

CGA C-15—2020
CYLINDER PERFORMANCE TESTS
SIXTH EDITION

PLEASE NOTE:

The information contained in this document was obtained from sources believed to be reliable and is based on technical information and experience currently available from members of the Compressed Gas Association, Inc. and others. However, the Association or its members, jointly or severally, make no guarantee of the results and assume no liability or responsibility in connection with the information or suggestions herein contained. Moreover, it should not be assumed that every acceptable commodity grade, test or safety procedure or method, precaution, equipment or device is contained within, or that abnormal or unusual circumstances may not warrant or suggest further requirements or additional procedure.

This document is subject to periodic review, and users are cautioned to obtain the latest edition. The Association invites comments and suggestions for consideration. In connection with such review, any such comments or suggestions will be fully reviewed by the Association after giving the party, upon request, a reasonable opportunity to be heard. Proposed changes may be submitted via the Internet at our web site, www.cganet.com.

This document should not be confused with federal, state, provincial, or municipal specifications or regulations; insurance requirements; or national safety codes. While the Association recommends reference to or use of this document by government agencies and others, this document is purely voluntary and not binding unless adopted by reference in regulations.

A listing of all publications, audiovisual programs, safety and technical bulletins, and safety posters is available via the Internet at our website at www.cganet.com. For more information contact CGA at Phone: 703-788-2700, ext. 799. E-mail: customerservice@cganet.com.

Work Item 18-007
Cylinder Specifications Committee

NOTE—Technical changes from the previous edition are underlined.

SIXTH EDITION: 2020
FIFTH EDITION: 2014
FOURTH EDITION: 2006
THIRD EDITION: 2002

© 2020 The Compressed Gas Association, Inc. All rights reserved.

All materials contained in this work are protected by United States and international copyright laws. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopying, recording, or any information storage and retrieval system without permission in writing from The Compressed Gas Association, Inc. All requests for permission to reproduce material from this work should be directed to The Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly, VA 20151. You may not alter or remove any trademark, copyright or other notice from this work.

Contents	Page
1 Introduction.....	1
2 Scope and purpose	1
2.1 Scope	1
2.2 Purpose	1
3 Definitions.....	1
4 Tests required by DOT and TC regulations.....	2
4.1 Pressure tests.....	2
4.2 Physical tests.....	2
4.3 Chemical analysis.....	2
4.4 Leakage test.....	2
4.5 Other tests.....	2
5 References	3

This page is intentionally blank.

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, requalifiers, repairers, rebuilders, and users.

Tests described in this publication have been used to evaluate cylinder performance in given applications.

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

2 Scope and purpose

2.1 Scope

This publication identifies tests that are used to qualify characteristics of certain compressed gas cylinders. 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 Transport Canada (TC) regulations, which will also specify when such tests are performed. Some tests relating to specific cylinder service or usage such as environmental tests are beyond 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.

This publication does not address testing for composite cylinders and cylinders manufactured to DOT special permits and/or TC equivalency certificates. This publication does not address all testing requirements for acetylene and cryogenic cylinders; however, some tests could apply (for example, mechanical testing, proof pressure testing, hydrostatic testing) for shells of these cylinders.

2.2 Purpose

The purpose of this publication is to provide a list of tests that the regulatory bodies may require and the cylinder user or manufacturer may choose from to identify the capability of a cylinder for specific gas service or industry.

3 Definitions

For the purpose of this publication, the following definitions apply.

3.1 Publication terminology

3.1.1 Shall

Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May

Indicates that the procedure is optional.

3.1.4 Will

Is used only to indicate the future, not a degree of requirement.

3.1.5 Can

Indicates a possibility or ability.