

SINGAPORE STANDARD

CP 29 : 1998

(ICS 13.220.30)

CODE OF PRACTICE FOR

**Fire hydrant systems and
hose reels**

(Incorporating Amendment No. 1, November 1998 and
Amendment No. 2, September 2007)

Published by
SPRING Singapore
2 Bukit Merah Central
Singapore 159835
SPRING Singapore Website: www.spring.gov.sg
Standards Website: www.standards.org

SINGAPORE STANDARD

CP 29 : 1998

(ICS 13.220.30)

CODE OF PRACTICE FOR

Fire hydrant systems and hose reels

(Incorporating Amendment No. 1, November 1998 and
Amendment No. 2, September 2007)

All rights reserved. Unless otherwise specified, no part of this Singapore Standard may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from SPRING Singapore at the address below:

Head
Standardisation Department
SPRING Singapore
2 Bukit Merah Central
Singapore 159835
Telephone: 62786666 Telefax: 62786667
Email: stn@spring.gov.sg

ISBN 9971-67-653-2

Contents

	Page
Foreword _____	7
CODE OF PRACTICE	
<hr/>	
Section 1 : General	
1.1 Scope _____	8
1.2 Rules and Regulations _____	8
1.3 Definitions _____	8
1.4 Plans and specifications _____	10
Section 2 : Provisions and siting of fire hydrants and rising mains	
2.1 Fire hydrants _____	11
2.2 Rising mains _____	12
2.3 Breeching inlets to rising mains _____	14
2.4 Landing valves _____	15
Section 3 : Design considerations for fire hydrants and rising mains	
3.1 Water supply and pumping arrangements _____	19
3.2 Connections to wet rising main systems _____	25
3.3 Automatic air release valve for rising mains _____	25
3.4 Electrical earthing of rising mains _____	25
Section 4 : Hose reels	
4.1 Conformity to standards _____	26
4.2 Provision and siting _____	26
4.3 Installation of hose reels _____	26
4.4 Co-ordinating spaces for hose reels _____	27
4.5 Water supply for hose reels _____	27
4.6 Hose reel notices _____	30
Section 5 : Components and materials	
5.1 Conformity with standards _____	31
5.2 Pipes and fittings _____	32
5.3 Isolation and check valve _____	32
5.4 Pipe hangers _____	32
Section 6 : Hydraulic calculations	
6.1 Formulae _____	33
6.2 Pressure loss in pipe fittings _____	33
Section 7 : Installation	
7.1 Work on site _____	35
7.2 External pipework _____	35

	Page
7.3 Underground pipework _____	35
7.4 Internal pipework _____	35
7.5 Protection of buildings under construction _____	35
Section 8 : Initial inspections and acceptance tests	
8.1 Hydrostatic test _____	36
8.2 Fire hydrants _____	36
8.3 Tests on dry rising mains _____	37
8.4 Tests on wet rising mains _____	37
8.5 Hose reel tests _____	38
8.6 Test records _____	38
Section 9 : Maintenance of system and rectification of defects	
9.1 Fire hydrants _____	39
9.2 Rising mains _____	39

ANNEX

A Matters to be considered relating to the provision of fire-fighting Installations during building construction _____	41
---	----

TABLES

1 Water storage tank capacity for fire hydrant _____	20
2 Value of dimensions 'A' and 'B' as defined in Figure 4 _____	22
3 Minimum metering device size _____	25
4 Equivalent length of pipes for fittings _____	34

FIGURES

1 Details of typical installation of double pillar hydrant in turfed areas _____	13
2 Mounting height of breeching inlet _____	16
3 Landing valve's recess clearance _____	18
4 Vertical cross-section showing effective capacity of storage _____	23
5 Typical installation for a hose reel _____	28
6 Explanation of dimensions _____	29
7 Co-ordinating spaces for fixed hose reels _____	29
8 Co-ordinating spaces for swinging arm or recess type hose reels _____	29

Foreword

This code was prepared by the Technical Committee on Building Services under the direction of the Construction Industry Practice Committee.

This code is intended to provide good guidance on fire hydrants, rising mains and hose reel systems in the area of fire protection. The information therein serves to promote the understanding of such systems by architects, engineers, contractors and owners.

In preparing this standard, reference was made to the following publications:

1. AS 2419.1 : 1994 Fire hydrant installations
Part 1 : System design, installation and commissioning
2. BS EN 671-1 : - Fixed fire fighting systems - Hose systems
Part 1 : 1995 Hose reels with semi-rigid hose
3. BS 5306 : - Code of practice for fire extinguishing installations and equipment on premises
Part 1 : 1976 Hydrant systems, hose reels and foam inlets
Part 2 : 1990 Specification for sprinkler system
4. CP 52 : 1990 Code of practice for automatic fire sprinkler systems
5. NFPA 14A: 1989 Inspection, testing and maintenance of standpipe and hose systems *As amended
Nov 98*
6. Code of practice for fire precautions in buildings 1997

Acknowledgement is made for the use of information from the above publications.

NOTE

1. *Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue of either amendment slips or revised editions.*
2. *Compliance with a Singapore Standard does not exempt users from legal obligations.*

Code of practice for fire hydrant systems and hose reels

Section 1 : General

1.1 Scope

This Code of Practice shall apply to the planning, installation, testing and upkeep of fire hydrant, wet and dry rising main and hose reel systems on building premises.

NOTE – The titles of the publications referred to in this standard are listed at the end of the standard.

1.2 Rules and regulations

The provision and installation of fire hydrant, rising main and hose reel systems shall be in accordance with the following rules and regulations:

- (a) Building Control Act 1989 and the Regulations made thereunder;
- (b) Public Utilities Act and the Public Utilities (Water Supply) Regulations made thereunder;
- (c) Professional Engineers Act 1991;
- (d) Fire Safety Act 1993 and
- (e) Any other relevant rules, regulations and by-laws.