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## Gas infrastructure - Injection stations - Part 3: Specific requirements regarding the injection of hydrogen

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 17928-3:2024 sisaldab Euroopa standardi EN 17928-3:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.10.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 17928-3:2024 consists of the English text of the European standard EN 17928-3:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 02.10.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 75.200

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English Version

## Gas infrastructure - Injection stations - Part 3: Specific requirements regarding the injection of hydrogen

Infrastructures gazières - Stations d'injection - Partie 3  
: Exigences spécifiques concernant l'injection de gaz  
combustible hydrogène

Gasinfrastruktur - Einspeiseanlagen - Part 3:  
Spezifische Anforderungen für die Einspeisung von  
Wasserstoff

This European Standard was approved by CEN on 7 July 2024.

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.

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.



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

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## European foreword

This document (EN 17928-3:2024) has been prepared by Technical Committee CEN/TC 234 “Gas infrastructure”, the secretariat of which is held by DIN.

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 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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 is intended to be used in conjunction with EN 17928-1:2024.

This document is part of the EN 17928 series, *Gas infrastructure - Injection stations*:

- *Part 1: General requirements*
- *Part 2: Specific requirements regarding the injection of biomethane*
- *Part 3: Specific requirements regarding the injection of hydrogen fuel gas* (this document)

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, Türkiye and the United Kingdom.

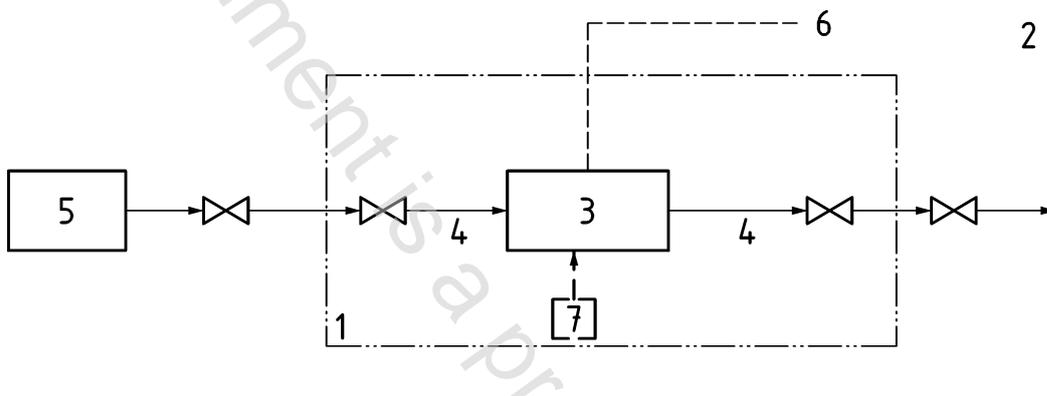
## 1 Scope

This document establishes specific functional requirements of stations for the injection of hydrogen into transmission and distribution systems for fuel gases (natural gas, biomethane, SNG, hydrogen, fuel gas mixtures, etc.; see Figure 1) in accordance with European technical rules that ensure the interoperability of systems in addition to the general functional requirements of EN 17928-1:2024.

This document complements EN 17928-1:2024 by specifying the technical safety requirements to be observed with respect to the chemical and physical properties of hydrogen.

It furthermore complements the requirements on pipelines specified in EN 12007-3 and EN 1594 by describing the specific requirements with respect to hydrogen.

Additionally, it explains how to handle hydrogen measurements during the course of injection.



### Key

- 1 injection station – scope of this document
- 2 gas transmission and distribution system
- 3 measuring and control station – pressure control/ compression / flow control / metering/ analysing/ gas-mixing (optional)
- 4 hydrogen pipeline (optional mixed-gas pipeline)
- 5 hydrogen production
- 6 gas composition / flow information
- 7 gas-feed for mixing (optional)

**Figure 1 — Injection station for hydrogen**

Dedicated requirements for the technical equipment of the gas transmission and distribution network for mixing hydrogen as an additive gas into the gas flow after the injection station are not covered by this document. However, requirements for the resulting gas mixture and the related coordination and interfaces between station and network operation are specified in this document.

This document represents the recommendations at the time of its preparation. This document does not apply to injection stations operating prior to the publication of this document.

This document specifies common basic principles for gas infrastructure. Users of this document are expected to be aware that more detailed national standards and/or codes of practice can exist in the CEN member countries. This document is intended to be applied in association with these national standards and/or codes of practice setting out the above-mentioned basic principles.

In the event of terms of additional requirements in national legislation/regulation than in this document, CEN/TR 13737 (all parts) illustrates these terms.

CEN/TR 13737 (all parts) gives:

- legislation/regulations applicable in a member state;
- if appropriate, more restrictive national requirements;
- a national contact point for the latest information.

## 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 1594, *Gas infrastructure — Pipelines for maximum operating pressure over 16 bar — Functional requirements*

EN 12007-1, *Gas infrastructure — Pipelines for maximum operating pressure up to and including 16 bar — Part 1: General functional requirements*

EN 16726, *Gas infrastructure — Quality of gas — Group H*

EN IEC 60079-10-1, *Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres*

EN 17928-1:2024, *Gas infrastructure — Injection stations — Part 1: General requirements*

CEN/TS 17977, *Gas infrastructure — Quality of gas — Hydrogen used in rededicated gas systems*

## 3 Terms and definitions

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

ISO and IEC maintain terminology 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

#### **permeation**

process by which a chemical moves through a material on a molecular level

[SOURCE: ISO 19918:2017-09]

Note 1 to entry: To be distinguished from leak flow, which is not based on diffusion.

### 3.2

#### **embrittlement**

deleterious changes in the ductility properties of a metal that exposure to hydrogen can produce

[SOURCE: ISO/TR 15916]