
**Fire protection — Automatic
sprinkler systems —**

**Part 12:
Requirements and test methods for
grooved-end components for steel
pipe systems**

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

*Partie 12: Exigences et méthodes d'essai pour les raccords de
tuyauterie en acier à extrémités rainurées*



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested 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 references.....	1
3 Terms and definitions.....	2
4 Product consistency.....	2
5 Product assembly.....	2
6 Requirements.....	3
6.1 Standard grooved-end dimensions.....	3
6.2 Minimum pipe wall thickness.....	3
6.3 Mechanical coupling housing.....	3
6.4 Pressure-responsive gasket.....	3
6.5 Bolts.....	3
6.6 Nuts.....	8
6.7 Hinge pins.....	8
6.8 Flexible coupling.....	8
6.9 Vacuum (see 7.2).....	8
6.10 Air leakage (see 7.3).....	8
6.11 Low-temperature exposure (see 7.4).....	8
6.12 Heat ageing (see 7.5).....	8
6.13 Hydrostatic pressure (see 7.6).....	8
6.14 Bending moment (see 7.7).....	8
6.15 Gasket material evaluation.....	8
6.16 Fire resistance (see 7.8).....	9
6.17 Rated working pressure.....	9
6.18 Nominal sizes.....	9
7 Test methods.....	9
7.1 Test assembly.....	9
7.2 Vacuum (see 6.9).....	9
7.3 Air leakage (see 6.10).....	10
7.4 Low-temperature exposure (see 6.11).....	10
7.5 Heat aging (see 6.12).....	10
7.6 Hydrostatic pressure test (see 6.13).....	11
7.7 Bending moment (see 6.14).....	11
7.8 Fire resistance (see 6.16).....	15
8 Markings.....	15
8.1 Housing markings.....	15
8.2 Gasket markings.....	15
8.3 Manufacturer's installation instructions.....	16

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 21, *Equipment for fire protection and firefighting*, Subcommittee SC 5, *Fixed firefighting systems using water*.

This second edition cancels and replaces the first edition (ISO 6182-12:2010), which has been technically revised.

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*
- *Part 12: Requirements and test methods for grooved-end components for steel pipe systems*

Introduction

This part of ISO 6182 is one of a number of International Standards prepared by ISO/TC 21 covering components for automatic sprinkler systems.

They are included in a series of International Standards planned to cover the following:

- a) carbon dioxide systems (ISO 6183);
- b) explosion protection systems (ISO 6184).

Fire protection — Automatic sprinkler systems —

Part 12:

Requirements and test methods for grooved-end components for steel pipe systems

1 Scope

This part of ISO 6182 specifies performance requirements, grooving dimensions, test methods, and marking requirements for couplings used in the joining of roll and cut grooved steel tube, pipe, grooved-end fittings, and other grooved-end components up to 300 mm in nominal diameter.

2 Normative references

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

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specified property classes — Coarse thread and fine pitch thread*

ISO 898-2, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes — Coarse thread and fine pitch thread*

ISO 1083, *Spheroidal graphite cast irons — Classification*

ISO 4200:1991, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length*

ASTM A47/A47M-99(2004), *Standard Specification for Ferritic Malleable Iron Castings*

ASTM A153/A153M, *Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*

ASTM A183, *Standard Specification for Carbon Steel Track Bolts and Nuts*

ASTM A536-84(2004), *Standard Specification for Ductile Iron Castings*

ASTM A563-07a, *Standard Specification for Carbons and Alloy Steel Nuts*

ASTM B633-07, *Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel*

ASTM D395-03, *Standard Test Methods for Rubber Property — Compression Set*

EN 12329, *Corrosion protection of metals — Electrodeposited coatings of zinc with supplementary treatment on iron or steel*

VdS 2100-6:2002-5(01), *Guidelines for water extinguishing systems — Pipe joints — Requirements and test methods*