

**CGA C-15—2014**

**PROCEDURES FOR CYLINDER  
DESIGN PROOF AND SERVICE  
PERFORMANCE TESTS**

**FIFTH EDITION**

**CGA**

**Compressed Gas Association**

*The Standard For Safety Since 1913*

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## 1 Introduction

The compressed gas industry has established an exceptional cylinder safety record through the cooperation and exchange of information between cylinder manufacturers, gas distributors, and users.

Tests described in this publication have been used to evaluate cylinder performance in a given application. In some cases, the testing contained in this publication may exceed requirements of the specification and therefore may not be appropriate for evaluating compliance with the specification.

**CAUTION:** *Safety precautions shall be taken when performing any tests described herein.*

## 2 Scope and purpose

### 2.1 Scope

This publication identifies tests that have been used or are currently used to qualify characteristics of certain compressed gas cylinders. The intent is to list the most commonly used tests. It is not the intent to qualify the value or merit of these tests, but to make the reader aware of these tests.

Some tests are required by the U.S. Department of Transportation (DOT) and/or Canada's Transport Canada (TC) regulations, which will also specify when such tests are performed. The test method and a description of how to perform the test are given in this publication or a reference is provided where the reader can obtain more details of the test. Some tests relating to specific cylinder service or usage such as environmental tests for fuel compressed gas cylinders, are beyond the scope of this publication. Composite cylinders are not included in the scope of this publication.

Tests described in this publication are not intended to be the only ones applicable to every cylinder, gas service, or usage. Additional tests could be required to satisfy specific areas of need. In addition, it is up to the reader to know which tests are required by regulations.

### 2.2 Purpose

The purpose of this publication is to provide a list of tests that the cylinder user or manufacturer can choose from to identify the capability of a container for specific gas service or industry. These tests, along with DOT specifications and CSA B339, *Cylinders Spheres, and Tubes for the Transportation of Dangerous Goods*, specification required by TC regulations for which they apply, are summarized in Table 1 [1, 2].<sup>1</sup>

The intent is that the user or manufacturer selects the test(s) that demonstrate the suitability of the cylinder for its intended service including DOT and TC requirements and exclude those tests that have little or no direct bearing on the intended service.

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<sup>1</sup> References are shown by bracketed numbers and are listed in order of appearance in the reference section.