

Australian Standard[®]

Fire sprinkler systems

**Part 1.7: Components—
Alarm valves (dry)**

This Australian Standard was prepared by Committee FP/4, Automatic Sprinkler Installations. It was approved on behalf of the Council of Standards Australia on 15 November 1995 and published on 5 January 1996.

The following interests are represented on Committee FP/4:

Asset Services—Department of Administrative Services
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Chamber of Manufactures
Australian Fire Authorities Council
Australian Fire Protection Association
Australian Water and Sewerage Authorities
CSIRO—Division of Building, Construction and Engineering
Commonwealth Fire Board
Department of Defence
Fire Protection Industry Association of Australia
Institution of Engineers, Australia
Insurance Council of Australia
Master Plumbers and Mechanical Services Association of Victoria
Melbourne Water
New Zealand Fire Equipment Association
Telstra
Testing interests
The Association of Consulting Engineers, Australia

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 95134.

Australian Standard[®]

Fire sprinkler systems

**Part 1.7: Components—
Alarm valves (dry)**

PREFACE

This Australian Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FP/4 on Automatic Sprinkler Installations to be Part 1.7 of AS 4118.

This Standard is the result of a consensus among representatives on the joint committee to produce it as an Australian Standard.

The revisions to AS 2118 include Standards Australia's requirements to keep product and installation Standards separate. When complete the series will comprise:

AS

2118 Automatic fire sprinkler systems

- Part 1: Standard
- Part 2: Wall wetting sprinklers (Drenchers)
- Part 3: Deluge
- Part 4: Residential
- Part 5: Domestic
- Part 6: Combined sprinkler and hydrant
- Part 9: Piping support and installation
- Part 10: Approval documentation

4118 Fire sprinkler systems

- Part 1.1: Components—Sprinklers and sprayers
- Part 1.2: Components—Alarm valves (wet)
- Part 1.3: Components—Water motor alarms
- Part 1.4: Components—Valve monitors
- Part 1.5: Components—Deluge and pre-action valves
- Part 1.6: Components—Stop valves and non-return valves
- Part 1.7: Components—Alarm valves (dry)
- Part 1.8: Components—Pressure reducing valves
- Part 1.9: Components—Accelerators and exhausters
- Part 2.1: Piping—General

ISO 6182 has been drawn on for the development of this Standard and the assistance received is hereby acknowledged.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 NEW DESIGNS AND INNOVATIONS	4
1.3 DEEMED TO SATISFY	4
1.4 REFERENCED DOCUMENTS	4
1.5 DEFINITIONS	5
SECTION 2 REQUIREMENTS	
2.1 NOMINAL SIZE	6
2.2 CONNECTIONS	6
2.3 RATED WORKING PRESSURES	6
2.4 BODIES AND COVERS	6
2.5 STRENGTH	6
2.6 DRAINS	7
2.7 ACCESS FOR MAINTENANCE	7
2.8 CONNECTIONS	7
2.9 COMPONENTS	7
2.10 NON-METALLIC COMPONENTS (excluding gaskets and seals)	9
2.11 SEALING ASSEMBLY ELEMENTS	9
2.12 CLEARANCES	10
2.13 OPERATIONAL PERFORMANCE	10
2.14 HYDRAULIC FRICTION LOSS	11
2.15 LEAKAGE	11
2.16 ENDURANCE TEST	12
SECTION 3 TEST METHODS	
3.1 SPRING AND DIAPHRAGM TEST	13
3.2 AIR-OVEN AGEING FOR NON-METALLIC COMPONENTS (excluding gaskets and seals)	13
3.3 WARM WATER AGEING FOR NON-METALLIC COMPONENTS (excluding gaskets and seals)	13
3.4 SEALING ELEMENT TEST	14
3.5 HYDRAULIC FRICTION LOSS TEST AND ENDURANCE TEST	14
3.6 VALVE LEAKAGE AND DEFORMATION TEST	14
3.7 BODY STRENGTH TEST	15
3.8 OPERATIONAL TEST	15
3.9 ANTI-RESEATING TEST	16
3.10 FIRE EXPOSURE TEST	16
3.11 QUICK RELEASE TEST	17
SECTION 4 MARKING	
4.1 GENERAL	21
4.2 BODY MARKINGS	21
SECTION 5 INSTRUCTION CHARTS	21

STANDARDS AUSTRALIA

Australian Standard**Fire sprinkler systems****Part 1.7: Components—Alarm valves (dry)**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for the construction and performance of alarm valves (dry) for fire sprinkler systems.

1.2 NEW DESIGNS AND INNOVATIONS Any alternative materials, designs, methods of assembly and procedures that do not comply with specific requirements of this Standard, or are not mentioned in it but that give equivalent results to those specified, are not necessarily prohibited. Advice on such matters can be sought from Standards Australia, but the specified approval remains the prerogative of the regulatory authority.

1.3 DEEMED TO SATISFY Any alarm valve (dry) that has been listed and approved by an internationally recognized test and approval body such as—

- (a) Factory Mutual (FM);
- (b) Underwriters Laboratories (UL);
- (c) Loss Prevention Council (LPC);

or has been listed by Scientific Services Laboratory (SSL) in—

SSL Register of Accredited Products
Fire Protection Equipment

shall be deemed to satisfy the requirements of this Standard.

1.4 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- 1628 Water supply—Copper alloy gate, globe and non-return valves
- 1683 Methods of test for elastomers
- 1683.11 Part 11: Tension testing of vulcanized rubber
- 2118 Automatic fire sprinkler systems
- 2118.1 Part 1: Standard
- 2484 Fire—Glossary of Terms
- 2484.1 Fire tests
- 2484.2 Fire protection and firefighting equipment
- 3500 National Plumbing and Drainage Code
- 3500.0 Glossary of Terms

ISO

- 898 Mechanical properties of fasteners
- 898.1 Part 1: Bolts, screws and studs
- 898.2 Part 2: Nuts with specified proof load values