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Aircraft ground equipment - Boarding vehicle for persons with reduced mobility - Functional and safety requirements

Matériel au sol pour aéronefs - Véhicule d'embarquement de personnes à mobilité réduite - Exigences fonctionnelles et de sécurité

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 20, *Aircraft ground equipment*, Subcommittee SC 9, *Air cargo and ground equipment*.

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Introduction

This International Standard specifies the functional and safety requirements for boarding vehicles used at airports for elevation, boarding and disembarkation of reduced mobility passengers to/from civil transport aircraft.

Throughout this International Standard, the minimum essential criteria are identified by use of the key word “shall”. Recommended criteria are identified by use of the key word “should” and, while not mandatory, are considered to be of primary importance in providing effective and intrinsically safe boarding vehicles. Deviation from recommended criteria should only occur after careful consideration, extensive testing, and thorough service evaluation have shown alternate methods to be satisfactory.

The requirements of this International Standard are expressed in the applicable SI units, with approximate inch-pound units conversion between brackets for convenience in those countries using that system. Where it is deemed necessary to use exact values, the SI unit ones are to be used.

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Aircraft ground equipment - Boarding vehicle for persons with reduced mobility - Functional and safety requirements

1 Scope

1.1 This International Standard specifies the minimum functional and safety requirements for enclosed self-propelled boarding vehicles designed for transporting and boarding/de-boarding persons with reduced mobility onto/from the main deck or upper deck of main line civil transport aircraft on which they are travelling as a passenger.

1.2 The intent of this International Standard is not to specify equipment design, but rather to define minimum functional and safety requirements and highlight those criteria which are known to be essential to an efficient and safe operation on civil transport aircraft in the environment of international airports.

1.3 This International Standard specifies the worldwide requirements recognized by aircraft and vehicle manufacturers as well as airlines and airport authorities. In addition, it shall be applied with due reference to the national governmental regulations of the country where the vehicle is to be operated. The main though not exclusive areas in which such national regulations can apply are:

— general requirements applicable to road vehicles, or similar local airport regulations;

— sanitary requirements regarding design, cleaning, disinfection and equipment of vehicles that can be used to carry diseased persons with or without medical attendance;

— safety requirements applicable to elevating equipment carrying persons in the elevated position.

Nothing in this International Standard, however, shall be deemed to supersede any locally applicable law or regulation, unless a specific exemption has been obtained for this purpose from the appropriate Authority. See NOTE of 4.1.1 hereafter as regards legal requirements applicable in the European Union and EFTA.

1.4 This International Standard assumes that a disabled or incapacitated passenger can be accompanied by at least one attendant, and can be seated in a wheelchair or reclining on a stretcher trolley. Major factors in the design of the vehicle, with relevance to safety, are the consideration of psychological aspects, i.e. feelings of well-being and security, and the physical comfort of the passenger and the avoidance of panic.

1.5 This International Standard also assumes that any type of wheelchair, e.g. standard type with or without occupant self-restraint system, aircraft aisle width wheelchairs without armrests, non-occupant propelled wheelchairs, battery powered wheelchairs, etc., or any type of stretcher transport trolley, can be employed.

NOTE It is assumed that battery powered wheelchairs will not be taken into the cabin of an aircraft.

1.6 This International Standard does not apply to other forms of aircraft loading equipment which can be used but is not specifically designed for boarding of incapacitated or disabled persons, e.g. mobile lounges, passenger boarding bridges, or externally mounted pods such as used on medical evacuation helicopters.

1.7 This International Standard does not apply to unmodified automotive parts approved for public vehicles, e.g. chassis, when used on a boarding vehicle for the purpose for which they were designed.

1.8 Certain requirements of this International Standard are specifically dictated by overwing access to doors of certain aircraft types, and might not apply to other aircraft types. However, the intent of this International Standard is that any vehicle capable of reaching the upper deck of very large capacity aircraft (VLCA) shall be able to safely handle this specific situation.

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2 Normative references

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

ISO 6966-1, *Aircraft ground equipment — Basic requirements — Part 1: General design requirements*

ISO 6966-2, *Aircraft ground equipment Basic requirements Part 2: Safety requirements*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 7718-1, *Aircraft — Passenger doors interface requirements for connection of passenger boarding bridge — Part 1: Main deck doors*

ISO 7718-2, *Aircraft — Passenger doors interface requirements for connection of passenger boarding bridge — Part 2: Upper deck doors*

ISO 10254, *Air cargo and ground equipment — Vocabulary*

ISO 10542-1, *Technical systems and aids for disabled or handicapped persons — Wheelchair tiedown and occupant-restraint systems — Part 1: Requirements and test methods for all systems*

ISO 10542-2, *Technical systems and aids for disabled or handicapped persons — Wheelchair tiedown and occupant-restraint systems — Part 2: Four-point strap-type tiedown systems*

ISO 10542-3, *Technical systems and aids for disabled or handicapped persons — Wheelchair tiedown and occupant-restraint systems — Part 3: Docking-type tiedown systems*

ISO 11228-1, *Ergonomics — Manual handling — Part 1: Lifting and carrying*

ISO 11532, *Aircraft ground equipment — Graphical symbols*

ISO 11995, *Aircraft — Stability requirements for loading and servicing equipment*

ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways*

ISO 16004, *Aircraft ground equipment — Passenger boarding bridge or transfer vehicle — Requirements for interface with aircraft doors*

ISO 27470, *Aircraft ground equipment — Upper deck catering vehicle — Functional requirements*

DIN 51130, *Testing of floor coverings — Determination of the anti-slip property — Workrooms and fields of activities with slip danger, walking method — Ramp test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10254 and the following apply.

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