link Extension — Forward CLTU service specification	

General

ID	Title	Status
ECSS-P-001A, rev. 1	Glossary of terms	Published June 97