



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 1964-1:1999

ICS 23.020.30

**TRANSPORTABLE GAS CYLINDERS -  
SPECIFICATION FOR THE DESIGN AND  
CONSTRUCTION OF REFILLABLE  
TRANSPORTABLE SEAMLESS STEEL GAS  
CYLINDERS OF WATER CAPACITIES FROM  
0,5 LITRE UP TO AND INCLUDING 150 LITRES  
- PART 1: CYLINDERS MADE OF SEAMLESS  
STEEL WITH AN RM VALUE OF LESS THAN  
1100 MPA**

National Standards  
Authority of Ireland  
Dublin 9  
Ireland

Tel: (01) 807 3800  
Tel: (01) 807 3838

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EUROPEAN STANDARD

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Descriptors: Gas cylinders, steel products, definitions, materials, heat treatment, chemical composition, inspection, design, computation, agreements, defects, tests, conformity tests, acceptance testing, acceptability

English version

**Transportable gas cylinders - Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres - Part 1: Cylinders made of seamless steel with an Rm value of less than 1100 MPa**

Bouteilles à gaz transportables - Spécifications pour la conception et la fabrication de bouteilles à gaz rechargeables et transportables, de capacité en eau comprise entre 0,5 litre et 150 litres inclus - Partie 1: Bouteilles en acier sans soudure ayant une valeur de Rm inférieure à 1100 MPa

Ortsbewegliche Gasflaschen - Gestaltung und Konstruktion von nahtlosen wiederbefüllbaren ortsbeweglichen Gasflaschen aus Stahl mit einem Fassungsraum von 0,5 Liter bis einschließlich 150 Liter - Teil 1: Nahtlose Flaschen aus Stahl mit einem Rm-Wert bis zu 1100 MPa

This European Standard was approved by CEN on 13 December 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

**Central Secretariat: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This European Standard 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 July 1999, and conflicting national standards shall be withdrawn at the latest by July 1999.

This European Standard has been submitted for reference into the RID and/or in the technical annexes of the ADR. Therefore in this context the standards listed in the normative references and covering basic requirements of the RID/ADR not addressed within the present standard are normative only when the standards themselves are referred to in the RID and/or in the technical annexes of the ADR

This standard is one of a series of three standards concerning refillable seamless steel gas cylinders of water capacities from 0,5 l up to and including 150 l for compressed, liquefied and dissolved gases:

- Part 1: Cylinders made of seamless steel with an  $R_m$  value of less than 1100 MPa
- Part 2: Cylinders made of seamless steel with an  $R_m$  value of 1100 MPa and above
- Part 3: Cylinders made of seamless stainless steel

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

The purpose of this standard is to provide a specification for the design, manufacture, inspection and approval of refillable, transportable seamless steel gas cylinders.

The specifications given are based on knowledge of, and experience with, materials, design requirements, manufacturing processes and control during manufacture, of cylinders in common use in the countries of the CEN members.

## 1 Scope

The standard specifies minimum requirements for the material, design, construction and workmanship, manufacturing processes and tests at manufacture of refillable transportable seamless steel gas cylinders of water capacities from 0,5 l up to and including 150 l for compressed, liquefied and dissolved gases. This standard is applicable to cylinders manufactured from steel with an  $R_m$  value of less than 1100 MPa.

NOTE: This standard is also suitable for the manufacture of cylinders of water capacity less than 0,5 l.

## 2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 473	Qualification and certification of NDT personnel - General principles
EN 1089-1:1996	Transportable gas cylinders - Gas cylinder identification (excluding LPG) - Part 1: Stampmarking
EN 10002-1	Metallic materials - Tensile testing - Part 1: Method of test (at ambient temperature)
EN 10003-1	Metallic materials - Brinell hardness test - Part 1: Test method
EN 10028-1	Flat products made of steels for pressure purposes - Part 1: General requirements

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