

AS 2419.1:2021



STANDARDS
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Fire hydrant installations

Part 1: System design, installation and commissioning

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This Australian Standard ® was prepared by Committee FP-009, Fire Hydrant Installations. It was approved on behalf of the Council of Standards Australia on 20 August 2021.

This Standard was published on 3 September 2021.

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Association of Accredited Certification Bodies
Association of Hydraulic Services Consultants Australia
Australasian Fire and Emergency Service Authorities Council
Australian Building Codes Board
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Hydraulic Consultants Association Australasia
Insurance Council of Australia
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This Standard was issued in draft form for comment as DR AS 2419.1:2020.

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Fire hydrant installations

Part 1: System design, installation and commissioning

Originated as AS 2419—1980.
Revised and redesignated as AS 2419.1—1988.
Fifth edition 2017.
This edition 2021.

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Preface

This Standard was prepared by the Standards Australia Committee FP-009, Fire Hydrant Installations, to supersede AS 2419.1:2017.

A list of all parts in the AS 2419 series can be found in the Standards Australia online catalogue.

The objective of this Standard is to specify the minimum requirements for the design, installation, and commissioning of fire hydrant systems which —

- (a) will facilitate the efficient extinguishment of fire within the boundaries of the site;
- (b) can be used to minimize fire spread within or between one building or site and another;
- (c) can be used by trained firefighting personnel; and
- (d) have inlet and outlet connections that are used with the local fire brigade's firefighting equipment.

The major changes in this edition are as follows:

- (i) Restructure of the document and content to improve its use and readability.
- (ii) Limit the scope to buildings having an effective height not more than 135 m to Class 7b or 8 buildings having a total volume not more than 108 000 m³, and to buildings that do not include automatic racked storage systems.
- (iii) Include informative appendices to clarify the intent of sections and clauses.
- (iv) Include new technologies and industry best practices to enable competitive and cost-effective design and water conservation.
- (v) Divide the previous [Section 8](#) (Pipework and valves) into two sections.
- (vi) Acknowledge the benefits of installed sprinkler systems to control the development and spread of fire.
- (vii) Introduce a range of requirements for high-rise buildings based on internationally applied Standards.

Notes or footnotes to tables or figures that are expressed in mandatory terms are deemed to be requirements of this document.

Notes to clauses in this document are informative only and do not include requirements.

The terms “normative” and “informative” are used in Standards to define the application of the appendices 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

Preface	ii
Introduction	ix
Section 1 Scope and general	1
1.1 Scope	1
1.2 Normative references	1
1.3 Terms and definitions	1
Section 2 System performance and design	12
2.1 General	12
2.2 System performance	12
2.2.1 Classification of fire hydrants	12
2.2.2 External fire hydrants	12
2.2.3 Internal fire hydrants	13
2.2.4 Feed, attack, and attack/feed fire hydrants	13
2.2.5 Number of fire hydrant outlets required to flow simultaneously	14
2.2.6 Pressure and flow	15
2.2.7 Multiple firefighting systems	17
2.2.8 Class 7a car parks	17
2.2.9 Gravity break tanks	17
2.2.10 Feed fire hydrants	17
2.2.11 Attack fire hydrants	18
2.2.12 On-site pumps	19
2.2.13 On-site tanks and pumps	19
2.2.14 Fire brigade booster assembly	20
2.2.15 Half-duty fire hydrant pumps	20
2.2.16 Full-duty fire hydrant pumps	20
2.3 Hydraulic design parameters	21
2.3.1 General	21
2.3.2 Design pressures	21
2.3.3 Design velocity	21
2.3.4 Hydraulic loss — Backflow prevention and metering	21
2.3.5 Hydraulic loss — Pipes, valves, and fittings	21
2.3.6 Ring main design	21
2.3.7 Fire brigade boost pressure	21
Section 3 Hydrant classification, location, and coverage	23
3.1 General	23
3.2 Fire hydrant	23
3.2.1 Classification	23
3.2.2 Features, accessibility, and clearances	23
3.3 Handstands	25
3.4 Location of fire hydrants	25
3.5 External fire hydrants	25
3.5.1 General	25
3.5.2 Street hydrants	26
3.5.3 Location	27
3.5.4 Fire brigade booster assembly — Feed fire hydrants	28
3.5.5 Protection of fire hydrants	29
3.6 Internal fire hydrants	30
3.6.1 General	30
3.6.2 Location	30
3.6.3 Additional internal fire hydrants	31
3.7 Fire compartments	31
3.8 Rooftop plant rooms	31
3.9 Open yard protection	31

3.10	Marinas	32
3.11	Method of measurement and limitations	32
3.11.1	General	32
3.11.2	Doorways	33
3.11.3	Obstructions	34
3.11.4	Measurements from a fire brigade pumping appliance	34
Section 4	Water sources and supply	35
4.1	Water sources	35
4.1.1	General	35
4.1.2	Adequacy of water sources	35
4.1.3	Water quality	35
4.2	Water supply	36
4.2.1	Primary water supply requirements	36
4.2.2	Primary water supply options	36
4.2.3	Multiple firefighting systems	37
4.2.4	Recycling	37
4.2.5	Secondary water supply requirements	37
4.2.6	On-site water storage tanks	37
4.2.7	Water supply pressure	39
4.2.8	Arrangement of water supplies	40
4.3	Connections to water sources or supplies	41
4.3.1	Connection to a reticulated water supply	41
4.3.2	Connection to on-site private water supplies	42
4.3.3	Connection to water storage tanks	42
4.3.4	Connection to sea, river, lake or dam water	43
4.4	Fixed suction connection	43
Section 5	Water storage tanks	44
5.1	General	44
5.2	Tank construction	44
5.2.1	General	44
5.2.2	Concrete tanks	44
5.2.3	Steel tanks	44
5.3	Tank accessories	45
5.3.1	Fire brigade suction connections	45
5.3.2	Suction lines	46
5.3.3	Tank fill time	47
Section 6	Pumpsets	48
6.1	General	48
6.2	When a pumpset is required	48
6.2.1	Half-duty fire hydrant pumpsets	48
6.2.2	Full-duty fire hydrant pumpsets	48
6.2.3	Pressure maintenance pumps	48
6.2.4	Secondary water supply pumps	48
6.3	Pumpset design criteria	49
6.3.1	Half-duty fire hydrant pumpsets	49
6.3.2	Full-duty fire hydrant pumpsets	49
6.3.3	Jockey pumps	49
6.3.4	Secondary water supply pumpsets	49
6.4	Fire hydrant pumpsets	49
6.4.1	Pumpset configurations	49
6.4.2	One pump — Buildings having an effective height not more than 25 m	50
6.5	Full-duty fire hydrant pumpsets	50
6.6	Secondary water supply pumpsets	51
6.7	Fixed on-site pumpsets in parallel with the fire brigade booster assembly	51
6.8	Fixed on-site pumpsets in series with the fire brigade booster assembly	52
6.8.1	Connection requirements	52
6.8.2	Additional requirements	52

6.9	Pump control — Fire hydrant pumps	52
6.9.1	Primary starting arrangements	52
6.9.2	Secondary starting arrangements	53
6.10	Electric driver isolating switches	53
6.11	Pump room or enclosure	53
6.11.1	General	53
6.11.2	Internal pump rooms	53
6.11.3	External pump rooms or enclosures	54
Section 7	Fire brigade booster assembly	56
7.1	General	56
7.2	When a fire brigade booster assembly is required	56
7.3	Location	56
7.3.1	Position	56
7.3.2	Visual alarm device	57
7.3.3	Accessibility, clearance, and protection	57
7.3.4	Multiple buildings on-site	58
7.4	Types of fire brigade booster assemblies	58
7.5	Fire brigade booster assembly design and arrangement	58
7.5.1	General	58
7.5.2	Number of booster connection inlets required	59
7.5.3	H-pattern fire brigade booster assembly	59
7.5.4	In-line fire brigade booster assembly	62
7.5.5	I-pattern fire brigade booster assembly	63
7.5.6	Tank model fire brigade booster assembly	64
7.5.7	Tank suction fire brigade booster assembly	65
7.6	Protection of fire brigade booster assemblies	68
7.6.1	Sprinkler-protected buildings	68
7.6.2	Non-sprinkler-protected buildings — Passive protection requirements	68
7.6.3	Non-sprinkler-protected buildings — Passive and active protection requirements	69
Section 8	Pipework design and installation	70
8.1	General	70
8.2	Ground conditions	70
8.3	Fire mains	70
8.4	External pipework	70
8.5	Internal pipework	71
8.5.1	General	71
8.5.2	Copper pipe	71
8.6	Ring main	71
8.6.1	General	71
8.6.2	Design criteria	72
8.7	Isolating valves	72
8.7.1	General	72
8.7.2	Location	72
8.8	Interconnections	73
8.9	System monitoring	73
8.9.1	General	73
8.9.2	Class A monitoring devices	73
8.9.3	Class B monitoring devices	74
8.9.4	Monitoring devices required	74
8.9.5	Components to be monitored	74
8.10	Test facility	74
8.10.1	General	74
8.10.2	Permanent test facility	75
8.10.3	Permanent test facility drainage	75
8.10.4	Reduced-capacity tank test facility	75
8.11	Fire hose reel service isolating valves	76

8.12	Pressure management.....	76
8.13	High-rise design criteria.....	76
8.13.1	General.....	76
8.13.2	Bottom-up fire hydrant system design.....	77
8.13.3	Cascade fire hydrant system design.....	77
8.13.4	Pressure-reducing valve station.....	78
Section 9	Pipes, valves and fittings.....	79
9.1	General.....	79
9.2	Pipe, valves and fittings specifications.....	79
9.2.1	Above-ground pipework.....	79
9.2.2	Below-ground pipework.....	79
9.2.3	Additional requirements for steel pipe and fittings.....	80
9.3	Valve specifications.....	81
9.3.1	Fire hydrant valves.....	81
9.3.2	Isolating valves.....	81
9.3.3	Non-return valves.....	82
9.3.4	Backflow prevention devices.....	82
9.4	Fire brigade booster connections.....	82
9.5	Metal pipe joints.....	83
9.5.1	General.....	83
9.5.2	Roll-grooved fittings and couplings.....	83
9.5.3	Shouldered fittings and couplings.....	83
9.5.4	Compression systems.....	83
9.5.5	Gasket seals.....	83
9.5.6	Brazed joints in copper pipework.....	84
9.5.7	Flange joints.....	84
9.6	Plastics pipe joints.....	84
9.7	Pipe marking.....	84
9.7.1	Steel pipe.....	84
9.7.2	Copper pipe.....	85
9.7.3	Stainless steel pipe.....	85
9.7.4	Plastics pipe.....	85
9.8	Corrosion protection.....	85
9.8.1	General.....	85
9.8.2	Polyethylene extruded plastics coating and tape.....	85
9.8.3	Petrolatum tape coating.....	85
9.8.4	Polymeric coating.....	85
9.8.5	Cement mortar lining.....	85
Section 10	Pipe supports.....	86
10.1	General.....	86
10.2	Pipe support design.....	86
10.2.1	General.....	86
10.2.2	Sway support.....	86
10.2.3	Pipe support in seismic areas.....	86
10.3	Materials for pipework support.....	87
10.4	Protection of pipe supports.....	87
10.4.1	Fire rating.....	87
10.4.2	Corrosion protection.....	87
10.4.3	Dissimilar metals.....	87
10.5	Requirements for pipe-support components.....	87
10.5.1	General.....	87
10.5.2	U-bolts used for clamping down.....	88
10.5.3	U-bolts for clamping up and threaded rods for supporting pipework.....	88
10.5.4	U-hangers/saddles (clips).....	88
10.5.5	Saddle brackets and girder or beam clamps.....	89
10.5.6	Pear hangers/pipe bands.....	89
10.5.7	Two-piece bolted clamps.....	89

10.5.8	Welded nut clips and split ring hangers	90
10.5.9	Riser clamps	90
10.5.10	Channel/strut clips	90
10.5.11	Pipe support beams (trapeze bar)	90
10.6	Spacing of supports	91
10.7	Location of supports	92
10.7.1	Horizontal pipework	92
10.7.2	Vertical pipework	92
10.8	Fixing of pipe supports	94
10.8.1	General	94
10.8.2	Fixing to concrete, masonry or steel	94
10.8.3	Fixing to timber	94
10.9	Thrust blocks and anchors	94
10.10	Penetration of pipework through structures	94
Section 11	Ancillary equipment, signage and baseline data	96
11.1	General	96
11.2	Cabinets, enclosures or recesses	96
11.2.1	Fire brigade booster assembly	96
11.2.2	Doors of fire brigade booster assembly cabinets and enclosures	98
11.2.3	Fire hydrant cabinets	98
11.3	Signage	99
11.3.1	Fire brigade booster assembly	99
11.3.2	Attack fire hydrants in fire brigade booster assembly cabinets	100
11.3.3	Large- and small-bore suction connections	100
11.3.4	Notice-of-pressure signs (baseline data)	100
11.3.5	Fire hydrants	101
11.3.6	Water storage tanks and equipment	101
11.3.7	Pumps	102
11.4	Pressure gauges	102
11.4.1	General	102
11.4.2	Location of pressure gauges	103
11.4.3	Pressure schedule (baseline data)	103
11.5	Block plan (baseline data)	104
11.6	Location plan — Additional fire hydrants (baseline data)	109
11.7	Location plan — Street fire hydrants (baseline data)	109
11.8	Pipework identification	109
Section 12	Commissioning	110
12.1	General	110
12.2	Hydrostatic testing — Feed fire hydrant systems	110
12.2.1	All joints accessible	110
12.2.2	All joints not accessible	110
12.3	Hydrostatic testing — Attack fire hydrant systems	110
12.3.1	Buildings having an effective height not more than 50 m	110
12.3.2	Buildings having an effective height more than 50 m	110
12.4	Flow and pressure performance testing	111
12.4.1	Maximum static pressure	111
12.4.2	Unassisted feed, attack or attack/feed fire hydrants	111
12.4.3	Fire brigade booster assemblies	111
12.4.4	Half-duty fire hydrant pumpsets	112
12.4.5	Full-duty fire hydrant pumpsets	112
12.4.6	Jockey pumps	112
12.4.7	Friction loss	112
12.4.8	Multiple firefighting systems	112
12.5	Commissioning and acceptance testing requirements	113
12.6	Inspection	113
12.7	Documentation	113
Appendix A	(informative) Means of demonstrating conformance	115

Appendix B (informative) Fire hydrant system design	123
Appendix C (informative) Fire hydrant system design — large isolated buildings with a total volume more than 108 000 m³ and automatic storage and retrieval systems	126
Appendix D (informative) Fire hydrant system design — Class 2 to 9 buildings having an effective height more than 135 m	134
Appendix E (informative) Special hazard areas	139
Appendix F (informative) Fire brigade operations and equipment — Design considerations for fire hydrant systems	141
Appendix G (informative) Guidance on system performance and design	155
Appendix H (informative) Guidance on fire hydrant location and related provisions	172
Appendix I (informative) Privately owned street fire hydrants	200
Appendix J (informative) Design guidance — Marinas	201
Appendix K (informative) Guidance on water sources and water supply	204
Appendix L (informative) Determination of water system supply pressure	218
Appendix M (informative) Water storage tanks	228
Appendix N (informative) Guidance on pumpset and pipework design	234
Appendix O (informative) Facilities for testing on-site fire hydrant pumps	253
Appendix P (informative) Design guidance — Fire brigade booster assembly	254
Appendix Q (informative) Fire hose couplings used in Australia	266
Appendix R (informative) Corrosion protection	269
Appendix S (normative) Commissioning — Hydrostatic test procedures	271
Appendix T (normative) Commissioning — Flow and pressure performance testing	276
Appendix U (informative) Adjustment for water supply pressure variation	283
Bibliography	286

Introduction

The availability of fire hydrants is essential to fire protection. Fire hydrants are used to control the spread of fire, protect neighbouring properties, extinguish an outbreak of fire, or extinguish a fire controlled by an automatic fire protection system, such as a sprinkler, gaseous or foam system.

Fire hydrants are installed within buildings or sites for use by the fire brigade and other trained firefighting personnel. Fire hydrant systems are only used for firefighting purposes.

The provision of firefighting services across Australia varies greatly between rural and metropolitan areas. Should a fire occur in a large metropolitan area, a vast array of resources and large numbers of personnel can be mobilized if needed. This resource capability is not available, however, in rural and country areas, with many such areas having access to a single pumping appliance and a limited number of personnel. In developing a fire hydrant design, the resources available to the attending fire brigade should be taken into account so that the design developed meets their needs.

In designing a fire hydrant system, external hydrants are provided wherever possible so that the attending fire brigade can enter the building under the protection of a charged hose line. Where internal fire hydrants are required to be installed, consistent and repeating hydrant patterns should be applied across floors so that firefighters can move confidently throughout the building in the knowledge that a fire hydrant can be found where expected. The application of this design approach will enable firefighters to enter buildings under the protection of a charged line of hose and to readily access fire hydrants as firefighters move throughout the building.

The water supply is a fundamental consideration in the design of a fire hydrant installation and may comprise water from more than one source.

NOTES

Australian Standard®

Fire hydrant installations

Part 1: System design, installation and commissioning

Section 1 Scope and general

1.1 Scope

This document specifies the requirements for the design, installation, commissioning and testing of fire hydrant installations.

This document applies to on-site fire hydrant installations for —

- (a) class 7b or 8 buildings having a total volume not more than 108 000 m³;

NOTE 1 See [Appendix C](#) for guidance on Class 7b or 8 buildings having a total volume more than 108 000 m³.

- (b) buildings that do not include automatic racked storage systems;

NOTE 2 See [Appendix C](#) for guidance on buildings that include automatic racked storage systems.

- (c) buildings having an effective height not more than 135 m; and

NOTE 3 See [Appendix D](#) for guidance on buildings having an effective height more than 135 m.

- (d) buildings and associated areas that do not include special hazards.

NOTE 4 See [Appendix E](#) for buildings and associated areas that include special hazards.

This document may apply, either in part or in full, to any —

- (i) buildings outside the scope of this document; or
(ii) sites, including any storage yard, marina, wharf, plant, or infrastructure.

This document does not apply to the design or performance of reticulated water supplies and street hydrants controlled by the network utility operator. However, this document does permit the use of street fire hydrants in lieu of on-site feed fire hydrants, provided they conform to the requirements for feed fire hydrants in relation to location, available pressure, and flow.

The flow requirements in this document, which are based on the floor area of a building, provide sufficient water to enable firefighting operations to commence at a single location within a building or site. Where a risk assessment of a building or site determines that multiple ignitions or rapid-fire growth and spread is probable, then additional provisions are considered.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1074, *Steel tubes and tubulars for ordinary service*

AS 1275, *Metric screw threads for fasteners*

AS 1281, *Cement mortar lining of steel pipes and fittings*

AS 1345, *Identification of the contents of pipes, conduits and ducts*