SLOVENSKI STANDARD
oSIST prEN 13423:2019

01-oktober-2019

Vozila na zemeljski plin - Zahteve za delavnice za vozila na zemeljski plin in upravljanje vozil na stisnjeni zemeljski plin

Natural gas vehicles - Requirements for NGV workshops and the management of compressed natural gas (CNG) vehicles

Umgang mit erdgasbetriebenen Fahrzeugen

Ta slovenski standard je istoveten z: prEN 13423

ICS:

43.180	Diagnostična, vdrževalna in preskusna oprema	Diagnostic, maintenance and test equipment
75.060	Zemeljski plin	Natural gas
75.200	Oprema za skladiščenje nafte, naftnih proizvodov in zemeljskega plina	Petroleum products and natural gas handling equipment

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EUROPEAN STANDARD

NORME EUROPÉENNE

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ICS 43.020; 43.180; 75.200

Will supersede EN 13423:2000

English Version

Natural gas vehicles - Requirements for NGV workshops and the management of compressed natural gas (CNG) vehicles

Umgang mit erdgasbetriebenen Fahrzeugen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 326.

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
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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Contents

European foreword

This document (prEN 13423:2019) has been prepared by Technical Committee CEN/TC 326 “Natural gas vehicles – Fuelling and operation”, the secretariat of which is held by NEN and TSE.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13423:2000.

In comparison with the previous edition, this document is wholly revised.

Introduction

This document defines the requirements for NGV workshops and the management of compressed natural gas (CNG) vehicles. This document can be a useful reference for:

— NGV workshop architects;

— NGV workshop owners;

— NGV workshop staff;

— OEMs;

— system manufacturers;

— NGV owners and users;

— NGV dealers;

— local authorities.

1 Scope

This document provides requirements for operation of vehicles that use compressed natural gas (CNG) as a fuel, covering various aspects of NGV workshops including activities, risk management, planning, personnel, layout, systems and operations. It provides requirements regarding the management of NGVs including use, parking, fuelling, inspection, installation, repair and maintenance, disposal, transportation and documentation.

This document is applicable to the management of CNG vehicles with a fuel system pressure of 20 MPa (200 bar) at 15 °C. This document can also be applied to vehicles with higher fuel system pressures, taking into account additional safety aspects.

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 50402, *Electrical apparatus for the detection and measurement of combustible or toxic gases or vapours or of oxygen — Requirements on the functional safety of gas detection systems*

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

EN 60079-29-2, *Explosive atmospheres - Part 29-2: Gas detectors - Selection, installation, use and maintenance of detectors for flammable gases and oxygen*

EN ISO 10012, *Measurement management systems - Requirements for measurement processes and measuring equipment (ISO 10012)*

EN ISO 11439, *Gas cylinders - High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles (ISO 11439)*

ISO 15501-1, *Road vehicles — Compressed natural gas (CNG) fuel systems — Part 1: Safety requirements*

ISO 15501-2, *Road vehicles — Compressed natural gas (CNG) fuel systems — Part 2: Test methods*

ISO 19078, *Gas cylinders — Inspection of the cylinder installation, and requalification of high pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles*

ISO 31000, *Risk management — Guidelines*

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:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
authorized qualification body
body, independent of the NGV workshop, authorized by the certification body to prepare and administer qualification examinations body, independent of the employer, authorized by the certification body to prepare and administer qualification examinations

[SOURCE: EN ISO 9712:2012, 3.1, modified – 'employer' has been changed to 'NGV workshop'.]

3.2
certification body
third-party conformity assessment body operating certification schemes

Note 1 to entry: A certification body can be non-governmental or governmental (with or without regulatory authority).

[SOURCE: EN ISO/IEC 17065:2012, 3.12]

3.3
CNG system
assembly of components (cylinder(s), valves, flexible fuel lines, etc.) and connecting parts (rigid fuel lines, pipes fitting, etc.) fitted on motor vehicles using CNG in their propulsion system

3.4
compressed natural gas
CNG
natural gas used as a fuel for automotive vehicles, typically compressed up to 20 000 kPa in the gaseous state

[SOURCE: EN 16723-2:2017, 3.5]

3.5
cylinder
pressure vessel used for the storage of compressed natural gas

[SOURCE: EN ISO 16923:2018, 3.15]

3.6
gas-free
less than 20 % of the lower flammable limit of natural gas in air (less than 1 % in air)

3.7
hazardous area
area in which an explosive gas atmosphere is or can be expected to be present, in quantities such as to require special precautions for the construction, installation and use of equipment

Note 1 to entry: The interior of many items of process equipment are commonly considered as a hazardous area even though a flammable atmosphere may not normally be present to account for the possibility of air entering the equipment. Where specific controls such as inerting are used the interior of process equipment may not need to be classified as a hazardous area.

[SOURCE: EN 60079-10-1:2015, 3.3.1]

3.8
ignition source
source of energy sufficient to ignite a flammable atmosphere

Note 1 to entry: Ignition sources include naked flames, exposed incandescent material, sparks, electric welding arcs, and electrical or mechanical equipment not approved for use in hazardous locations.

3.9
incident
unplanned event or occurrence that has been assessed as having an actual or potentially adverse effect

Note 1 to entry: An incident can be classified as a 'major incident' or 'minor incident'. A major incident has effect on the NGV's integrity or structural support (vehicle chassis) whereas a minor incident doesn't. An example of a major incident is damage to the hood, which is designed to crumple to absorb the impact rather than continue to transfer the momentum to the car's passengers; a damaged hood can imply a damage on vehicle chassis. An example of a minor incident is damage to a door panel that can be minor when limited to the skin (outer panel).

[SOURCE: ISO 28007-1:2015, 3.21, modified – 'event' has been replaced with 'unplanned event or occurrence' and Note 1 to entry has been added.]

3.10
lower flammable limit
LFL
concentration of flammable gas, vapour or mist in air below which an explosive gas atmosphere will not be formed

[SOURCE: EN 60079-10-1:2015, 3.6.12]

3.11
natural gas
complex gaseous mixture of hydrocarbons, primarily methane, but generally includes ethane, propane and higher hydrocarbons, and some non-combustible gases such as nitrogen and carbon dioxide

Note 1 to entry: Natural gas can also contain components or contaminants such as sulfur compounds and/or other chemical species.

Note 2 to entry: Annex C provides characteristics of natural gas.

[SOURCE: EN 16723-2:2017, 3.12, modified – Note 2 to entry has been added.]