

Australian Standard[®]

Safety of machinery

**Part 3001: Materials forming and
shearing—Mechanical power presses**

STANDARDS
Australia



This Australian Standard® was prepared by Committee SF-008, Guarding of Power Presses. It was approved on behalf of the Council of Standards Australia on 18 March 2009. This Standard was published on 18 May 2009.

The following are represented on Committee SF-008:

- Australian Chamber of Commerce and Industry
 - Australian Council of Trade Unions
 - Australian Industry Group
 - Department of the Premier and Cabinet SA
 - Federal Chamber of Automotive Industries
 - Safety Institute of Australia
 - WorkCover New South Wales
 - WorkSafe Victoria
-

This Standard was issued in draft form for comment as D 104137.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Safety of machinery

**Part 3001: Materials forming and
shearing—Mechanical power presses**

Originally as part of AS CZ8—1959.
Previous edition part of AS 1219—1994.
Revised in part and redesigned as AS 4024.3001—2009.

COPYRIGHT

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 9150 6

PREFACE

This Standard was prepared by the Standards Australia Committee SF-008, Guarding of Power Presses to supersede, in part, AS 1219—1994, *Power presses—Safety requirements*.

This Standard is based upon but not equivalent to EN 692:1997, *Mechanical presses—Safety* and is part of the AS 4024, *Safety of machinery* series of Standards.

Requirements for hydraulic power presses are set out in AS 4024.3002, *Safety of machinery, Part 3002: Materials forming and shearing—Hydraulic power presses*.

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

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 OBJECTIVE.....	4
1.3 REFERENCED DOCUMENTS	5
1.4 DEFINITIONS	6
SECTION 2 HAZARDS	
2.1 GENERAL	11
2.2 RISK ASSESSMENT.....	11
SECTION 3 SAFETY REQUIREMENTS AND MEASURES	
3.1 INTRODUCTION	13
3.2 BASIC DESIGN CONSIDERATIONS	13
3.3 MECHANICAL HAZARDS IN THE TOOLS AREA.....	17
3.4 CONTROL AND MONITORING SYSTEM.....	28
3.5 TOOLSETTING, TRIAL STROKES, MAINTENANCE AND LUBRICATION	33
3.6 OTHER MECHANICAL HAZARDS	35
3.7 SLIPS, TRIPS AND FALLS.....	35
3.8 PROTECTION AGAINST OTHER HAZARDS	35
SECTION 4 INFORMATION FOR USE	
4.1 MARKING	38
4.2 INSTRUCTION HANDBOOK.....	38
APPENDICES	
A PRESSES WITH FULL REVOLUTION CLUTCHES— DESIGN REQUIREMENTS	40
B INTERLOCKING GUARD	41
C CALCULATION OF MINIMUM SAFETY DISTANCES.....	44
D SETTING OF THE ROTARY CAM ARRANGEMENT.....	46
E DETERMINATION OF OVERALL RESPONSE TIME.....	54

STANDARDS AUSTRALIA

**Australian Standard
Safety of machinery****Part 3001: Materials forming and shearing—Mechanical power presses**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies technical safety requirements and measures for the design, manufacture and supply of mechanical presses that are intended to work cold metal or material partly of cold metal. In operations involving hot working and the use of tongs during the machine cycle, the principles given in AS 4024.1 (series) should be considered, but may not be capable of being fully applied. This Standard should be read in conjunction with AS 4024.1 (series).

This Standard also covers presses whose primary intended use is to work cold metal, but which are used in a similar way to work other materials (e.g. cardboard, plastic, rubber or leather), and metal powder.

The requirements in this Standard take account of intended use. This Standard presumes access to the press from all directions and specifies the safety measures for both the operator and other exposed persons.

This Standard also applies to ancillary devices that are integral parts of the press. For the safeguarding of integrated manufacturing systems using presses, see also ISO 11161.

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

- (a) sheet metal or paper cutting or guillotine (see AS 1893);
- (b) attaching a fastener, e.g. nailing, stapling or stitching;
- (c) bending or folding or brake presses;
- (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. for the construction industry; or
- (j) printing presses.

1.2 OBJECTIVE

The objective of this Standard is to enable designers, manufacturers, suppliers and users of mechanical power presses to reduce the risks to the health and safety of those persons working with or near mechanical power presses.