



MALAYSIAN STANDARD

MS ISO 6182-7:2009
(CONFIRMED:2015)

Fire protection - Automatic sprinkler systems - Part 7: Requirements and test methods for early suppression fast response (ESFR) sprinklers (ISO 6182-7:2004, IDT)

ISO 6182-7:2004 is endorsed as Malaysian Standard with the reference number MS ISO 6182-7:2009.

ICS: 13.220.20

Descriptors: fire protection, automatic sprinkler systems, requirements, test methods, ESFR

NOTE. This Malaysian Standard has been reviewed and confirmed as being current.

© Copyright 2009

DEPARTMENT OF STANDARDS MALAYSIA

DEVELOPMENT OF MALAYSIAN STANDARDS

The **Department of Standards Malaysia (STANDARDS MALAYSIA)** is the national standards and accreditation body of Malaysia.

The main function of STANDARDS MALAYSIA is to foster and promote standards, standardisation and accreditation as a means of advancing the national economy, promoting industrial efficiency and development, benefiting the health and safety of the public, protecting the consumers, facilitating domestic and international trade and furthering international cooperation in relation to standards and standardisation.

Malaysian Standards (MS) are developed through consensus by committees which comprise balanced representation of producers, users, consumers and others with relevant interests, as may be appropriate to the subject at hand. To the greatest extent possible, Malaysian Standards are aligned to or are adoption of international standards. Approval of a standard as a Malaysian Standard is governed by the Standards of Malaysia Act 1996 [Act 549]. Malaysian Standards are reviewed periodically. The use of Malaysian Standards is voluntary except in so far as they are made mandatory by regulatory authorities by means of regulations, local by-laws or any other similar ways.

For the purposes of Malaysian Standards, the following definitions apply:

Revision: A process where existing Malaysian Standard is reviewed and updated which resulted in the publication of a new edition of the Malaysian Standard.

Confirmed MS: A Malaysian Standard that has been reviewed by the responsible committee and confirmed that its contents are current.

Amendment: A process where a provision(s) of existing Malaysian Standard is altered. The changes are indicated in an amendment page which is incorporated into the existing Malaysian Standard. Amendments can be of technical and/or editorial nature.

Technical corrigendum: A corrected reprint of the current edition which is issued to correct either a technical error or ambiguity in a Malaysian Standard inadvertently introduced either in drafting or in printing and which could lead to incorrect or unsafe application of the publication.

NOTE: Technical corrigenda are not to correct errors which can be assumed to have no consequences in the application of the MS, for example minor printing errors.

STANDARDS MALAYSIA has appointed **SIRIM Berhad** as the agent to develop, distribute and sell Malaysian Standards.

For further information on Malaysian Standards, please contact:

Department of Standards Malaysia
Ministry of Science, Technology and Innovation
Level 1 & 2, Block 2300, Century Square
Jalan Usahawan
63000 Cyberjaya
Selangor Darul Ehsan
MALAYSIA

Tel: 60 3 8318 0002
Fax: 60 3 8319 3131
<http://www.jsm.gov.my>
E-mail: central@jsm.gov.my

OR **SIRIM Berhad**
(Company No. 367474 - V)
1, Persiaran Dato' Menteri
Section 2, P. O. Box 7035
40700 Shah Alam
Selangor Darul Ehsan
MALAYSIA

Tel: 60 3 5544 6000
Fax: 60 3 5510 8095
<http://www.sirim.my>
E-mail: msonline@sirim.my

Committee representation

The Industry Standards Committee on Fire Safety and Prevention (ISC M) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia
Construction Industry Development Board
Department of Standards Malaysia
Forest Research Institute Malaysia
Jabatan Bomba dan Penyelamat Malaysia
Jabatan Kerja Raya Malaysia
Jabatan Kimia Malaysia
Malaysian Association of Standards Users
Malaysian Fire Protection Association
Master Builders Association Malaysia
Ministry of International Trade and Industry
Persatuan Insuran Am Malaysia
Pertubuhan Akitek Malaysia
Real Estate Housing Developers' Association Malaysia
SIRIM Berhad (Secretariat)
Tenaga Nasional Berhad
The Institution of Engineers, Malaysia
The Institution of Fire Engineers (UK) Malaysia Branch
Universiti Kebangsaan Malaysia
Universiti Putra Malaysia

The Technical Committee on Wet Fire Protection which recommended the adoption of the ISO Standard consists of representatives from the following organisations:

Association of Consulting Engineers Malaysia
Jabatan Bomba dan Penyelamat Malaysia
Jabatan Kerja Raya Malaysia
Kolling Engineering Sdn Bhd
Malaysian Fire Protection Association
Pertubuhan Akitek Malaysia
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Steel Recon Industry Sdn Bhd
Tenaga Nasional Berhad
The Institution of Engineers, Malaysia
The Institution of Fire Engineers (UK) Malaysia Branch
Universiti Putra Malaysia

MS ISO 6182-7:2009

NATIONAL FOREWORD

The adoption of the ISO Standard as a Malaysian Standard was recommended by the Technical Committee on Wet Fire Protection under the authority of the Industry Standards Committee on Fire Safety and Prevention.

This Malaysian Standard is identical with ISO 6182-7:2004, *Fire protection - Automatic sprinkler systems - Part 7: Requirements and test methods for early suppression fast response (ESFR) sprinklers*, published by the International Organization for Standardization (ISO). However, for the purpose of this Malaysian Standard, the following apply:

- a) in the source text, "this International Standard" should read "this Malaysian Standard"; and
- b) the comma which is used as a decimal sign (if any), to read as a point.

MS ISO 6182 consists of the following parts, under the general title *Fire protection - Automatic sprinkler systems*:

Part 1: Requirements and test methods for sprinklers

Part 2: Requirements and test methods for wet alarm valves, retard chambers and water motor alarms

Part 3: Requirements and test methods for dry pipe valves

Part 4: Requirements and test methods for quick-opening devices

Part 5: Requirements and test methods for deluge valves

Part 6: Requirements and test methods for check valves

Part 7: Requirements and test methods for early suppression fast response (ESFR) sprinklers

Part 8: Requirements and test methods for pre-action dry alarm valves

Part 9: Requirements and test methods for water mist nozzles

Part 10: Requirements and test methods for domestic sprinklers

Part 11: Requirements and test methods for pipe hangers

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

**Fire protection — Automatic sprinkler
systems —**

**Part 7:
Requirements and test methods for early
suppression fast response (ESFR)
sprinklers**

*Protection contre l'incendie — Systèmes d'extinction automatiques du
type sprinkler —*

*Partie 7: Prescriptions et méthodes d'essai des sprinklers de type
«extinction précoce/réaction rapide»*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Preview Only

© ISO 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative reference	1
3 Terms and definitions	1
4 Product consistency	4
5 Product assembly	4
6 Requirements	5
7 Test methods	11
8 Marking of sprinklers	35
Annex A (informative) Tolerance limit calculation method	36
Annex B (normative) Tolerances	38
Annex C (informative) Analysis of the strength test for release elements	39
Bibliography	40

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6182-7 was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 5, *Fixed firefighting systems using water*.

ISO 6182 consists of the following parts, under the general title *Fire protection — Automatic sprinkler systems*:

- *Part 1: Requirements and test methods for sprinklers*
- *Part 2: Requirements and test methods for wet alarm valves, retard chambers and water motor alarms*
- *Part 3: Requirements and test methods for dry pipe valves*
- *Part 4: Requirements and test methods for quick-opening devices*
- *Part 5: Requirements and test methods for deluge valves*
- *Part 6: Requirements and test methods for check valves*
- *Part 7: Requirements and test methods for early suppression fast response (ESFR) sprinklers*
- *Part 9: Requirements and test methods for water mist nozzles*
- *Part 10: Requirements and test methods for domestic sprinklers*
- *Part 11: Requirements and test methods for pipe hangers*

The following parts are under preparation:

- *Part 8: Requirements and test methods for pre-action dry alarm valves*
- *Part 12: Requirements and test methods for grooved end pipe couplings*
- *Part 13: Requirements and test methods for extended coverage sprinklers*