

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13807:2017 sisaldab Euroopa standardi EN 13807:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 13807:2017 consists of the English text of the European standard EN 13807:2017.
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English Version

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 - Batterie-Fahrzeuge und
Gascontainer mit mehreren Elementen (MEGCs) -
Auslegung, Herstellung, Kennzeichnung und Prüfung

This European Standard was approved by CEN on 21 December 2016.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 13807:2017) 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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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 13807:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard will be submitted for reference into the technical annexes of the ADR [11].

The main technical changes are:

- a) the requirements for manifolds and flexible hoses were revised;
- b) clarification of the tightness test procedure during the first filling;
- c) the former Annex A was deleted and some of the requirements added to the main text;
- d) the marking following the regulation were shifted to the informative Annex B;
- e) the normative references, the terminology and layout were revised;
- f) adding of requirements for MEGCs.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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.

General requirements for the design, construction, equipment, type approval, inspections and tests and marking of battery vehicles are given in Chapter 6.8 and 9 of the ADR. Some specific or additional requirements are given in this European Standard.

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

In this European Standard, 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 ($1 \text{ bar} = 10^5 \text{ Pa} = 10^5 \text{ N/m}^2$).

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

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

1 Scope

This European Standard 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. 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 European Standard is not applicable to battery vehicles and MEGC for toxic gases with an LC₅₀ value less than or equal to 200 ml/m³.

This European Standard 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.

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

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

This European standard does not cover requirements for sea transportation.

This European Standard is primarily intended for industrial gases other than Liquefied Petroleum Gases (LPG). At the time of publication of this European Standard, there is no European Standard for dedicated LPG battery vehicles.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13134, *Brazing - Procedure approval*

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

EN ISO 10286:2015, *Gas cylinders - Terminology (ISO 10286:2015)*

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

EN ISO 14113, *Gas welding equipment - Rubber and plastics hose and hose assemblies for use with industrial gases up to 450 bar (45 MPa) (ISO 14113)*

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

EN ISO 15615:2013, *Gas welding equipment - Acetylene manifold systems for welding, cutting and allied processes - Safety requirements in high-pressure devices (ISO 15615:2013)*

ISO 9090, *Gas tightness of equipment for gas welding and allied processes*

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