
**Space systems — Ground support
equipment for use at launch, landing or
retrieval sites — General requirements**

*Systèmes spatiaux — Équipements de soutien au sol utilisés sur les
sites de lancement, d'atterrissage ou de récupération — Exigences
générales*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 14625 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

This second edition cancels and replaces the first edition (ISO 14625:1999), which has been technically revised.

Introduction

This International Standard is intended to be used when designing new ground support equipment (GSE) that support space system (launch vehicle or payload) programmes or projects. Existing programmes and projects may utilize this International Standard as far as is practical in accordance with sound management and engineering practices.

The edition of this International Standard applicable at the time the decision is taken to design, construct, manufacture or procure a given GSE remains applicable for the useful life of the hardware. However, if modifications are made to existing hardware, these can be done in accordance with the edition of this International Standard applicable at the time the modification is decided.

When this International Standard is used in procurement, it is advisable that it be reviewed by the programme/project office for applicability, and that only the clauses that apply to the project or programme be included in the procurement documentation.

This International Standard can also be used as a template for the development of specific programme or project GSE specifications or standards.

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Space systems — Ground support equipment for use at launch, landing or retrieval sites — General requirements

1 Scope

This International Standard specifies the general characteristics, performance, design, test, safety, reliability, maintainability and quality requirements for ground support equipment (GSE) and systems intended for use at launch, landing or retrieval site installations, or other locations that are the responsibility of the launch, landing and retrieval site. This International Standard does not specify how to design GSE, but establishes the minimum requirements to provide simple, robust, safe, reliable, maintainable and cost-effective GSE.

This International Standard is applicable to the design of non-flight hardware and software used to support the operations of transporting, receiving, handling, assembly, inspection, test, checkout, service, launch and recovery of space vehicles and payloads at the launch, landing or retrieval sites. As such, the requirements of this International Standard are optional for hardware used only at the manufacturing, development or test sites prior to arrival at the launch, landing or retrieval sites. However, if such GSE is temporarily used at a launch, landing or retrieval site, for whatever reason, conformity with all the safety-related requirements of this International Standard is a minimum requirement for the GSE.

NOTE In the event of conflict between the documents listed in Clause 2 and the contents of this International Standard, the contents of this International Standard supersede except where otherwise noted. The applicable contract or purchase/procurement order takes precedence over the contents of this International Standard in the event of conflicting requirements. No part of this International Standard is deemed or otherwise used to supersede any locally applicable law or regulation, unless a specific exemption has been obtained for this purpose from the appropriate Authority.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 898-7, *Mechanical properties of fasteners — Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm*

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units*

ISO 1949, *Aircraft — Electrical connectors — Design requirements*

ISO 1966, *Crimped joints for aircraft electrical cables*

ISO 2635, *Aircraft — Conductors for general purpose aircraft electrical cables and aerospace applications — Dimensions and characteristics*

ISO 2964, *Aerospace — Tubing — Outside diameters and thicknesses — Metric dimensions*

ISO 6346, *Freight containers — Coding, identification and marking*

ISO 14625:2007(E)

ISO 14620-1, *Space systems — Safety requirements — Part 1: System safety*

ISO 14621 (all parts), *Space systems — Electrical, electronic and electromechanical (EEE) parts*

ISO 14624 (all parts), *Space systems — Safety and compatibility of materials*

ISO 14952 (all parts), *Space systems — Surface cleanliness of fluid systems*

ISO 15389, *Space systems — Flight-to-ground umbilicals*

ISO 15859 (all parts), *Space systems — Fluid characteristics, sampling and test methods*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO 22538 (all parts), *Space systems — Oxygen safety*

IEC 60034 (all parts), *Rotating electrical machines*

IEC 60038, *IEC standard voltages*

IEC 60079 (all parts), *Electrical apparatus for explosive gas atmospheres*

IEC 60096 (all parts), *Radio-frequency cables*

IEC 60169 (all parts), *Radio-frequency connectors*

IEC 60189 (all parts), *Low-frequency cables and wires with PVC insulation and PVC sheath*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60245 (all parts), *Rubber insulated cables — Rated voltages up to and including 450/750 V*

IEC 60297 (all parts), *Dimensions of mechanical structures of the 482,6 mm (19 in) series*

IEC 60309 (all parts), *Plugs, socket-outlets and couplers for industrial purposes*

IEC 60364 (all parts), *Electrical installations of buildings*

IEC 60794 (all parts), *Optical fibre cables*

IEC 60874 (all parts), *Connectors for optical fibres and cables*

IEC 60884 (all parts), *Plugs and socket-outlets for household and similar purposes*

IEC 60947 (all parts), *Low-voltage switchgear and controlgear*

IEC 61000 (all parts), *Electromagnetic compatibility (EMC)*

IEC 61086 (all parts), *Coatings for loaded printed wire boards (conformal coatings)*

IEC 62305 (all parts), *Protection against lightning*

IEC 62326 (all parts), *Printed boards*