AS 4024.3001:2021

Australian STANDARD®

STANDARDS Australia

Safety of machinery

Part 3001: Machine tools safety — Presses — General safety requirements

AS 4024.3001:2021

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The following are represented on Committee SF-041:

Arboriculture Australia
Austmine
Australian Forest Products Association
Australian Industry Group
Australian Institute of Health & Safety
Australian Manufacturing Technology Institute
Australian Manufacturing Workers Union
Australian Packaging and Processing Machinery Association
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NSCA Foundation
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Swinburne University of Technology
University of Melbourne
Victorian WorkCover Authority (WorkSafe Victoria)
Winery Engineering Association (Australia)
Workplace Health and Safety Queensland

Additional Interests

New Zealand Safety Council
WorkSafe New Zealand

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-041, Safety of Machinery, to supersede AS 4024.3001:2009, *Safety of machinery, Part 3001: Materials forming and shearing — Mechanical power presses*.

The objective of this document is to specify technical safety requirements and measures to be adopted by persons undertaking the design, manufacture and supply of presses which are intended to work cold metal or material partly of cold metal, but which can be used in the same way to work other sheet materials (e.g. cardboard, plastic, rubber, leather, etc.).

NOTE 1 The design of a machine includes the study of the machine itself, taking into account all phases of the "life" of the machine mentioned in AS/NZS 4024.1201:2014, Clause 5.4, and the drafting of the instructions related to all the above phases.

The requirements in this document take account of intended use, as defined AS/NZS 4024.1201:2014, Clause 3.23, as well as reasonably foreseeable misuse, as defined in AS/NZS 4024.1201:2014, Clause 3.24. This document presumes access to the press from all directions, deals with all significant hazards during the various phases of the life of the machine described in Clause 4, and specifies the safety measures for both the operator and other exposed persons.

NOTE 2 All significant hazards means those identified or associated with presses at the time of the publication of this document.

This document applies to presses which can function independently and can also be used as a guide for the design of presses which are intended to be integrated in a manufacturing system.

This document does not cover machines whose principal designed purpose is —

(a) metal cutting by guillotine;

(b) attaching a fastener, e.g. riveting, stapling or stitching;

(c) bending or folding by press brakes or folding machines;

(d) straightening;

(e) turret punch pressing;

(f) extruding;

(g) drop forging or drop stamping;

(h) compaction of metal powder;

(i) single purpose punching machines designed exclusively for profiles, e.g. used in the construction industry;

(j) spot welding;

(k) tube bending; or

(l) working by pneumatic hammer.

This document does not cover hazards related to the use of presses in explosive atmospheres.

This document covers the safety requirements related to the use of programmable electronic systems (PES) and programmable pneumatic systems (PPS).

This document is not applicable to presses which are manufactured before the date of its publication.

This document deals with the common significant hazards, hazardous situations and events relevant to presses and ancillary devices which are intended to work cold metal or material partly of cold metal

(see Clause 4). This document defines the common safety requirements for presses defined in this clause and shall be used in connection with other parts of the ISO 16092 series.

Specific hazards which are related to the type presses used are dealt with in ISO 16092-2, ISO 16092-3 and ISO 16092-4.

This document is an adoption with national modifications, and has been reproduced from, ISO 16092-1:2017, *Machine tools safety — Presses — Part 1: General safety requirements*.

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to ISO 16092-1:2017 for the application of this Standard in Australia and New Zealand.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

Contents

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 39, *Machine tools*, Subcommittee SC 10, *Safety.*

A list of all parts in the ISO 16092 series can be found on the ISO website.

Introduction

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

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance etc.)

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

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 type-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."

This document is intended to be applied with at least one of the other relevant parts (ISO 16092-2 for mechanical presses, ISO 16092-3 for hydraulic presses and, ISO 16092-4 for pneumatic presses).

NOTES

Australian Standard®

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1 Scope

This document specifies technical safety requirements and measures to be adopted by persons undertaking the design, manufacture and supply of presses which are intended to work cold metal or material partly of cold metal, but which can be used in the same way to work other sheet materials (e.g. cardboard, plastic, rubber, leather, etc.).

NOTE 1 The design of a machine includes the study of the machine itself, taking into account all phases of the "life" of the machine mentioned in ISO 12100:2010, 5.4, and the drafting of the instructions related to all the above phases.

The requirements in this document take account of intended use, as defined in ISO 12100:2010, 3.23, as well as reasonably foreseeable misuse, as defined in ISO 12100:2010, 3.24. This document presumes access to the press from all directions, deals with all significant hazards during the various phases of the life of the machine described in Clause 4, and specifies the safety measures for both the operator and other exposed persons.

NOTE 2 All significant hazards means those identified or associated with presses at the time of the publication of this document.

This document applies to presses which can function independently and can also be used as a guide for the design of presses which are intended to be integrated in a manufacturing system.

The covered presses transmit force mechanically to cut, form, or work cold metal or other sheet materials by means of tools or dies attached to or operated by slides/ram in range in size from small high speed machines with a single operator producing small workpieces to large relatively slow speed machines with several operators and large workpieces.

This document does not cover machines whose principal designed purpose is:

a) metal cutting by guillotine;

b) attaching a fastener, e.g. riveting, stapling or stitching;

c) bending or folding by press brakes or folding machines;

d) straightening;

e) turret punch pressing;

f) extruding;

g) drop forging or drop stamping;

h) compaction of metal powder;

i) single purpose punching machines designed exclusively for profiles, e.g. used in the construction industry;

j) spot welding;

k) tube bending;

l) working by pneumatic hammer.

This document does not cover hazards related to the use of presses in explosive atmospheres.