

Aircraft ground support equipment — Specific requirements —

Part 3: Conveyor belt vehicles

ICS 49.100

National foreword

This British Standard is the UK implementation of EN 12312-3:2003+A1:2009. It supersedes BS EN 12312-3:2003, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee ACE/57, Air cargo systems and ground support equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Förderbandwagen

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Foreword

This document (EN 12312-3:2003+A1:2009) has been prepared by Technical Committee CEN/TC 274 "Aircraft ground support equipment" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-03-01.

This document supersedes EN 12312-3:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of EC Directive(s).

A1 For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. A1

The Parts of EN 12312 — Aircraft ground support equipment — Specific requirements — are:

- Part 1: Passenger stairs
- Part 2: Catering vehicles
- Part 3: Conveyor belt vehicles
- Part 4: Passenger boarding bridges
- Part 5: Aircraft fuelling equipment
- Part 6: Deicers and deicing/antiicing equipment
- Part 7: Aircraft movement equipment
- Part 8: Maintenance stairs and platforms
- Part 9: Container/Pallet loaders
- Part 10: Container/Pallet transfer transporters
- Part 11: Container/Pallet dollies and loose load trailers
- Part 12: Potable water service equipment
- Part 13: Lavatory service equipment
- Part 14: Disabled/Incapacitated passenger boarding equipment
- Part 15: Baggage and equipment tractors
- Part 16: Air start equipment
- Part 17: Air conditioning equipment
- Part 18: Nitrogen or Oxygen units
- Part 19: Aircraft jacks, axle jacks and hydraulic tail stanchions
- Part 20: Ground power equipment

Annexes A, C, D, E and F are informative. Annex B is normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This European Standard specifies health and safety requirements, as well as some functional and performance requirements, for conveyor belt vehicles intended for loading/unloading of individual items of baggage or cargo for all aircraft types commonly in service in civil air transport.

The minimum essential criteria are considered to be of primary importance in providing safe, serviceable, economical and practical conveyor belt vehicles. Deviations from the recommended criteria should occur only after careful consideration, extensive testing, risk assessment and thorough service evaluation have shown alternative methods or conditions to be satisfactory.

This European Standard is a Type C standard as stated in A1 EN ISO 12100 A1.

1 Scope

This European Standard specifies the technical requirements to minimise the hazards listed in clause 4 which can arise during the commissioning, operation and maintenance of conveyor belt vehicles when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies.

This standard applies to:

- self-propelled conveyor belt vehicles with or without driver's accommodation;
- self-propelled conveyor belt vehicles equipped with a van body;
- towed conveyor belt vehicles,

Intended to be used for manual loading/unloading of aircraft.

Examples of typical designs of conveyor belt vehicles are given in annex A.

This standard does not apply to pneumatic systems and to cableless remote controls.

This standard does not establish requirements for hazards caused by noise and vibration.

This Part of EN 12312 is not applicable to conveyor belt vehicles which are manufactured before the date of publication of this standard by CEN.

A1 This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4. A1

2 Normative references

A1 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. A1

A1 *deleted text* A1

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

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 EN 1175-1 , *Safety of industrial trucks — Electrical requirements — Part 1: General requirements for battery powered trucks*

 EN 1837 , *Safety of machinery — Integral lighting of machines*

EN 1915-1:2001, *Aircraft ground support equipment — General requirements — Part 1: Basic safety requirements*

EN 1915-2:2001, *Aircraft ground support equipment — General requirements — Part 2: Stability and strength requirements, calculations and test methods*

 EN 1915-3, *Aircraft ground support equipment - General requirements - Part 3: Vibration measurement methods and reduction* 

 EN 1915-4, *Aircraft ground support equipment - General requirements - Part 4: Noise measurement methods and reduction* 

 EN ISO 12100-1:2003, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology (ISO 12100-1:2003)* 

 EN ISO 12100-2, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)* 

 EN ISO 13850:2008, *Safety of machinery - Emergency stop - Principles for design (ISO 13850:2006)* 

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in  EN ISO 12100-1:2003  and EN 1915-1:2001 together with the following apply.

3.1

conveyor belt vehicle

vehicle comprising a chassis, a boom with a belt, and a lifting device

3.2

boom

load carrying assembly which includes a belt to move the load and any possible tray

3.3

telescopic boom

load carrying assembly, adjustable in length

3.4

lifting device

system to vary the height of the boom

3.5

incline

angle of the boom to a horizontal plane

3.6

guide rail

lateral device attached to the boom to prevent loads from falling off the sides

3.7

tray

loading platform fitted at either end of the boom and independent of the belt

3.8

contact protection system

device at the end of the boom to disconnect the power source during approach/travel to the aircraft

4 List of hazards

The list of risks and hazards (see annex B) is based on EN 1050:1996 and contains the hazards and hazardous situations, as far as they are dealt with in this European Standard, identified by risk assessment as significant for conveyor belt vehicles and which require action to eliminate or reduce risks. Not covered are risks and hazards due to a standard automotive chassis, the traffic,  repair  and general misuse.

5 Safety requirements and/or measures

5.1 General requirements

5.1.1 Self-propelled vehicles with a driver's accommodation shall be fitted with restraint straps.

5.1.2  Conveyor belt vehicles shall conform to the relevant requirements of EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 unless otherwise specified in this standard.  They shall also conform to the specific requirements of this standard.

5.1.3 Strength calculations shall be carried out in accordance with  EN 1915-2 .

5.1.4 Stability calculations shall be carried out according to  EN 1915-2 . Special attention shall be paid to travel conditions.

5.1.5 The electrical system of battery powered conveyor belt vehicles shall conform to  EN 1175-1 , with the exception of standard automotive chassis.

5.1.6 The boom shall protrude front and rear.

NOTE Therefore the overall length of the conveyor belt vehicle is defined by the overall boom length.

5.1.7 The conveyor belt vehicle shall be capable of servicing any aircraft sill height, for which it is designed, with the opposite end not higher than 760 mm from the intended loading level(s).

5.1.8 Where adjustment of elevation of both ends of the boom is provided it shall be possible to adjust the ends independent from each other.

5.1.9 It shall be possible to gain access to servicing points, e.g. dipstick, fluid replenishment points, without operating the power source; even with the boom in the lowest position.

5.1.10 All sharp edges or corners resulting from the manufacturing process shall be chamfered or rounded with a minimum radius of 1 mm.

5.1.11 Where a sprung front axle is used, the suspension shall be restricted so as to limit vertical movement at the front end of the boom, when the conveyor belt vehicle is being driven, e.g. by using shock absorbers.

5.1.12 Where power operated stabilizers are provided, it shall be possible to retract the stabilizers in the event of primary power loss by auxiliary means, e.g. hand pump.

5.1.13 Structural parts or stabilizers of pedestrian controlled self-propelled conveyor belt vehicles shall not protrude from the overall length within the operating range of the tiller.

5.1.14 Where lights for the illumination of working areas are fitted, their design shall conform to  EN 1837 . The minimum electrical power of the lamp shall be 25 W.

5.1.15 Self-propelled vehicles with driver's cabin shall have an alternative means of exit in the event of an emergency.