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Specifications for installations inside buildings conveying water for human consumption – Part 1: General

The European Standard EN 806-1:2000 has the status of a Swedish Standard. This document contains the official English version of EN 806-1:2000.

Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

Vattenförsörjning – Tappvatten-system för dricksvatten – Del 1: Allmänt

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EUROPEAN STANDARD
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Specifications for installations inside buildings conveying water for human consumption - Part 1: General

Spécifications techniques relatives aux installations pour
l'eau destinée à la consommation humaine à l'intérieur des
bâtiments - Partie 1: Généralités

Technische Regeln für Trinkwasser-Installationen - Teil 1:
Allgemeines

This European Standard was approved by CEN on 20 January 2000.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 164, "Water supply", the secretariat of which is held by AFNOR.

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 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

Annex A of this European Standard is informative.

NOTE This is the first part of the European Standard EN 806 consisting of 5 parts as follows :

EN 806-1, General

EN 806-2, Design

EN 806-3, Pipe sizing

EN 806-4, Installation

EN 806-5, Operation and maintenance

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

1 Scope

This European Standard specifies requirements for and gives recommendations on the design, installation, alteration, testing, maintenance and operation of potable water installations within buildings and, for certain purposes, pipework outside buildings but within the premises (see Figure 1).

It covers the system of pipes, fittings and connected appliances installed for supplying potable water.

If there is a private drinking water supply within the property boundary, the scope of this standard also covers the pipe system from the point of entry from that private water supply.

The sphere of application ends at the downstream end of the potable water installation at which point must be an air gap, (e. g. at a kitchen tap) or a protection device, (e. g. at a hose union tap).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 805:1999, *Water supply – Requirements for systems and components outside buildings.*

EN 1717:1999, *Protection against pollution of potable water in drinking water installations and general requirements of devices to prevent pollution by backflow.*

EN 60617-2, *Graphical symbols for diagrams – Part 2: Symbol elements, qualifying symbols and other symbols having general application.*

EN 60617-4, *Graphical symbols for diagrams – Part 4: Basic passive components.*

EN 60617-6, *Graphical symbols for diagrams – Part 6: Production and conversion of electrical energy.*

prEN 806-2:1996, *Specifications for installations inside buildings conveying water for human consumption – Part 2: Design.*

prEN 806-3:1997, *Specifications for installations inside buildings conveying water for human consumption – Part 3: Pipe sizing.*

ISO 4063, *Welding, and allied processes – Nomenclature of processes and reference numbers.*

ISO 6412-1, *Technical drawings – Simplified representation of pipelines – Part 1: General rules and orthogonal representation.*

ISO 14617-3, *Graphical symbols for diagrams – Part 3: Connections and related devices.*

ISO 14617-4, *Graphical symbols for diagrams – Part 4: Actuators and related devices.*

ISO 14617-5, *Graphical symbols for diagrams – Part 5: Measurement and control devices.*

ISO 14617-21, *Graphical symbols for diagrams – Part 21: Basic mechanical components.*

ISO 14617-22, *Graphical symbols for diagrams – Part 22: Valves and dampers.*

3 Objectives

The main objectives are to ensure that:

- the deterioration in water quality within the installation is avoided;
- the required flow of water and pressure is available at the draw-off points and at the connection points of appliances (e. g. water heaters, washing machines);
- the potable water meets the standards for physical, chemical and microbiological quality at the draw-off points;
- all parts of the installation do not cause danger to health and do not damage property within calculated lifetimes;
- the maintenance of the installation meets the functional requirements at all times during its lifetime;
- sound levels are kept to a practicable minimum;
- contamination of the public water supply, undue consumption, leakage and misuse is avoided.

4 Competence and duties for design, construction and operation

4.1 Designer

The design shall be carried out by competent persons, e. g. persons with relevant experience, qualifications¹⁾, knowledge of regulations and safety requirements.

4.2 Installer

The work for construction, alteration and maintenance shall be carried out by competent installers in accordance with qualification required by national or local regulations.

4.3 Water supplier

The data necessary for design and construction (e. g. supply pressure, the supply flow rates and the water quality analysis at the point of delivery) shall be determined before commencement of work: the information should be made available by the water supplier (or the operator of a private or separate water supply).

4.4 Operator

The owner/occupier is responsible for ensuring the safe operation and maintenance of the potable water installation and should be provided with the necessary information.

5 Terms and definitions

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

5.1

potable water

for the purpose of this specification, potable water shall be suitable for human consumption and conform with the relevant regulations based on ECC directives

The water may also be used for washing, cooking and sanitary purposes (at temperatures up to 95 °C to allow for malfunctions).

1) European regulations to be prepared.

**5.2
non-potable water**

the collective definition for all kinds of water other than potable water

**5.3
potable water installations**

for the principal representation see annex A

**5.3.1
service pipe**

the water pipe which supplies water from the local main to the potable water installation

**5.3.2
supply pipe**

the water pipe which conducts water from the supply stop valve to connection draw off points and connection points of appliances

**5.3.3
water meter assembly**

the water meter assembly comprises the water meter and associated fittings

**5.3.4
distributing pipe**

distributing pipe means any pipe (other than an overflow pipe or a flush pipe) conveying water from a storage cistern, or from a hot water appliance supplied from a feed cistern, and under pressure from that cistern

**5.3.5
header pipe**

the horizontal pipe between the supply stop valve and the rising pipe

**5.3.6
rising (falling) pipe**

the part of the pipe (supply or distributing pipe) which leads from floor to floor and from which the floor service pipes or dead-legs branch off

**5.3.7
floor service pipe**

the pipe which branches off from the rising (falling) pipe within a floor and from which dead-legs branch

**5.3.8
dead-leg**

the pipe which is leading to a draw-off point

**5.3.9
return pipe**

a pipe in a hot potable water circuit in which water returns to the boiler or to the hot water storage vessel

**5.3.10
firefighting pipe**

firefighting supply pipes with extinguishing devices (e. g. hydrants, sprinklers and water curtains)

**5.4
valves****5.4.1
ferrule**

a device for connecting a service pipe to the local main. The device may contain a service stop valve

**5.4.2
service stop valve**

the water suppliers stop valve, which is the first valve in the service pipe after or included in the ferrule

5.4.3**supply stop valve**

the first stop valve in the premises which controls the downstream supply and may be included in a water meter assembly

5.4.4**servicing valve**

that valve intended to facilitate maintenance or servicing of a water fitting or appliance

5.4.5**flow reducing valve**

a device for reducing the flow by narrowing the cross-section

5.4.6**draw-off point**

those points in the potable water installation from which water can be drawn

5.4.7**tap**

a valve with an air gap from which water is drawn

5.4.8**drain tap**

a tap fitted to drain the contents of the potable water installation or of parts of it

5.4.9**protection unit**

a unit to protect the quality of potable water (see EN 1717:1999)

5.4.10**safety device**

a device which operates when dangerous physical operating conditions occur, e.g. excess pressure or temperature

5.4.11**adjustable control valve**

a valve for regulating flow, pressure or temperature

5.5**measuring device**

a device for measuring parameters e. g. pressure, temperature or volume

5.6**appliance, equipment**

a device in which the potable water is used and/or is modified e.g. water heater, chemical dosing unit, coffee-machine, WC

5.7**prefabricated unit**

a unit comprising assemblies of pipes, fittings, valves, equipment etc., which is assembled off-site and is transported in complete units to the place of installation

5.8**hydraulic definitions****5.8.1****flow rate**

The quotient of the volume of water which is flowing and the time

5.8.2**velocity**

the quotient of flow rate and internal cross-section

5.8.3**direction of flow**

the direction of flow during normal operation

5.8.4**service pressure (SP)**

the internal pressure at the point of connection to the potable water installation at zero flow in the service pipe

5.8.5**lowest normal service pressure (SPLN)**

the lowest normal service pressure SPLN means the lowest service pressure at the point of connection occurring probably during a period of high consumption as estimated by the water supplier

5.8.6**operating pressure (OP)**

the internal pressure which may occur at a particular time and at a particular point in the potable water installation

5.8.7**maximum design pressure (MDP)**

the maximum hydrostatic pressure at which the potable water installation is designed to work

5.8.8**Nominal pressure (PN)**

the maximum hydrostatic pressure at which a component is designed to work at a specified temperature

5.8.9**flow pressure**

gauge pressure at a measuring point in the potable water installation system under flow condition

5.8.10**surge**

rapid fluctuation of pressure caused by flow alteration over a short period of time

5.8.11**system test pressure (STP)**

The hydrostatic pressure applied to an installation in order to ensure its integrity and tightness

5.9**structure**

any structure whether of a permanent character or not, and whether movable or immovable, connected to the water supplier's mains or to a private water supply. E. g. buildings or part of a building providing accommodation, including a terraced house, a semi-detached house, a detached house, a flat within any nondomestic premises in a block of flats, or any other habitable building and any caravan, vessel, boat or houseboat, workshops, offices and store rooms

5.10**type A installation**

closed system: A potable water installation that is under main's or boosted pressure

5.11**type B installation**





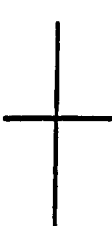

vented system: A vented system is that part of the system, that is not under main's or boosted pressure

6 Graphic symbols and abbreviations

For ease of reference, certain symbols are illustrated in Figure A.1 and A.2 (see annex A).

NOTE Symbol infills may be solid or hatched.

Table 1 — Graphic symbols and abbreviations

No.	Symbol (S) normative or example (Ex) informative	Graphic symbol	Registration No. ISO 14617	Description	Remarks or abbreviations
6.1	Water pipes				
6.1.1	S		Part 3:405	Pipeline	The asterisk shall be replaced with: PW Potable water PWC Potable water, cold PWH Potable water, hot PWH-C Potable water, hot, circulating NPW Non potable water TI Thermal insulation
6.1.2	Ex		Part 3:405	Pipeline for potable water, cold, with nominal diameter 80	
6.1.3	Ex		Part 3:405	Pipeline for potable water, hot, with nominal diameter 50 and thermal insulation	
6.1.4	Ex		Part 3:405	Pipeline for potable water, hot, circulating with nominal diameter 40	
6.1.5	Ex		Part 3:405	Two pipelines whose symbols cross each other	No connection between the two pipelines exists
6.1.6	Ex		Part 3:405, 501	T-joint	The dot (501) may be omitted. The diameter of the dot should be about 5 times the line (thickest) line width.

"to be continued"