

INTERNATIONAL STANDARD

ISO
8268

First edition
1987-02-15



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Air cargo equipment — Automobile transport devices — Basic requirements

*Équipement pour le fret aérien — Dispositifs de transport d'automobiles à bord des aéronefs —
Caractéristiques fondamentales*

Reference number
ISO 8268 : 1987 (E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8268 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Contents

	Page
0 Introduction	1
1 Scope and field of application	1
2 References	1
3 Types of transport device	2
4 Requirements	2
5 Specific requirements for device types	3
6 Assembly and dismantling of devices	5
7 Tare weight limits	6
8 Restraint provisions	6
9 Environmental criteria	6
10 Loads	6
11 Testing	7
Figures	9-12

Air cargo equipment — Automobile transport devices — Basic requirements

0 Introduction

During the preparation of this International Standard, the following design objectives for automobile transport devices were borne in mind :

- a) accommodating as many automobile types and sizes as feasible within the aircraft envelope, with emphasis on those most frequently shipped;
- b) ensuring profitable return haul usage with general air cargo;
- c) ensuring accessibility and compatibility to meet minimum restricted article requirements for preparation of automobiles for shipment;
- d) protection of automobiles from damage;
- e) maintainability using standard high-quality aerospace practices.

NOTE — For the purposes of this International Standard, in accordance with part 3 of the *Directives for the technical work of ISO* and in line with the practice adopted by IATA, 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 dependable, economical and practical automobile transport devices. Deviation from recommended criteria should occur only after careful consideration, extensive testing and thorough service evaluations have shown alternative methods to be satisfactory.

1 Scope and field of application

This International Standard provides functional, dimensional, structural and environmental requirements for automobile transport devices used to transport automobiles in wide-body aircraft. These devices are intended to be used in conjunction with pallets compatible with existing aircraft restraint systems or with pallets matching the width of automobiles to ensure maximum use of aircraft volume. The devices shall be easily convertible so that they can carry general cargo on return haul flights.

The purpose of this International Standard is to specify minimum air and ground handling features and to ensure interchangeability and compatibility with present and future air transport and ground handling systems. It is not intended to specify equipment designs in this International Standard.

The devices specified in this International Standard shall be designed primarily for transporting automobiles and secondarily for transporting general air cargo in an acceptable and profitable manner.

IMPORTANT NOTE — This International Standard is not intended to provide criteria applicable to the safe air transport of automobiles as far as hazardous materials/restricted articles regulations are concerned. Details of applicable regulations can be found in

- International Civil Aviation Organization (ICAO), *Annex 18 to the Chicago Convention on International Civil Aviation*, and the attached Technical Instructions for the carriage of dangerous goods by air;
- IATA *Dangerous Goods Regulations*.

2 References

The following International Standards will be needed to apply this International Standard :

ISO 1161, *Series 1 freight containers — Corner fittings — Specifications*.

ISO 4116, *Ground equipment requirements for compatibility with aircraft unit load devices*.

ISO 4117, *Air and air-land cargo pallets — Specification and testing*.

ISO 4171, *Interline air cargo pallets*.

ISO 7166, *Aircraft — Rail and stud configuration for passenger equipment and cargo restraint*.

ISO 8097, *Aircraft — Minimum airworthiness requirements and test conditions for certified air cargo unit load devices*.¹⁾

The following reference documents provide complementary information to this International Standard :

ISO 6833, *Air cargo — Minimum requirements for future wide-body aircraft cargo systems and compartments (inter-modal)*.

ISO 7715, *Air cargo equipment — Ground handling and transport systems for unit load devices — Minimum requirements*.

1) *De facto* NAS 3610.

IATA Standard Specification 50/0, *Condition requirements for interlining of ULDs.*

IATA Standard Specification 50/1, *Pallet for ISO 8097 class II restraint systems.*

IATA Standard Specification 50/9, *20 ft pallet for ISO 8097 class II restraint systems.*

IATA Airport Handling Manual AHM 911, *Ground equipment requirements for compatibility with aircraft unit load devices.*

3 Types of transport device

This International Standard specifies three types of transport devices for carrying automobiles :

- type A (lower deck) and type B (main deck) shall be used for carrying one automobile in conjunction with an air cargo pallet complying with ISO 4171, primarily in a random intermix with general cargo pallets;
- type C (main deck) shall be used, in order to maximize cubage utilization, for carrying two or more automobiles as a full or part charter operation.

3.1 Type A

Type A automobile transport devices shall be used for carrying one automobile on the lower deck of both freighter and/or passenger wide-body aircraft, in conjunction with either a 1 534 mm × 3 175 mm (60.4 in × 125.0 in) or a 2 235 mm × 3 175 mm (88.0 in × 125.0 in) air cargo pallet complying with ISO 4171.

3.2 Type B

Type B automobile transport devices shall be used for carrying one automobile in a slanted configuration on the main deck of freighter wide-body aircraft, in conjunction with a 2 235 mm × 3 175 mm (88.0 in × 125.0 in) or 2 438 mm × 3 175 mm (96.0 in × 125.0 in) air cargo pallet complying with ISO 4171.

3.3 Type C

Type C automobile transport devices shall be used for carrying two or four automobiles in a double-level configuration on the main deck of freighter wide-body aircraft, in conjunction with either

- (an) air cargo pallet(s) complying with ISO 4117 or ISO 4171, or
- (a) specially designed air cargo pallet(s) matching the width of automobiles in order to ensure maximum use of aircraft volume.

3.4 Cargo loading

As an alternative application, it shall be possible to use type A, B and C devices for carrying general cargo on return haul flights. The cargo shall be general in nature, both unitized and non-unitized.

4 General requirements

4.1 Dimensions

4.1.1 Type A

Type A devices shall be adaptable to a pallet length of 3 175 mm (125.0 in) and should have an adjustable width range from 1 473 mm (58.0 in) to 2 235 mm (88.0 in).

4.1.2 Type B

Type B devices shall be adaptable to a pallet length of 3 175 mm (125.0 in) and should have an adjustable width of 2 235 mm (88.0 in) or 2 438 mm (96.0 in).

4.1.3 Type C

Type C devices shall be adaptable to a pallet length of 4 978 mm (196.0 in) and should have an adjustable width range with, at least, fixed positions of 2 235 mm (88.0 in) and 2 438 mm (96.0 in).

4.2 Construction

Devices shall be rugged, weatherproof and lightweight.

Components shall not permit liquids, sand or debris to accumulate inside.

Device construction shall provide sufficient structural strength to withstand, without permanent deformation, the static and dynamic loads and the impact shock and racking stresses resulting from over-the-road carriage at highway speeds, forklift handling and, if applicable, top lifting while loaded to maximum capacity, and anticipated in-flight loads.

4.3 Base

4.3.1 The device design shall ensure that, when fully loaded, the loading of the base foot imprint area on the pallet does not exceed 2 000 kPa (400 lb/ft²) for type B and C devices. The loading of the base foot imprint area for type A devices shall not exceed 1 000 kPa (200 lb/ft²).

4.3.2 The device shall be equipped with a flat and continuous drip-pan that would also form a base. The bottom surface of the drip-pan shall not point-load or have sharp edges in contact with the pallet. Clean-out openings should be provided of a size such that waste material may be flushed out of the pan.

4.3.3 No structure, fittings or other objects shall protrude below the bottom surface of the base.

4.3.4 The base shall be structurally adaptable to any pallet which is equipped with a continuous seat track along the edge-rail and which has the designed nominal length appropriate to the device type.

4.3.5 The base to the pallet shall be attached by means of a universal seat track fitting complying with ISO 7166. It shall be