INTERNATIONAL STANDARD

**ISO 6182-7**

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# 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»*

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## 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*



 

## Introduction

This part of ISO 6182 is one of a number of ISO Standards prepared by ISO/TC 21 covering requirements and test methods for early suppression fast response (ESFR) sprinklers.

# Fire protection — Automatic sprinkler systems —

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



## 1 Scope

This part of ISO 6182 specifies performance requirements, test methods and marking requirements for fusible element and glass-bulb early suppression fast response (ESFR) sprinklers. It is applicable to ESFR sprinklers with flow constants of 202 ± 8.

NOTE 1 Requirements for ESFR sprinklers with flow constants other than 202 ± 8 are in preparation.

NOTE 2 All pressure data in this part of ISO 6182 are also given as gauge pressure in bar. The correct SI unit for pressure is the pascal (Pa) (1 bar = $10^5 N/m^2$ = 0,1 MPa).

## 2 Normative reference

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1 General

**3.1.1**
**sprinkler**
thermosensitive device designed to react at a predetermined temperature by automatically releasing a stream of water and distributing it in a specified pattern and quantity over a designated area

**3.1.2**
**conductivity factor**
$C$
measure of the conductance between the sprinkler's heat responsive element and the fitting

NOTE The conductivity factor is expressed in units of $(m/s)^{0,5}$.