NSAI
Standards

Irish Standard
I.S. EN 16509:2014

Transportable gas cylinders - Non-refillable, small transportable, steel cylinders of capacities up to and including 120 ml containing compressed or liquefied gases (compact cylinders) - Design, construction, filling and testing

I.S. EN 16509:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD **EN 16509**

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English Version

Transportable gas cylinders - Non-refillable, small transportable, steel cylinders of capacities up to and including 120 ml containing compressed or liquefied gases (compact cylinders) - Design, construction, filling and testing

Bouteilles à gaz transportables - Petites bouteilles transportables en acier, non rechargeables, de capacité inférieure ou égale à 120 ml et contenant des gaz comprimés ou liquéfiés (bouteilles compactes) - Conception, fabrication, remplissage et essais

Ortsbewegliche Gasflaschen - Nicht wiederbefüllbare kleine ortsbewegliche Flaschen aus Stahl mit einem Fassungsraum bis einschließlich 120 ml für verdichtete oder verflüssigte Gase (Kompaktflaschen) - Auslegung, Bau, Füllung und Prüfung

This European Standard was approved by CEN on 23 August 2014.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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Foreword

This document (EN 16509:2014) 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 April 2015 and conflicting national standards shall be withdrawn at the latest by April 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

This European Standard has been submitted for reference into the RID and the technical annexes of the ADR.

NOTE These regulations take precedence over any clause of this standard. It is emphasized that RID/ADR/ADN are being revised regularly at intervals of two years which may lead to temporary non-compliances with the clauses of this standard.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The purpose of this European Standard is to provide a specification for the design, construction, inspection, testing and filling of non-refillable small cylinders and their closures - containing compressed or liquefied gases (hereinafter referred to as compact cylinders). In this standard the term “compact cylinders” refers to completed and filled cylinders as well as to such cylinders in the course of design, manufacture, filling, testing and marking.

The compact cylinders dealt with in this standard have been used internationally for decades. However, with the withdrawal of some national rules/standards, which regulated a particular category of these cylinders and the ongoing harmonization process within Europe, there is a need to specify these cylinders in comprehensive terms to ensure safety during transport and in use.

The specifications given are based on knowledge of, and experience with, materials, design requirements, manufacture including filling and control during manufacture, of compact cylinders in common use in the countries of the CEN member countries.

1 Scope

This European Standard sets out the minimum requirements relating to the material, design, construction, filling, testing and inspection at time of manufacture of non-refillable, transportable small steel cylinders and their closures of water capacities up to and including 120 ml containing non-toxic, non-flammable compressed or liquefied gases (hereinafter referred to as “compact cylinders”).

NOTE 1 Such cylinders are referred as “small receptacle containing gas (gas cartridges)” in RID/ADR.

NOTE 2 For cylinders with capacities greater than 120 ml, see EN 12205 or ISO 11118.

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.

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

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
compact cylinder
filled non-refillable cylinder and its closure

3.2
operating temperature

3.2.1
minimum operating temperature
minimum ambient temperature to which the cylinder contents may be exposed during operation in °C

3.2.2
maximum operating temperature
maximum permissible temperature to which the filled compact cylinder may be exposed during operation in °C

3.3
burst pressure
highest pressure reached in a compact cylinder during the burst test in bar

3.4
working pressure
settled pressure of a compressed gas at a uniform reference temperature of 15 °C in a full compact cylinder in bar