Third edition
2020-11

Gas cylinders — Design, construction and testing of refillable composite gas cylinders and tubes —

Part 1: Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l

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

Partie 1: Tubes et bouteilles à gaz frettés, en matériau composite renforcé par des fibres, d'une contenance allant jusqu'à 450 l

Reference number
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 3, *Cylinder design*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This document has been written so that it is suitable to be referenced in the UN Model Regulations[1].

This third edition cancels and replaces the second edition (ISO 11119-1:2012), which has been technically revised. The main changes compared to the previous edition are as follows:

— References updated.

— 7.1.3 Minimum fibre stress ratios added.

— 8.5.8 Fire resistance test. Changes to the procedure to make the test more consistent. Adding a criteria for tubes above 150 l to be tested for 5 min.

— 8.5.10 Torque Test is now only required for taper threads.

A list of all parts in the ISO 11119 series can be found on the ISO website.

Introduction

The purpose of this document 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 document 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 document 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[15].