



SLOVENSKI STANDARD
SIST EN 14384:2005
01-december-2005

Nadzemni hidranti

Pillar fire hydrants

Überflurhydranten

Poteaux d'incendie

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 14384:2005

[SIST EN 14384:2005](https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005)

<https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005>

ICS:

13.220.10

SIST EN 14384:2005

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14384:2005

<https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005>

ICS 13.220.10

English version

Pillar fire hydrants

Poteaux d'incendie

Überflurhydranten

This European Standard was approved by CEN on 20 June 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

(standards.iteh.ai)

SIST EN 14384:2005

<https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents	Page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Design requirements	7
4.1 Dimensions.....	7
4.2 Shell	8
4.3 Elastomers.....	8
4.4 Obturator – main valve	9
4.5 Materials including lubricants in contact with water intended for human consumption	9
4.6 Leaktightness and mechanical strength	9
4.7 Components of the operating system	10
4.8 Closing direction.....	10
4.9 Opening turns	10
4.10 Resistance of the hydrant to operating loads.....	10
4.11 Operating mechanism	11
4.12 Inlet connections.....	11
4.13 Outlets	11
4.14 Drainage and venting systems	11
4.15 Security housing.....	12
4.16 Internal and external corrosion resistance.....	12
4.17 Colour	12
4.18 Resistance to disinfection products.....	12
4.19 Hydrants for non-potable water systems.....	12
4.20 Hydraulic characteristics.....	12
5 Test methods.....	13
5.1 General	13
5.2 General dimensions.....	13
5.3 Flow characteristics.....	13
6 Designation, marking and additional data	15
6.1 Designation	15
6.2 Marking of hydrants.....	15
6.3 Additional hydrant data	16
7 Evaluation of conformity	17
7.1 General	17
7.2 Initial type testing.....	17
7.3 Factory product control (FPC)	18
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive (89/106/EEC).....	22
ZA.1 Scope and relevant clauses	22
ZA.2 Procedure for the attestation of conformity of pillar fire hydrants	23
ZA.3 CE marking.....	24
ZA.4 Certificate and Declaration of Conformity.....	26
Bibliography.....	27

Foreword

This European Standard (EN 14384:2005) has been prepared by Technical Committee CEN/TC 192 "Fire service equipment", the secretariat of which is held by BSI, in cooperation with CEN/TC 164 "Water supply" and CEN/TC 69 "Industrial Valves".

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 January 2006, and conflicting national standards shall be withdrawn at the latest by January 2006.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

This is one of a series of standards for fire hydrants.

This is the first edition of this European Standard.

No International Standard exists for pillar fire hydrants.

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

ITC STANDARD PREVIEW

(standards.iteh.ai)

SIST EN 14384:2005

[https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-](https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005)

[679034e4ef26/sist-en-14384-2005](https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005)

Introduction

The purpose of a fire hydrant installation is to provide a connection (i.e. hydrant) to the water main to which the firefighter can connect firefighting equipment. Pillar fire hydrants consist of one or more valves and connection outlets in a column shape, which emerges from below ground level, intended primarily to supply water for firefighting and also may be used by water utilities (as defined in 3.3).

This European Standard is in conformity with the general requirements already established by CEN/TC 164 in the field of water supply.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the product covered by this European Standard:

- 1) this European Standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA,
- 2) it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 14384:2005](https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005)

<https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034e4ef26/sist-en-14384-2005>

1 Scope

This European Standard specifies the minimum requirements, test methods, marking and evaluation of conformity for pillar hydrants for fire fighting purposes:

- to be installed in a water distribution system;
- sizes DN 80, DN 100 and DN 150;
- suitable for an allowable operating pressure, PFA, of PN 16 with or without drain facility;
- having vertical or horizontal, flanged, socket or spigot inlet;
- with one or two outlets and having outlets to national requirements;
- globe (screw down) or gate valve type.

This European Standard also provides for the evaluation of conformity of the pillar fire hydrants to the requirements of this European Standard.

This European Standard applies to fire hydrants for potable and non potable water and for filtered water. Additional requirements may apply for other liquids.

Couplings connected to outlets are outside the scope of this European Standard and should conform to national requirements.

(standards.iteh.ai)

2 Normative references

[SIST EN 14384:2005](https://standards.iteh.ai/catalog/standards/sist/22742627-90de-4832-940a-679034edaf74/est-en-14384-2005)

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

EN 681-1, *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 1074-1:2000, *Valves for water supply — Fitness for purpose requirements and appropriate verification tests — Part 1: General requirements*

EN 1074-2:2000, *Valves for water supply — Fitness for purpose requirements and appropriate verification tests — Part 2: Isolating valves*

EN 1074-6:2004, *Valves for water supply — Fitness for purpose requirements and appropriate verification tests — Part 6: Hydrants*

EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1092-2, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges*

EN 1503-1, *Valves — Materials for bodies, bonnets and covers — Part 1: Steels specified in European Standards*

EN 1503-3, *Valves — Materials for bodies, bonnets and covers — Part 3: Cast irons specified in European Standards*

EN ISO 9001:2000, *Quality management systems — Requirements (ISO 9001:2000)*

3 Terms and definitions

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

3.1

hydrant

connection to a water supply system including an isolating valve
[EN 1074-6:2004]

3.2

fire hydrant

hydrant designed to supply water for fire fighting during all phases of the fire

3.3

pillar fire hydrant

fire hydrant with column shape, which emerges from below ground level, intended primarily to supply water for firefighting and also may be use by water utilities

3.4

dry pillar fire hydrant

pillar fire hydrant, the column of which empties automatically when the main valve is closed

3.5

wet pillar fire hydrant

pillar fire hydrant, the column of which remains full of water

3.6

break system

mechanism which allows the above ground part of the hydrant to separate from the below ground part when subjected to impact whilst maintaining the seal of the main valve

3.7

obturator

movable component of the valve whose position in the fluid flow path permits, restricts or obstructs the fluid flow (see EN 736-2)

3.8

loose obturator

device for controlling flow out of a pipeline but which prevents flow into a pipeline

3.9

shell

pressure-containing envelope of the valve

NOTE It normally comprises the body and, when included in the design, a bonnet or cover and the body bonnet or body cover joint (see EN 736-2).

3.10

DN nominal size

alphanumeric designation of the size of pipework components used for reference purposes. It comprises the letters DN followed by a dimensionless round number which is loosely related to the effective dimensions, in millimetres, of the bore or external diameter of the end connections

[EN 1074-1:2000]

3.11

PN nominal pressure

alphanumeric designation used for reference purposes and related to a combination of numerical and dimensional characteristics of a component of a pipe system. It comprises the letters PN followed by a dimensionless round number

[EN 1074-1:2000]

3.12**allowable maximum operating pressure PMA**

maximum hydrostatic pressure including surge that a component can withstand from time to time in service
[EN 1074-1:2000]

3.13**allowable operating pressure PFA**

maximum hydrostatic pressure that a component can withstand continuously in service
[EN 1074-1:2000]

3.14**allowable test pressure PEA**

maximum hydrostatic pressure that a newly installed component can withstand for a relatively short duration when either fixed above ground level or laid and backfilled underground in order to ensure the integrity and tightness of the pipeline (see EN 1074-1)

3.15**flow coefficient Kv (Cv)**

rate of flow in cubic metres per hour that will cause a differential pressure of one bar through the fire hydrant (see EN 736-3)

4 Design requirements**4.1 Dimensions**

Dimensions (see Figure 1) shall be as follows:

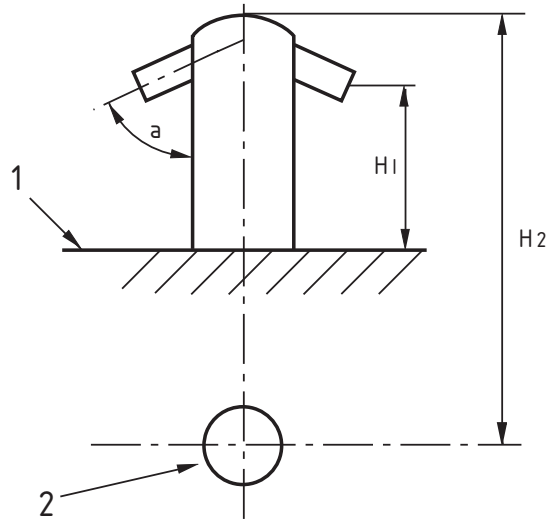
- $H \geq 300$ mm.

The nominal outlet angle a shall be $60^\circ \leq a \leq 90^\circ$.

All the outlets shall be within an included nominal angle b of 180° , and shall allow all the hose couplings to be fitted at the same time.

The tolerances on the nominal angles a and b shall be $\pm 5^\circ$.

General dimensions shall be measured according to 5.2.



iTeH STANDARD PREVIEW
(standards.iteh.ai)

Key

- 1 Ground
- 2 Point of connection to the water supply
- a Nominal outlet angle
- b Nominal outlets included angle

Figure 1 — General dimensions

4.2 Shell

The shell of the pillar fire hydrants shall be made of the materials given in Table 1.

Table 1 — Shell materials

Material	Reference standard
Flake graphite cast iron	EN 1503-3
Spheroidal graphite cast iron	EN 1503-3
Steel	EN 1503-1

4.3 Elastomers

All elastomeric seals within the hydrant shall comply with EN 681-1. They shall be either type WA for cold potable water use or suitable for the fluid with which they come into contact (see 4.6).

4.4 Obturator – main valve

Any design of the main valve shall be accepted provided that it meets the requirements of this European Standard.

The manufacturer shall declare if the design of the hydrant permits the obturator to be replaced in situ.

NOTE For safety reasons the replacement should be carried out when the fire hydrant is not under pressure.

4.5 Materials including lubricants in contact with water intended for human consumption

Pending the introduction of a common European Approvals Scheme 'E.A.S.', all materials including lubricants in the construction of a hydrant, that are likely to come into contact with water for human consumption, shall comply with the national regulations in the country of use.

4.6 Leaktightness and mechanical strength

4.6.1 General

The hydrant shall be suitable for use at the relevant pressures shown in Table 2, and shall meet the requirements of 4.6.2 to 4.6.4.

Table 2 — Pressures

PN	PFA MPa (bar)	PMA MPa (bar)	PEA ^a (1) MPa (bar)
16	1,6 (16)	2,0 (20)	2,5 (25)
^a PEA only applies to valves not in the closed position.			

4.6.2 Shell and all pressure containing components (including steam seals)

4.6.2.1 Leaktightness

When tested in accordance with Annex A of EN 1074-1:2000, using the values of PEA from Table 2, there shall be no visible sign of leakage past the valve.

NOTE This is equivalent to rate "A" as defined in EN 1074-1:2004.

4.6.2.2 Mechanical strength

Having successfully passed the leak tightness test, additionally, the hydrant shall not present any sign of defect.

4.6.3 Obturator

4.6.3.1 Leaktightness

When tested in accordance with Annex B of EN 1074-1:2000, using the value $1,1 \times \text{PFA}$ from Table 2, there shall be no visible sign of leakage past the valve.

NOTE This is equivalent to rate "A" as defined in EN 1074-1:2004.