BS EN 13807:2026



BSI Standards Publication

Transportable gas cylinders — Battery vehicles and multiple-element gas containers (MEGCs) — Design, manufacture, identification and testing

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National foreword

This British Standard is the UK implementation of EN 13807:2026. It supersedes BS EN 13807:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PVE/3/7, Gas containers - Gas cylinder (receptacle) operations.

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

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Transportable gas cylinders - Battery vehicles and multiple-element gas containers (MEGCs) - Design, manufacture, identification and testing

Bouteilles à gaz transportables - Véhicules-batteries et conteneurs à gaz à éléments multiples (CGEM) - Conception, fabrication, identification et essai

Ortsbewegliche Gasflaschen - Batteriefahrzeuge und Gascontainer mit mehreren Elementen (MEGCs) - Auslegung, Herstellung, Kennzeichnung und Prüfung

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European foreword

This document (EN 13807:2026) has been prepared by Technical Committee CEN/TC 23 “Transportable gas cylinders”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by August 2026, and conflicting national standards shall be withdrawn at the latest by August 2026.

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 13807:2017.

EN 13807:2026 includes the following significant technical changes with respect to EN 13807:2017:

a) clarification of scope;

b) revision of definitions;

c) add ball valves (EN ISO 23826) as another type of closures;

d) clarification of operation temperature for the pressurized and non-pressurized components

e) more details in chapter mounting to clarify the request;

f) special requirement of forming the manifold in hydrogen service;

g) clarification of leakage check after assembling and initial filling with gas in use;

h) add an Annex C for vibration test.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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.

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Introduction

For certain applications, transport units known as battery vehicles and MEGCs of non-UN pressure receptacles are used to supply greater volumes of gas in a single unit.

A battery vehicle is a vehicle containing pressure receptacles which are linked to each other by a manifold and permanently fixed to a transport unit.

NOTE 1 General requirements for the design, construction, equipment, type approval, inspections and tests and marking of battery vehicles or MEGCs are provided in Chapter 6.8 and 9 of the RID/ADR [11]. Some specific or additional requirements are given in this document.

In standards, weight is equivalent to a force, expressed in Newton. However, in common parlance (as used in terms defined in this document), the word “weight” continues to be used to mean “mass”, but this practice is deprecated (ISO 80000-4).

In this document, the unit bar is used, due to its universal use in the field of technical gases. It should, however, be noted that bar is not an SI unit, and that the according SI unit for pressure is Pa (1 bar = 10^5 Pa = 10^5 N/m^2).

Pressure values given in this document are given as gauge pressure (pressure exceeding atmospheric pressure) unless noted otherwise.

Where there is any conflict between this document and any applicable regulation, the regulation always takes precedence.

NOTE 2 Where there is no risk of ambiguity, gas cylinders, tubes and bundles of cylinders are addressed with the collective term ‘cylinder’ within this document.

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1 Scope

This document specifies the requirements for the design, manufacture, identification and testing of battery vehicles and multiple-element gas containers (MEGCs) containing cylinders, tubes, or bundles of cylinders. This document applies also to battery vehicles and MEGCs containing bundles of cylinders connected by a manifold which are dis-assembled from the battery vehicle and filled individually.

It is applicable to battery vehicles and MEGCs containing compressed gas, liquefied gas, and mixtures thereof. It is also applicable to battery vehicles for dissolved acetylene.

This document is not applicable to battery vehicles and MEGC for toxic gases with an LC_{50} value less than or equal to 200 ml/m^3.

This document does not apply to battery vehicles and MEGCs containing pressure drums or tanks.

This document does not specify requirements for the vehicle chassis or motive unit.

This document is primarily intended for industrial gases other than liquefied petroleum gases (LPG).

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 10204, *Metallic products - Types of inspection documents*

EN 13134[1], *Brazing - Procedure approval*

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

EN ISO 3834-2, *Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements (ISO 3834-2)*

EN ISO 3834-3, *Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements (ISO 3834-3)*

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1)*

EN ISO 10286:2025, *Gas cylinders - Vocabulary (ISO 10286:2025)*

EN ISO 10297, *Gas cylinders - Cylinder valves - Specification and type testing (ISO 10297)*

EN ISO 10961, *Gas cylinders - Cylinder bundles - Design, manufacture, testing and inspection (ISO 10961)*

EN ISO 11114-1, *Gas cylinders - Compatibility of cylinder and valve materials with gas contents - Part 1: Metallic materials (ISO 11114-1)*

EN ISO 11114-2, *Gas cylinders - Compatibility of cylinder and valve materials with gas contents - Part 2: Non-metallic materials (ISO 11114-2)*

[1] Standard is withdrawn and replaced by EN ISO 17779

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EN ISO 13585, *Brazing - Qualification testing of brazers and brazing operators (ISO 13585)*

EN ISO 15607, *Specification and qualification of welding procedures for metallic materials - General rules (ISO 15607)*

EN ISO 15615:2022, *Gas welding equipment - Acetylene manifold systems for welding, cutting and allied processes - Safety requirements in high-pressure devices (ISO 15615:2022)*

EN ISO 16964, *Gas cylinders - Flexible hoses assemblies - Specification and testing (ISO 16964)*

EN ISO 23826, *Gas cylinders - Ball valves - Specification and testing (ISO 23826)*

ISO 1496-3, *Series 1 freight containers — Specification and testing — Part 3: Tank containers for liquids, gases and pressurized dry bulk*

ISO 5171, *Gas welding equipment - Pressure gauges used in welding, cutting and allied processes*

ISO 11872, *Gas welding equipment - Decomposition blockers for high-pressure acetylene*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 10286:2025 and the following 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
pressure receptacle
transportable receptacle intended for holding substances under pressure including its closure(s) and other service equipment

Note 1 to entry: It is a collective term that includes cylinders, tubes, pressure drums, closed cryogenic receptacles, metal-hydride storage system, bundle of cylinders and salvage pressure receptacles.

[SOURCE: EN ISO 10286:2025, 3.1.1.1, modified — Deprecated term and example removed.]

3.2
battery vehicle
vehicle containing pressure receptacles which are linked to each other by a manifold and permanently fixed to a vehicle such that the assembly is filled, transported and emptied as a transport unit

[SOURCE: EN ISO 10286:2025, 3.1.1.13, modified — Hyphenation of the term removed, “elements” replaced by “pressure receptacles” and “transport unit” replaced by “vehicle such that the assembly is filled, transported and emptied as a transport unit” in the definition, removed both Notes to entry.]

3.3
multiple-element gas container
MEGC
unit containing cylinders, tubes or bundles of cylinders which are linked to each other by a manifold and mounted on a frame

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Note 1 to entry: This definition is different but not in contradiction with the one given in RID/ADR [11] because it aims to reflect the scope of this document which excludes pressure drums and tanks.

3.4
manifold
piping system for connecting pressure receptacle(s) valves or fittings to the main valve(s) or the main connection(s)

[SOURCE: EN ISO 10286:2025, 3.1.5.2, modified — Example removed.]

3.5
pressure receptacle valve
valve that is fitted into a pressure receptacle and to which a manifold is connected

3.6
pressure receptacle fitting
component with no gas shut-off capability that serves as a method for connecting a manifold to individual pressure receptacle, when valves are not fitted to the pressure receptacles

[SOURCE: EN ISO 10286:2025, 3.1.5.5, modified — Replaced “cylinder” by “pressure receptacle” in the term, domain in angle brackets removed, “cylinders or tubes” replaced by “pressure receptacles” and Note to entry deleted.]

3.7
main connection
means of making a gas connection to a battery vehicle/MEGC

[SOURCE: EN ISO 10286:2025, 3.1.5.3, modified — “bundle” deleted from the definition.]

3.8
main valve
valve which is fitted to the manifold of a battery vehicle or MEGC isolating it from the main connection(s)

[SOURCE: EN ISO 10286:2025, 3.1.5.4., modified — “bundle of cylinders” and “battery wagon” deleted from the definition, alternative and deprecated terms deleted.]

3.9
tare
<battery vehicle>/<MEGC> weight of the battery vehicle or MEGC when empty, including accessories fitted as presented for filling

[SOURCE: EN ISO 10286:2025, 3.5.43, modified — removed deprecated term, replaced “<general>” with “<battery vehicle>/<MEGC>” and “pressure receptacle” with “battery vehicle or MEGC” in the definition.]

3.10
maximum gross weight
< battery vehicle > /<MEGC> sum of the tare of battery vehicle or MEGC and the maximum weight of the gas product

Note 1 to entry: In RID/ADR the term “total mass” is used.

[SOURCE: EN ISO 10286:2025, 3.5.41, modified — replaced “<cylinder bundles>” with “<battery vehicle>/<MEGC>”, “bundle” with “battery vehicle or MEGC”, and replaced “maximum permissible filling weight” with “maximum weight of the gas product” in the definition and added Note 1 to entry.]

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3.11
maximum filling weight
for liquefied gases (e.g. SF_6), sum of the minimum guaranteed water capacity of all pressure receptacles of the battery vehicle or MEGC multiplied with the filling ratio of the gas contained

[SOURCE: EN ISO 10286:2025, 3.5.38, modified — included Note 1 to entry to definition by replacing "product" by "for liquefied gases (e. g. SF_6) sum" and replaced "the pressure receptacle" with "all pressure receptacle of the battery vehicle or MEGC" and replaced "and" with "multiplied with".]

3.12
working pressure
<compressed gas> settled pressure of a compressed gas at a uniform reference temperature of 15 °C in a full battery vehicle or MEGC

[SOURCE: EN ISO 10286:2025, 3.5.30, modified — "gas cylinder" replaced by "battery vehicle or MEGC"]

3.13
maximum developed pressure
pressure developed by the gas contents in a battery vehicle or MEGC at a uniform temperature of T_{max}

Note 1 to entry: T_{max} is the expected maximum uniform temperature in normal service as specified in international or national cylinder filling regulations.

[SOURCE: EN ISO 10286:2025, 3.5.27, modified — Added "maximum" to the term, replaced "cylinder" by "battery vehicle or MEGC", added "of T_{max}" to definition and added corresponding Note 1 to entry.]

3.14
leak test gas
gas or gas mixture used for leak testing

3.15
acetylene battery vehicle
assembly of acetylene cylinders or acetylene bundles of cylinders connected to a manifold and securely mounted onto a vehicle chassis such that the assembly is transported and emptied as a single unit

3.16
acetylene battery vehicle type A
assembly of acetylene cylinders or acetylene bundles of cylinders that are removed each time from the vehicle and filled individually

3.17
acetylene battery vehicle type B
assembly of acetylene cylinders or acetylene bundles of cylinders that are filled and emptied for a prescribed number of re-fillings without removal from the vehicle

3.18
home station of the acetylene battery vehicle
location (name of the company, address and telephone number) where the documentation is kept

3.19
tare
<acetylene battery vehicle> sum of the tare weights of the individual cylinders (see EN ISO 3807 [2]) or bundles of cylinders (see EN ISO 13088 [7]) plus the weight of the associated manifold, fittings, supports and the chassis

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3.20
maximum gross weight
<acetylene battery vehicle> sum of the total weight of the individual filled cylinders or the maximum gross weight of the individual acetylene bundles of cylinders plus the weight of the associated manifold, fittings, supports and the vehicle chassis

Note 1 to entry: In RID/ADR the term “total mass” is used.

3.21
maximum acetylene content
<acetylene battery vehicle> sum of the specified maximum weight of acetylene including saturation acetylene in the pressure receptacles

3.22
dimensioning pressure
<acetylene battery vehicle> pressure taking into account the pressure increase caused by the decomposition of acetylene

Note 1 to entry: It is used for the dimensioning of the manifold, hoses, valves and fittings.

3.23
working pressure
<acetylene battery vehicle> pressure equal to the working pressure stamped on the individual pressure receptacles of the battery vehicle

3.24
maximum filling pressure
<acetylene battery vehicle> highest pressure which is allowed in an acetylene battery vehicle manifold during filling

Note 1 to entry: It is 25 bar gauge, see A.2.5.3.

3.25
acetylene decomposition blocker
safety device that stops acetylene decomposition at a pressure of ≤ 25 bar

Note 1 to entry: The decomposition blocker for high-pressure acetylene can optionally comprise other safety elements such as non-return valve or automatic quick-acting shut-off device (see ISO 15615).

[SOURCE: EN ISO 10286:2025, 3.1.4.13]

4 Design

4.1 General

All pressurized components shall be designed to operate in the temperature range of at least –20 °C to +65 °C. All other parts such as frame, fastenings, etc. shall be designed to operate in the temperature range of at least −20°C to +50°C.

NOTE 1 Local temperature conditions can necessitate higher or lower service temperatures.

NOTE 2 Pressure components and the frame, fastenings etc. can have different operating temperatures (see also marking Clause B.2)

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