



BSI Standards Publication

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

National foreword

This British Standard is the UK implementation of EN 13423:2021. It supersedes BS EN 13423:2000, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GSE/40, Gas supply equipment for natural gas vehicles.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

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

Exploitation de véhicules fonctionnant au gaz naturel -
Exigences relatives aux ateliers pour véhicules GNV et
à la gestion des véhicules fonctionnant au gaz naturel
comprimé (GNC)

Erdgasfahrzeuge - Anforderungen an Werkstätten und
an den Umgang von mit komprimiertem Erdgas (CNG)
betriebenen Fahrzeugen

This European Standard was approved by CEN on 20 December 2020.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 13423:2021) 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 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of an identical text or by endorsement, at the latest by August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.

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 supersedes EN 13423:2000.

In comparison with the previous edition, the following changes have been included:

- the introduction of minimum requirements instead of recommendations to professionals how to safely operate vehicles that use compressed natural gas (CNG) as a fuel for propulsion, covering various aspects of NGV workshops;
- the scope of the document has been expanded by not only addressing the NGV owner and user, but also other parties dealing with NGVs. These changes are reflected in the Introduction and Scope of this document and the new aspects have been introduced in the relevant clauses of this document;
- developments and best practices since the publication of the first edition have been taken into account, also to improve understanding and implementation of this document by the intended user;
- a new Annex is introduced that provides minimum requirements for the user manual of NGVs to be provided by the OEM or system manufacturer.

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.

Introduction

This document addresses 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 for propulsion, 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 for commissioning, 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.

This document also applies to servicing, repair and maintenance of NGVs when work is not performed on the gas fuel system.

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 60079-10-1:2015, *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)*

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*