AS 5144.5:2015
ISO 3691-5:2014

AS 5144.5:2015

Australian STANDARD

Industrial trucks—Safety requirements and verification

Part 5: Pedestrian-propelled trucks

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STANDARDS Australia

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The following are represented on Committee ME-026:

- Australian Industrial Truck Association
- Australian Industry Group
- Construction and Mining Equipment Industry Group
- Hire and Rental Industry Association of Australia
- Safety Institute of Australia
- WorkCover New South Wales
- WorkSafe Victoria

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Industrial trucks—Safety requirements and verification

Part 5: Pedestrian-propelled trucks

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-026, Industrial Trucks, to supersede AS 2359.11, *Powered industrial trucks*, Part 11: *Fork-lift trucks*—Hook-on type fork arms and fork carriers—Mounting dimensions.

The objective of this Standard is to specify safety requirements and the means for their verification for the following types of pedestrian-propelled trucks (hereafter referred to as 'trucks'), equipped with load-handling devices for normal industrial duties, e.g. fork arms and platforms, or integrated attachments for special applications.

This Standard is identical with, and has been reproduced from, ISO 3691-5:2014, *Industrial trucks—Safety requirements and verification*, Part 5: *Pedestrian-propelled trucks*.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text 'this part of ISO 3691' should read 'Australian Standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

This second edition (ISO 3691.5:2014) cancels and replaces the first edition (ISO 3691-5:2009), of which it constitutes a minor revision.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO will 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, www.iso.org/patents.

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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS	
		2359	Powered industrial trucks
2328	Fork-lift trucks—Hook-on type fork arms and fork arm carriages—Mounting dimensions	2359.11	Part 11: Fork-lift trucks—Hook-on type fork arms and fork carriers—Mounting dimensions
3287	Powered industrial trucks—Symbols for operator controls and other displays	2359.5	Part 5: Symbols for operator controls and other displays
5053	Powered industrial trucks—Terminology	2359.7	Part 7: Terminology
		AS/NZS	
		4024	Safety of machinery
12100	Safety of machinery—General principles for design—Risk assessment and risk reduction	4024.1201	Part 1201: General principles for design—Risk assessment and risk reduction
13857	Safety of machinery—Safety distances to prevent hazard zones being reached by upper and lower limbs	4024.1801	Part 1801: Safety distances to prevent danger zones being reached by upper and lower limbs

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		AS 2359	Powered industrial trucks
15870	Powered industrial trucks—Safety signs and hazard pictorials—General principles	2359.16	Part 16: Safety signs and hazard pictorials—General principles

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annexes to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

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INTRODUCTION

This document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The ISO 3691 series of standards covers safety requirements and their verification for industrial trucks as defined in ISO 5053.

Structure

An important step forward in the work on the ISO 3691 series of standards was the agreement to issue a new structure of International Standards for industrial trucks having on one side basic standards for all kinds of trucks (see Foreword) and on the other side independent standards to cover the respective specific functions of industrial trucks, e.g. visibility, noise, vibration, electrical requirements, etc.

Assessment of hazards

The product needs to be designed in such a way that it is fit for its purpose or function and can be adjusted and maintained without putting persons at risk when used under the conditions foreseen by the manufacturer.

In order to properly design a product and to cover all specific safety requirements, the manufacturer will have to identify the hazards that apply to his product and carry out a risk assessment. The manufacturer will then need to design and construct the product taking this assessment into account.

The aim of this procedure is to eliminate the risk of accidents throughout the foreseeable lifetime of the machinery, including the phases of assembling and dismantling where risks of accidents could also arise from foreseeable abnormal situations.

In selecting the most appropriate methods, the manufacturer will need to apply the following principles, in the order given here:

a) eliminate or reduce risks as far as possible by design (inherently safe machinery design and construction);

b) take the necessary protective measures in relation to risks that cannot be eliminated by design;

c) inform users of any shortcoming of the protective measures adopted;

d) indicate whether any particular training is required;

e) specify any need to provide personal protection equipment;

f) refer to the appropriate user's document for proper operating instructions.

Industrial trucks need to be designed to prevent foreseeable misuse wherever possible, if such would engender risk. In other cases, the manufacturer's instructions will need to draw the user's attention to ways shown by experience in which the machinery ought not to be used.

This part of ISO 3691 does not repeat all the technical rules which are state-of-the-art and which are applicable to the material used to construct the industrial truck. Reference will also need to be made to ISO 12100.

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Legislative situation/Vienna Agreement

From the very beginning, the task of the working group was to revise ISO 3691:1980 and establish worldwide basic standards to comply with the major legislative regulations in, for example, the EU, Japan, Australia and North America.

Every effort was made to develop a globally relevant International Standard. That goal was achieved with most of the issues. For several potential problem areas compromises were needed and will be needed in the future. Where divergent regional requirements remain, these are addressed by ISO/TS 3691-7 and ISO/TS 3691-8.

In order to ensure that the revised International Standard will be actively used in the ISO member countries, worldwide, procedures are necessary to replace the existing national standards and technical regulations by the revised International Standard. In the European Community, ISO and the European Committee for Standardization (CEN) agreed on technical co-operation under the Vienna Agreement, with the aim of replacing European Standards (EN) by International Standards. Other countries are asked to make similar agreements to ensure that their national standards and technical regulations are replaced by this International Standard.

Only by these actions will there be the guarantee that products in accordance with International Standards can be shipped worldwide freely without any technical barriers.

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AUSTRALIAN STANDARD

Industrial trucks—Safety requirements and verification

Part 5:
Pedestrian-propelled trucks

1 Scope

This part of ISO 3691 gives safety requirements and the means for their verification for the following types of pedestrian-propelled trucks (hereafter referred to as *trucks*), equipped with load-handling devices for normal industrial duties, e.g. fork arms and platforms, or integrated attachments for special applications:

— pedestrian-propelled straddle stackers,

— pallet stackers,

— industrial trucks with capacities not exceeding 1 000 kg with manual or electrical battery-powered lifting,

— low-lift pallet trucks with lift height up to 300 mm and rated capacity up to 2 300 kg,

— scissor-lift pallet trucks with lift heights up to 1 000 mm or rated capacity up to 1 000 kg with manual or electrical battery-powered lifting.

It is applicable to trucks provided with either manual or electrical battery-powered lifting, operating on smooth, level, hard surfaces.

NOTE On-board battery chargers are considered to be part of the truck. Attachments mounted on the load-carrier or on the fork arms which are removable by the user are not considered to be part of the truck.

This part of ISO 3691 deals with significant hazards, hazardous situations and events relevant to the applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex C).

It does not establish the additional requirements for

a) climatic conditions,

b) operation in severe conditions (e.g. extreme environmental conditions such as freezer applications, high temperatures, corrosive environments, strong magnetic fields),

c) electromagnetic compatibility (emission/immunity),

d) handling of loads the nature of which could lead to dangerous situations (e.g. molten metal, acids, explosives, radiating materials, especially brittle loads),

e) handling suspended loads which may swing freely handling,

f) use on public roads,

g) direct contact with foodstuffs,

h) operation on gradients or on surfaces other than smooth, level, hard surfaces,

i) lifting systems using belts,

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