

Aircraft ground handling — Checked baggage —

Part 2: Handling requirements and guidelines

Traitement au sol des aéronefs — Bagages enregistrés —

Partie 2: Exigences et directives de traitement

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Foreword

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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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 9, *Air cargo and ground equipment*.

A list of all parts in the ISO 12604 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document specifies the handling conditions for baggage checked-in by airline passengers to be carried into aircraft cargo holds, in order to:

- ~~—~~ contribute to ~~improving~~**improving** work conditions for baggage handling agents and reducing the incidence of musculo-skeletal disorders (MSD) in this population;
- ~~—~~ facilitate enhancing the overall efficiency of baggage handling;
- ~~—~~ provide instructions for the design of automated baggage handling systems increasingly used at airports. ~~Annex A~~**Annex A** gives examples of measures allowing standard baggage to be conveyed through automated transfer and sorting facilities.

In this document, the following verbal forms are used:

- ~~—~~ “shall” indicates a requirement;
- ~~—~~ “should” indicates a recommendation;
- ~~—~~ “may” indicates a permission;
- ~~—~~ “can” indicates a possibility or a capability.

Recommendations are, while not mandatory, considered to be of primary importance in providing safe and efficient baggage handling. Any deviation from the recommendations should only occur after careful consideration and thorough service assessment have shown alternate methods provide an equivalent level of work safety.

The carrier and handling services provider are responsible for identifying and complying with legal requirements that can be locally applicable, such as Health and Safety government legislations and regulations applicable to machinery or manual handling of loads.

ISO 12604-1 specifies standard mass and dimensions requirements for baggage checked-in by airline passengers to be carried into aircraft cargo holds.

ISO 12604-3 covers ergonomic design requirements for baggage handling workstations.

Aircraft ground handling — Checked baggage —

Part 2: Handling requirements and guidelines

1 Scope

This document specifies the requirements of baggage handling for individual pieces of baggage checked-in by airline passengers at airports to be carried into aircraft cargo holds.

This document applies to all manual handling workplaces in the processing chain for sorting, safety handling and routing of the baggage (containers and bulk baggage, departure and arrival circuits, at terminal and at aircraft, excluding passenger check-in process).

This document does not specify the baggage handling systems in and out of airport terminals, except the baggage weights and dimensions to be handled, and the critical characteristics of manual workstations.

This document does not specify the aircraft loading system.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 11228-1:2021, *Ergonomics — Manual handling — Part 1: Lifting and carrying*

ISO 12604-3:2022, *Aircraft ground handling — Checked baggage — Part 3: Workstation ergonomics*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

handling company

carrier, contracted service provider or airport authority that performs all or part of baggage handling, including loading/unloading it into/from aircraft, at an airport

3.2

baggage gripping ideal criteria

set of characteristics required for a *piece of baggage* (3.3) to be deemed ideal for gripping

Note 1 to entry: The criteria are specified as follows: the piece of baggage can be grasped with both hands, with a firm grip, neutral wrist position less than 0,25 m between the centre of mass of the piece of baggage to be handled and the centre of mass of the *handling agent* (3.8(3.10)).

3.3

piece of baggage

bag, suitcase, trunk or similar article travelling with a checked passenger and containing items necessary for the passenger's journey, such as clothing and personal articles within certain limitations in

accordance with the applicable carrier conditions of carriage, that is accepted and checked-in for loading and carriage aboard the same aircraft

Note 1 to entry: It does not include freight, express cargo, courier mail, or unaccompanied piece of baggage travelling as freight.

3.4

standard baggage with specific characteristics

piece of baggage (3.3) that meets mass and dimensions requirements of standard baggage, but with some characteristics that involve stress for conveying and/or handling (e.g. spherical piece of baggage, fragile, light, very small piece of baggage)

3.5

baggage with demanding handling

piece of baggage (3.3):

- —that exceeds the mass or dimensions limits;
- —whose characteristics do not satisfy *baggage gripping ideal criteria* (3.2(3.2)) (cannot be grasped with both hands, etc.);
- —that is oversized

Note 1 to entry: The mass and dimensions limits are defined in ISO 12604-1. The piece of baggage considered as "heavy" is identified by a specific label.

3.6

cart

bulk load trolley used for baggage conveyance

3.7

contingency

dysfunction or unexpected event that disturbs an intended process or organization

3.8

handling agent

personnel responsible for baggage handling

3.9

operator

company or people using airport facilities and equipment

3.10

departure ~~workstations~~workstation

~~workstations~~workstation where pieces of baggage are processed before departure

3.10.1

spout down

inclined plane receptacle intended for baggage retrieval

3.10.2

pier

linear conveying system (belt or rollers) for accumulating baggage for purposes of retrieval

3.11**arrival workstation**

~~workstations~~workstation where pieces of baggage are dispatched after arrival

3.11.1**carousel**

flat or inclined and circular crescent chain

Note 1 to entry: Baggage circulates in a closed circuit.

3.12**out-of-circuit/~~workstation~~****auxiliary ~~workstations~~workstation**

~~workstations~~workstation where pieces of baggage are not in the main stream

3.12.1**security inspection**

check of pieces of baggage using x-ray, manual or other equipment, in order to move away any item or *piece of baggage* (3.3) which is prohibited for transport

3.12.2**manual indexing station**

barcode reading through handheld scanner or manual keyboard entry

3.12.3**drop area**

temporary storage

storage area for pieces of baggage waiting to be processed

3.12.4**passenger baggage reconciliation security procedure**

baggage removal from the circuit for positive identification by its owner or *security inspection* (3.12.1)(3.12.1)

4 Requirements and recommendations**4.1 General****4.1.1 The different characteristics of piece of baggage encouraging specific processing**

The standard piece of baggage characteristics are defined in ISO 12604-1:2017, 4.1.

Handling of standard pieces of baggage with specific characteristics or baggage with demanding handling by an airport mechanized system often proves to be difficult. Everything should be implemented to ensure the conveyability of these pieces of baggage. If no solution is found, they shall be handled through a specific circuit.

Protective plastic films enrolled around individual pieces of baggage may hide the handles of the pieces of baggage ~~handles~~. Thus, provisions should be developed to ensure the release of the handles.

4.1.2 The different workstations concerned

The handling requirements and recommendations in this document are applicable to the different workstations occupied by handling agents, listed hereafter:

— departure workstations:

— spout down,

- pier;
- arrival workstation:
 - carousel;
- ~~out-of-circuit~~/auxiliary workstations:
 - security inspection,
 - manual indexing station,
 - drop area,
 - passenger baggage reconciliation security procedure.

4.2 Conditions required for an acceptable manual handling

4.2.1 Risk evaluation method related to baggage handling conditions

Handling conditions depend on several factors that shall be estimated in accordance with ISO 11228-1:2021, 4.2.1. It is thus possible to know whether manual handling is acceptable based on a 3-step assessment. [Figure 1](#) ~~Figure 1~~ describes the step-by-step analysis.

Handling is assessed according to various criteria depending on one another. If the values observed are below maximum acceptable values for one step, the next one can be assessed. Otherwise, handling is not acceptable; and it is thus unnecessary to evaluate the other criteria through the following step, because mitigation action measures are already needed.

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