



SLOVENSKI STANDARD
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Infrastruktura za plin - Postaje za injiciranje - 2. del: Posebne zahteve za biometan

Gas infrastructure - Injection stations - Part 2: Specific requirements regarding the injection of biomethane

Gasinfrastruktur - Einspeiseanlagen - Part 2: Spezifische Anforderungen für die Einspeisung von Biomethan

Installation pour l'injection de gaz renouvelable dans les reseaux de gaz naturel - Partie 2: Exigences spécifiques pour biogaz

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27.190	Biološki viri in drugi alternativni viri energije	Biological sources and alternative sources of energy
75.180.01	Oprema za industrijo nafte in zemeljskega plina na splošno	Equipment for petroleum and natural gas industries in general

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Gas infrastructure - Injection stations - Part 2: Specific requirements regarding the injection of biomethane

Installation pour l'injection de gaz renouvelable dans les réseaux de gaz naturel - Partie 1: Exigences spécifiques pour biogaz

Gasinfrastruktur - Einspeiseanlagen - Part 2: Spezifische Anforderungen für die Einspeisung von Biomethan

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If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (prEN 17928-2:2023) has been prepared by Technical Committee CEN/TC 234 “Gas infrastructure”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document is intended to be used in conjunction with prEN 17928-1.

This document is part of the prEN 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*

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prEN 17928-2:2023 (E)**1 Scope**

This document establishes specific functional requirements for injection stations for biomethane into gas transmission and distribution systems operated with gases of the second gas family in accordance with EN 437 in addition to the general functional requirements of prEN 17928-1.

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 complements prEN 17928-1 by specifying the technical safety requirements to be observed in respect of the chemical and physical properties of biomethane.

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 16723-1, *Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network - Part 1: Specifications for biomethane for injection in the natural gas network*

prEN 17928-1:2023, *Gas infrastructure - Injection stations - Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 17928-1 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>

4 General requirements

For general requirements, see prEN 17928-1.

5 Operational functions

For operational functions, see prEN 17928-1.

6 Overall safety requirements and protection against inadmissible operating modes

6.1 Protection against inadmissible underpressure

For biomethane injection stations, additional risks apply in addition to what is described in prEN 17928-1. Any inadmissible underpressure shall be prevented in order to:

- Prevent the intrusion of outside air: Intrusion of outside air from biogas production or upgrading processes into gas lines or station components can generate the occurrence of inadmissible gas compositions and explosion hazards.
- Protect station components against mechanical damage. Such damage can be caused, for instance:
 - by volume contraction due to chemical reactions or cooling;
 - by evacuation through vacuum pumps; or
 - at the intake side of compressors.

Once the defined limit values have been reached, the station shall automatically go into safe mode.

7 Requirements on stations, components and assemblies

7.1 Inadmissible gas composition from the upgrading station

It shall be taken into consideration that gas with inadmissible composition from the biogas upgrading process can occur.

A risk analysis for this case shall be done. [prEN 17928-2:2023](https://standards.iteh.ai/catalog/standards/sist/73326da1-8537-47ac-96a0-4665-prEN-17928-2:2023)

All components up to the 3-way valve which returns gas with inadmissible composition to the gas purification (see prEN 17928-1:2023, Figure 1) shall be able to withstand to the gas with inadmissible composition, if they are in contact with the gas. The safety system shall ensure that the gas with inadmissible composition does not reach the injection station.

7.2 Check of biomethane quality

7.2.1 General

Biomethane quality shall be in accordance with EN 16723-1 to avoid the need for any specific requirements for the materials and for the testing (tightness) of components and assemblies.

In order to prevent the injection of gas with inadmissible composition, the biomethane composition shall be checked according to the risk assessment as stated in prEN 17928-1.

Any situation where an inadmissible composition can apply shall be included in the risk assessment.

Biomethane with inadmissible composition should be sent back into the biogas upgrading process according to the safety concept of the station and to minimize gas emissions.

7.2.2 Specific parameters

7.2.2.1 Biological hazards (Bacteria)

See CEN/TR 17238 according to the biological hazards.