SLOVENSKI STANDARD
SIST EN 15182-1:2019

01-november-2019

Nadomešča:
SIST EN 15182-1:2007+A1:2010

Prenosna oprema za črpanje in uporabo gasilnega sredstva iz gasilskih črpalk - Gasilski ročniki - 1. del: Splošne zahteve

Portable equipment for projecting extinguishing agents supplied by firefighting pumps - Hand-held branchpipes for fire service use - Part 1: Common requirements

Tragbare Geräte zum Ausbringen von Löschmitteln, die mit Feuerlöschpumpen gefördert werden - Strahlrohre für die Brandbekämpfung - Teil 1: Allgemeine Anforderungen

Equipement portable de projection d'agents d'extinction alimenté par des pompes à usage incendie - Lances à main destinées aux services d'incendie et de secours - Partie 1: Prescriptions communes

Ta slovenski standard je istoveten z: **EN 15182-1:2019**

ICS:

13.220.10	Gašenje požara	Fire-fighting

SIST EN 15182-1:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15182-1

September 2019

ICS 13.220.10

Supersedes EN 15182-1:2007+A1:2009

English Version

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This European Standard was approved by CEN on 10 June 2019.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 15182-1:2019) has been prepared by Technical Committee CEN/TC 192 “Fire and rescue service equipment”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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

This document supersedes EN 15182-1:2007+A1:2009.

Compared to EN 15182-1:2007+A1:2009 the following changes have been made:

— the definitions have been updated and three new definitions have been added (“closed branchpipe”, “main shut off valve”, “open breanchpipe”);

— each verification has been placed under the corresponding requirement;

— the values of rated discharge at p_R (see Table 1) have been updated;

— p_N replaced with p_R in 6.6.4;

— addition of the designation (new Clause 7);

— the marking (Clause 8) has been updated;

— the classification (see Annex A) has been updated in accordance with EN 15182-2:2019;

— improvement of the wording/editorial changes.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document has been created to provide a minimum level of safety and performance criteria.

Its purpose is not to define a specific branchpipe design but to help the user in understanding and choosing the correct equipment.

1 Scope

This document applies to hand-held branchpipes. It deals with:

— safety requirements;

— performance requirements;

— test methods;

— classification and designation;

— instructions for use and maintenance;

— marking.

It is advised to read this document in conjunction with parts 2, 3 or 4.

This document does not apply to branchpipes covered by EN 671 series, foam branchpipes covered by EN 16712-3, powder branchpipes, or branchpipes with a maximum working pressure above 40 bar.

NOTE 1 The Working Group has thoroughly addressed and discussed the issue of electrical safety in relation to using water branchpipes. However, an electrical test is not incorporated into this document as international experience, as well as research (NFPA handbook, French research, etc) have shown that any "artificial" or "laboratory style" testing will not take into account poor visibility and other conditions present on any fire ground, nor the problem of estimating distances under these conditions. When fighting fires in or near electrical installations, the power is cut off as soon as possible (see the operating instructions, 8.1). Also, it is best practice to maintain a maximum possible safety distance (at least 1 m up to 1 000 V) and to use a spray jet with a minimum spray angle of 30 °.

NOTE 2 It is essential to take into account reaction forces before choosing and operating branchpipes.

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. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15182-2:2019, *Portable equipment for projecting extinguishing agents supplied by firefighting pumps — Hand-held branchpipes for fire service use — Part 2: Combination branchpipes PN 16*

EN 15182-3:2019, *Portable equipment for projecting extinguishing agents supplied by firefighting pumps — Hand-held branchpipes for fire service use — Part 3: Smooth bore jet and/or one fixed spray jet angle branchpipes PN 16*

EN 15182-4:2019, *Portable equipment for projecting extinguishing agents supplied by firefighting pumps — Hand-held branchpipes for fire service use — Part 4: High pressure branchpipes PN 40*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
branchpipe
combination of components that connects to a liquid extinguishing agent supply via a hose and coupling and projects liquid extinguishing agent according to the operators requirements

3.2
closed branchpipe
branchpipe where the main shut off valve is in the closed position

3.3
main shut off valve
valve that is first in the flow line

3.4
open branchpipe
branchpipe where all valves are in the fully open position

3.5
nozzle
component of a branchpipe that controls the liquid extinguishing agent flow rate and/or pattern

3.6
pressures
Note 1 to entry: Pressures expressed in bars are measured at the inlet of the branchpipe.

Note 2 to entry: 1 bar = 0,1 MPa (10^5 Pa).

3.6.1
reference pressure
p_R
standard working pressure used to run hydraulic tests

3.6.2
median pressure
p_m
for type 4 branchpipes, average pressure of the pressure control range

Note 1 to entry: Type 4 branchpipes are defined in EN 15182-2:2019 and Annex A.

3.6.3
nominal pressure
p_N
maximum working pressure

3.6.4
test pressure
p_t
static pressure used for leakage tests

3.6.5
burst pressure
p_B
static pressure used for burst test

3.7
straight jet
jet having the maximum throw and mechanical effect

3.8
spray jet
any jet different to the straight jet

3.9
flush
position allowing the branchpipe to clear debris

4 Description

The components of a branchpipe, where used or necessary, are named as followed and shown in Figure 1:

— fitting system;

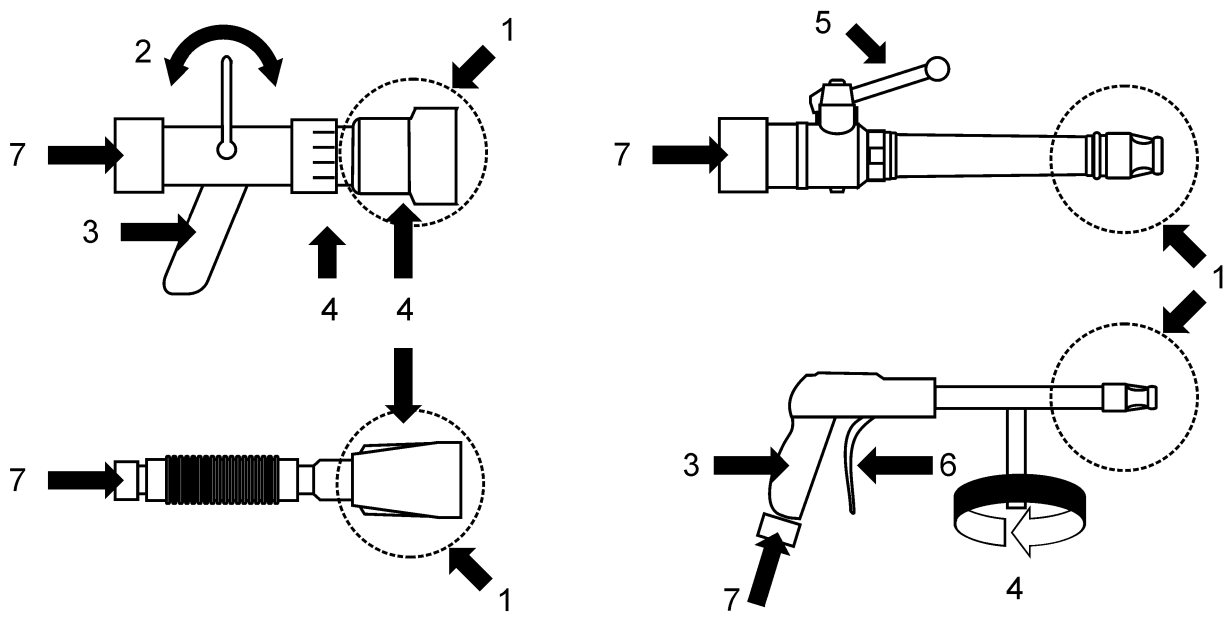
— gripping device;

— open and shut-off device (e.g. operated by a valve handle, a lever or a trigger, an open and shut-off device can also be accommodated in a twist shut-off nozzle);

— jet/spray system(s);

— flow adjustment system (e.g. operated by a valve handle, a rotating operating element or a trigger).

These components may consist of a single piece or several parts.



Key

1 nozzle
2 valve handle
3 handhold
4 rotating operating element
5 lever
6 trigger
7 fitting system

Figure 1 — Components of a hand-held branchpipe

5 Classification

Branchpipes shall be classified in accordance with Annex A.

6 Requirements and verification

6.1 General

All the tests defined in this document are type tests.

Unless otherwise specified, tests shall be carried out, at the reference pressure p_R at a water temperature between 10 °C and 25 °C.

Actual test results can be entered on the data sheet when these results exceed the minimum requirements given in this document.

NOTE Guidance for acceptance tests on delivery is given in Annex B.

Branchpipes should be ergonomically designed so that they can be easily operated without risk of injury when wearing firefighter's gloves complying with EN 659.

6.2 Mechanical characteristics

6.2.1 Dimensions and mass

The dimensions and mass of the branchpipes (without inlet coupling) shall not exceed those given in parts 2, 3 and 4 of this document.

Verification

Dimensions and mass shall be measured in accordance with parts 2, 3 and 4 of this document.

6.2.2 Fitting systems

Branchpipes from parts 2 and 4 of this document with non-rotating operation elements (e.g. valve handle, handhold, lever and trigger), shall be equipped with 360° fulltime swivelling inlet elements.

Verification

Visual inspection and actuation during the frost test in accordance with 6.5.3.

Fitting systems should not impair the performance and use of the branchpipes.

NOTE Fitting systems are dealt with in national standards or requirements.

Verification

Visual inspection, actuation and hydraulics testing.

6.2.3 Operating and handling elements

Operating and handling elements shall afford a firm hold and be able to resist the mechanical forces applied to them.

Handling elements shall be manufactured from a material which is insulated against cold or shall be provided with a protective cover.

It shall be possible for the operator to control the speed of opening and closing the branchpipe.

Branchpipe shut-off should be easy to operate in a controlled manner to minimize the risk of water hammer.

For branchpipes of all types, rotating operating elements shall traverse from a wide spray jet to a narrow spray jet and to a straight jet, and from the greatest flow to the smallest flow, in a clockwise manner when viewed from the rear of the branchpipe.

Except for type 1 branchpipes, when rotating operating elements are used, it shall be possible to feel where the maximum flow rate setting is located, even when the operator is wearing firefighter's gloves complying with EN 659.

Verification

Visual inspection and actuation during the frost test in accordance with 6.5.3.

6.3 Materials

The materials used shall be selected so that all the requirements in Clause 6 are met, subject to the tests defined in this document.

Verification

Branchpipes shall resist to the heat and frost tests defined respectively in 6.5.2 and in 6.5.3 and to the drop test defined in 6.6.

6.4 Flush

All branchpipes shall be able to pass through debris of the size specified in Table 1 without shutting off the branchpipe.

This can be accomplished either through the full open branchpipe position or through a flush feature of the branchpipe.

Table 1 — Flushing capability for branchpipes

Rated discharge at p_R l/min	**Size of steel ball** mm
Up to 250	3,18
250 to 570	4,76
over 570	6,35

Branchpipes equipped with a flush feature shall have a mechanical and/or visual device to indicate to the user when the flush feature is being engaged.

Verification

Branchpipes shall be held in the vertical position, discharge end down, with the branchpipe valve fully open and the nozzle, when existing, set in the flush position.

The appropriate size steel ball shall pass through the branchpipe without changes in the control position.

6.5 Hydraulic characteristics

6.5.1 General

Unless otherwise specified, tests shall be carried out at the reference pressure p_R, in the following order:

— 6.2.1 dimensions and mass,

— 6.2.2 fitting systems,

— 6.2.3 verification of operating and handling elements,

— 6.4 flush,

— 6.5.2 heat test,

— 6.5.3 frost test,

— 6.6 drop tests.