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Second edition  
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## **Gas cylinders — Refillable composite gas cylinders and tubes — Design, construction and testing —**

Part 1:

### **Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l**

*Bouteilles à gaz — Bouteilles à gaz rechargeables en matériau  
composite et tubes — Conception, construction et essais —*

*Partie 1: Bouteilles à gaz frettées en matériau composite renforcé par  
des fibres et tubes d'une contenance allant jusqu'à 450 l*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 11119-1 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 3, *Cylinder design*.

This edition cancels and replaces ISO 11119-1:2002.

ISO 11119 consists of the following parts, under the general title *Gas cylinders — Refillable composite gas cylinders and tubes — Design, construction and testing*:

- *Part 1: Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l*
- *Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners*
- *Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with non-load-sharing metallic or non-metallic liners*

The following part is under preparation:

- *Part 4: Fully wrapped fibre reinforced composite gas cylinders with load-sharing welded metal liners*

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## Introduction

The purpose of this International Standard is to provide a specification for the design, manufacture, inspection and testing of cylinders for worldwide usage. The objective is to balance design and economic efficiency against international acceptance and universal utility.

This International Standard aims to eliminate the concern about climate, duplicate inspection and restrictions currently existing because of lack of definitive International Standards and is not to be construed as reflecting on the suitability of the practice of any nation or region.

This part of ISO 11119 addresses the general requirements on design, construction and initial inspection and testing of pressure receptacles of the *Recommendations on the transport of dangerous goods: Model regulations* developed by the United Nations (Reference [15]).