

Cast iron pipe systems and their components for the evacuation of water from works - characteristics and test methods

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 877:2021 sisaldab Euroopa standardi EN 877:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 877:2021 consists of the English text of the European standard EN 877:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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English Version

**Cast iron pipe systems and their components for the  
evacuation of water from works - characteristics and test  
methods**

Réseaux de canalisations en fonte et leurs composants  
pour l'évacuation des eaux des bâtiments -  
Caractéristiques et méthodes d'essai

Rohrsysteme aus Gusseisen und ihre Komponenten zur  
Entwässerung von Gebäuden - Merkmale und  
Prüfverfahren

This European Standard was approved by CEN on 16 August 2021.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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## European foreword

This document (EN 877:2021) has been prepared by Technical Committee CEN/TC 203 “Cast iron pipes, fittings and their joints”, 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of an identical text or by endorsement, at the latest by April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

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 has been prepared under a Mandate given to CEN by the European Commission and the European Free Trade Association.

This document supersedes EN 877:1999, EN 877:1999/A1:2006 and EN 877:1999/A1:2006/AC:2008.

This document includes the following significant technical changes with respect to the previous:

- a) Product standard has been extended to kit and components standard.
- b) Chapter 4 about characteristics has been restructured with all essential characteristics first.
- c) Grip collars have been included as kit components.
- d) Pressure tightness including Fittings with access as a kit component has been added.
- e) Fire reaction classification has been amended with the agreement of WG 4 of TC 127.
- f) Chapter 6 about Assessment and verification of constancy of performance – AVCP has been updated.

This document is one of a series of standards for cast iron products for pipelines for various applications.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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.

## 1 Scope

This document specifies product characteristics, test/assessment methods and how to express test/assessment results. Cast iron pipelines kits are usually composed of cast iron pipes, fittings, joints and accessories.

This document covers the range of nominal diameter from DN 40 to DN 600 inclusive.

The cast iron includes grey cast iron and ductile cast iron.

The roof gullies used for siphonic systems are outside the scope of this document.

Sewerage applications are outside the scope of this document.

It is intended to be used for the construction of gravity or vacuum discharge pressurized or unpressurised networks installed inside and/or outside works, above and/or below ground and in construction works.

## 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 598:2007+A1:2009, *Ductile iron pipes, fittings, accessories and their joints for sewerage applications - Requirements and test methods*

EN 681-1:1996, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10204, *Metallic products — Types of inspection documents*

EN 13501-1:2018, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 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 898-1)*

EN 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 898-2)*

EN ISO 1514, *Paints and varnishes — Standard panels for testing (ISO 1514)*

EN ISO 1716, *Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value) (ISO 1716)*

EN ISO 2409, *Paints and varnishes — Cross-cut test (ISO 2409)*

EN ISO 2808, *Paints and varnishes — Determination of film thickness (ISO 2808)*

EN ISO 2812-1, *Paints and varnishes — Determination of resistance to liquids — Part 1: Immersion in liquids other than water (ISO 2812-1)*

EN ISO 3506-1, *Fasteners — Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs with specified grades and property classes (ISO 3506-1)*

EN ISO 3506-2, *Fasteners — Mechanical properties of corrosion-resistant stainless steel fasteners — Part 2: Nuts with specified grades and property classes (ISO 3506-2)*

EN ISO 4628-2, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 2: Assessment of degree of blistering (ISO 4628-2)*

EN ISO 4628-3, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 3: Assessment of degree of rusting (ISO 4628-3)*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1)*

EN ISO 6892-1:2019, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2019)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227)*

EN ISO/CIE 11664-4, *Colorimetry — Part 4: CIE 1976 L\*a\*b\* colour space (ISO/CIE 11664-4)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2)*

ISO 185:2020, *Grey cast irons — Classification*

ISO 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

### 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:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1

##### **discharge system for buildings**

system of pipes, fittings, accessories and joints used to collect and drain waste water and rainwater from a building; it comprises discharge pipes, stack ventilation and rainwater pipes, installed within the limits of a building or attached to the building and this includes pipes between the building and the inspection chambers

Note 1 to entry: This applies to gravity or vacuum, inside and outside buildings, above and below ground.

#### 3.2

##### **drain**

system of pipes, fittings, accessories and joints installed outside the limits of a building in order to connect the discharge system of this building to a sewer or a septic tank