



METHODS TO AVOID AND DETECT INTERNAL CORROSION OF GAS CYLINDERS AND TUBES

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METHODS TO AVOID AND DETECT INTERNAL CORROSION OF GAS CYLINDERS AND TUBES

As part of a programme of harmonisation of industry standards, the European Industrial Gases Association (EIGA), publication, Methods to Avoid and Detect Internal Corrosion of Gas Cylinders and Tubes, has been used as the basis of an internationally harmonized gas association's publication on this subject.

This publication is intended as an international harmonised publication for the worldwide use and application by all members of the Asia Industrial Gases Association (AIGA), Compressed Gas Association (CGA), EIGA, and Japan Industrial and Medical Gases Association (JIMGA). Regional editions have the same technical content as the EIGA edition, however, there are editorial changes primarily in formatting, units used and spelling. Regional regulatory requirements are those that apply to Europe.

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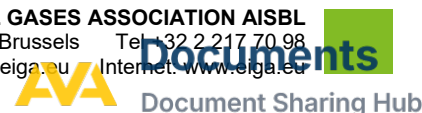


Table of Contents

1	Introduction	1
2	Scope and purpose	1
3	Definitions	1
3.1	Publication terminology	1
3.2	Technical definitions	1
4	Corrosion.....	2
5	Sources of moisture contamination	2
5.1	Water from manufacturer's hydraulic test.....	2
5.2	Water from product/filling operation.....	2
5.3	Water backflow during use	2
5.4	Water ingress.....	3
5.5	Water from periodic inspection of cylinders.....	3
6	Avoidance of cylinder corrosion	3
6.1	Material selection and cylinder design.....	3
6.2	Avoidance of water ingress	4
6.3	Moisture detection methods	5
6.4	Corrosion detection methods.....	6
7	Guidance for moisture acceptance levels.....	6
8	Recommendations/Conclusions	6
8.1	Using a residual pressure valve with a non-return function.....	6
8.2	Cylinders without residual pressure valves	7
8.3	Use of aluminium alloy cylinders	7
9	References.....	7
10	Additional references.....	7

Amendments to 62/14

Section	Change
	Rewrite following Harmonisation Association's review

Note: Technical changes from the previous edition are underlined

1 Introduction

There are a number of reasons for a cylinder or a tube to fail. These reasons can include but are not limited to, abuse, misuse, manufacturing flaws, and internal corrosion. A number of gases can react with moisture to produce corrosive media that could react with the cylinder or tube material and lead to a cylinder or tube failure. The number of incidents resulting from internal corrosion is relatively small compared to the number of cylinders and tubes in service because the industry follows procedures to reduce moisture in cylinders and tubes.

2 Scope and purpose

This publication provides guidance to help prevent and detect internal corrosion of compressed gas cylinders and tubes. It applies to gas cylinders, bundles of cylinders, and tubes including installations at customer sites.

NOTE—Unless noted by exception, the use of the word “cylinder” in this publication refers to both cylinders and tubes.

The main emphasis of this publication focuses on steel cylinders containing oxygen/oxygen mixtures including compressed air and carbon dioxide/carbon dioxide mixtures in the presence of moisture. Certain aspects of this publication can also apply to other gases that can react in the presence of moisture such as hydrogen chloride.

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.

3.2 Technical definitions

3.2.1 Bundle of cylinders

Portable assembly that consists of a frame and two or more cylinders, each of a capacity up to 150 L and with a combined capacity of not more than 3000 L, or 1000 L in the case of toxic gases, connected to a manifold by cylinder valves or fittings such that the cylinders are filled, transported, and emptied without disassembly.