

Australian Standard[®]

**Bursting discs and bursting disc
devices—Application, selection and
installation**

STANDARDS
Australia



This Australian Standard® was prepared by Committee ME-001, Pressure Equipment. It was approved on behalf of the Council of Standards Australia on 21 September 2004. This Standard was published on 8 November 2004.

The following are represented on Committee ME-001:

- A.C.T. WorkCover
- Australasian Institute of Engineer Surveyors
- Australian Aluminium Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Institute of Energy
- Australian Institute of Petroleum
- Australian Liquefied Petroleum Gas Association
- Bureau of Steel Manufacturers of Australia
- Department for Administrative and Information Services, S.A.
- Department of Consumer & Employment Protection, WorkSafe Division, W.A.
- Department of Infrastructure, Energy and Resources, Tas.
- Electricity Supply Association of Australia
- Engineers Australia
- Institute of Materials Engineering Australasia
- Insurance Council of Australia
- National Association of Testing Authorities, Australia
- Pressure Equipment Association
- Victorian WorkCover Authority
- Welding Technology Institute of Australia
- WorkCover New South Wales

This Standard was issued in draft form for comment as DR 04219.

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 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Standards may also be withdrawn.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[®]

**Bursting discs and bursting disc
devices—Application, selection and
installation**

Original as AS 1358—1972.
Previous edition 1989.
Third edition 2004.
Reissue incorporating Amendment No. 1 (February 2007).

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 6345 6

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-001, Pressure Equipment, to supersede AS 1358—1989.

This Standard incorporates Amendment No. 1 (February 2007). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide requirements and guidance on the application, selection and installation of bursting discs and bursting disc devices.

The objective of this revision is to align the Standard with current international practice and specifically with ISO Standards.

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 REFERENCED DOCUMENTS	4
1.3 DEFINITIONS	4
SECTION 2 GENERAL DESCRIPTIONS OF BURSTING DISCS AND BURSTING DISC DEVICES	
2.1 MATERIALS	8
2.2 TYPES OF BURSTING DISCS	8
2.3 BURSTING DISC HOLDERS	11
2.4 BACK PRESSURE SUPPORTS	14
2.5 TEMPERATURE SHIELDS	14
2.6 STIFFENING RINGS.....	15
2.7 GASKET/SEALS	15
SECTION 3 APPLICATION AND SELECTION OF BURSTING DISCS AND BURSTING DISC DEVICES	
3.1 APPLICATION	16
3.2 SELECTION	18
3.3 DISCHARGE CAPACITY	22
3.4 IDENTIFICATION AND MARKING.....	22
3.5 TESTING AND CERTIFICATION.....	22
SECTION 4 INSTALLATION OF BURSTING DISC DEVICES	
4.1 LOCATION OF BURSTING DISC SAFETY DEVICES.....	23
4.2 INSTALLATION OF BURSTING DISC SAFETY DEVICES	23
4.3 BACKPRESSURE SUPPORTS	24
4.4 MODIFICATIONS.....	24
4.5 GASKETS	24
APPENDICES	
A IDENTIFICATION AND MARKING OF BURSTING DISCS AND BURSTING DISC DEVICES.....	25
B INFORMATION TO ASSIST DESIGN OR SELECTION OF BURSTING DISCS AND BURSTING DISC DEVICES.....	27
C PRESSURE RELIEF SYSTEM DISCHARGE CAPACITY	29
D TESTING AND CERTIFICATION OF BURSTING DISCS	36

STANDARDS AUSTRALIA

Australian Standard

Bursting discs and bursting disc devices—Application, selection and installation

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard provides requirements and guidance on the application, selection and installation of bursting discs and bursting disc devices.

The information to be used for identification and the information to be marked on bursting discs and bursting disc devices is specified in Appendix A.

Testing and certification requirements for bursting discs are specified in Appendix D.

NOTES:

- 1 Information which the purchaser may provide to assist in the design or the selection of bursting discs and bursting disc devices is given in Appendix B.
- 2 Equations for the calculation of the discharge capacity for single phase flow are given in Appendix C.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS

- | | |
|------|--|
| 1210 | Pressure vessels |
| 1271 | Safety valves, other valves, liquid level gauges and other fittings for boilers and unfired pressure vessels |
| 4942 | Pressure equipment—Glossary of terms |

ASME

- | | |
|------------|---|
| BPV-VIII-1 | Boiler and pressure vessel code Section VIII—Rules for construction of pressure vessels: Division 1 |
|------------|---|

ISO

- | | |
|--------|---|
| 4126 | Safety devices for protection against excessive pressure |
| 4126-6 | Part 6: Application, selection and installation of bursting disc safety devices |

1.3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 4942 and those below apply.

1.3.1 Average bursting pressure

The arithmetic average value, at the coincident temperature, of the test bursts carried out on a batch of discs by the manufacturer.

1.3.2 Backpressure

The static pressure existing at the outlet of a bursting disc device at the time the device is required to operate. It is the result of pressure in the discharge system from other sources or as a result of vacuum on the upstream side.