CGA C-11—2013

PRACTICES FOR INSPECTION OF COMPRESSED GAS CYLINDERS AT TIME OF MANUFACTURE

FIFTH EDITION

CELEBRATING CGA Compressed Gas Association 100 YEARS

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Work Item 10-029
Cylinder Specifications Committee

NOTE—Technical changes from the previous edition are underlined.

NOTE—Appendices A through H (Normative) are requirements.

FIFTH EDITION: 2013
FOURTH EDITION: 2006
THIRD EDITION: 2001
SECOND EDITION: 1983

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Appendices

1 Introduction

Tests and inspection procedures are necessary to ensure compliance with applicable specifications. However, specifications and inspection procedures are distinctly different and must be separated. A product specification is legislative while inspection procedures are judicial.

Acceptance and certification of product to a given specification usually is in batch or lot size quantities and can be based on testing or inspection frequencies from 100% of product for attributes to one item per lot for other attributes. Between these extremes, intermediate frequencies of examination are permitted to allow the inspector to certify acceptance of a lot to a given specification. Frequency of specific inspections or tests shall in no case be less than required by applicable specifications.

Aside from frequency of testing, the method of arriving at decisions concerning compliance is vital. One important distinction is the difference between witnessing and verifying. Witnessing implies a physical presence, whereas verifying usually involves gaining information without physical presence by examining records or statements of other persons in whom trust has been placed.

For U.S. Department of Transportation (DOT) regulations, either witnessing or verifying may be delegated by the certifying inspector, but this individual retains responsibility for the decision. Where an independent inspection agency is required by specification, the delegation of witnessing and verification is limited to an agency employee.

For Canadian regulations, the inspections shall be performed by the staff of the independent inspector as described in the application for registration.

Calibration of testing and inspection equipment used to validate the certificate of compliance and test report shall be performed on a regularly scheduled basis by qualified persons to ensure accuracy.

2 Scope and purpose

2.1 Scope

This publication is applicable to cylinders, tubes, and spheres, hereafter referred to as “cylinders,” and to inspection by either an approved independent inspection agency or inspectors of the manufacturer.

2.2 Purpose

The purpose of this publication is to promote safety by outlining inspection requirements of DOT in Title 49 of the U.S. *Code of Federal Regulations*, CSA B339, *Cylinders, Spheres, and Tubes for the Transportation of Dangerous Good*s, and CSA B341, *UN Pressure Receptacles and Multiple-Element Gas Containers for the Transport of Dangerous Goods* as adopted by the *Transportation of Dangerous Goods Regulations* of Transport Canada (TC) for cylinders as interpreted and practiced by manufacturers and inspectors [1, 2, 3, 4].[1]

3 Definitions

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

3.1 Certifying inspector

Any individual with the authority to sign and submit reports as required by DOT/TC regulations.

NOTE—In this publication, certifying inspector and inspector are used interchangeably. (For qualifications, see Section 4.)

3.2 Chemical analysis

Ascertainment of the kind and amount of the elements constituting a material. The analysis must determine at least those elements prescribed for the material grade.

[1] References are shown by bracketed numbers and are listed in order of appearance in the reference section.