

ICS 71.100.20
CCS J 74



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 28052-2011

Regulation for filling of non-refillable steel welded cylinder

非重复充装焊接钢瓶充装规定

(English Translation)

Issued on: December 30, 2011

Implemented on: December 1, 2012

Issued by: Standardization Administration of China

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
5 Filling
6 Product certification
7 Check, after filling
8 Filling record

Foreword

All the technical contents of this standard is mandatory.

Accordance with the standards GB/T 1.1-2009. Drafting Rules "Standardization Guide Part 1 standard structure and preparation of" given.

This standard by the National Standardization Technical Committee cylinder (SAC/TC31) and focal points.

This standard is mainly drafted by. The Department of Jinhua City Wing Precision Machinery Co., Juhua Group Company Engineering Co., Ltd., Beijing Praxair Practical Gas Co., Ltd. Hangzhou New Century mixed gas.

Drafters of this standard. Shen Yue Wu, Shao Yongqing, Yexiao Ru, Song Liansheng, Chen Jianlin.

Non-refillable steel welded cylinder filling provisions

1 Scope

This standard specifies the industrial non-refillable welding cylinders filled fundamental principles and technical safety requirements.

This standard applies to the use of ambient temperature $-40\text{ }^{\circ}\text{C} \sim 60\text{ }^{\circ}\text{C}$ in the storage medium is GB/T 7778 classified as Class A refrigerant (low limit Pressure liquefied gas), the test pressure $p_T \leq 6.2\text{ MPa}$ (gauge pressure), the volume $V \leq 25\text{ L}$ (when $p_T > 3.5\text{ MPa}$ when, $V \leq 5\text{ L}$) compliance GB 17268 standard industrial non-refillable welding cylinders (hereinafter referred to as the cylinder).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 7778 numbering and refrigerant safety classification GB/T 13005 cylinders term GB 17268 industrial non-refillable welding cylinders GB 17878 industrial non-refillable welding cylinders with a cylinder valve

3 Terms and Definitions

GB/T 13005 and established the following terms and definitions apply to this document.

Low pressure liquefied gas lowpressureliquefiedgases Greater than the critical temperature of the gas 65 °C.

Filling factor filingratio Permissible mass filling of liquefied gas cylinders inside the unit volume.

Examination and treatment before filling 4 4.1 cylinder before filling by the person responsible for inspections include.

- a) whether the cylinders qualified products;
- b) whether the non-refillable cylinders sex;
- c) medium containing species;
- d) cylinder appearance.

4.1.1 through the following checks to confirm whether the cylinders are qualified products.

- a) cylinders having "cylinder manufacturing license," the unit of production;
- b) whether the cylinder and bulk product quality certification certificate.

4.1.2 through the following checks to confirm whether the bottles to be charged a non-refillable cylinders.

- a) cylinders Meets GB 17268 requirements, including whether the cylinder labeled "non-refillable" warning mark;
- b) whether the cylinders have been used inflatable signs;
- c) cylinder loaded the cylinder valve is "a non-refillable cylinders," including. whether the cylinder valve structure type is not refillable; Pingfa and whether the bottle is non-detachable connection structure; cylinders before the filling is in the ON state.

4.1.3 through the following checks to confirm that the provisions of cylinders filled with a

medium loaded gas matches.

- a) the name of "media costumes" mark on the cylinder is consistent with the installed gas;
- b) marked test pressure cylinder is not less than the installed gas at 60 °C saturated vapor pressure.

Visual inspection of cylinders 4.1.4 include the following.

- a) Have the cylinder surface severe corrosion, drum kits, depression or other obvious damage such as deformation;
- b) the installation of the safety relief device meets the requirements, whether the weld excuse, bursting disc deformation and other defects;
- c) whether the installation of a secure cylinder valves, valve outlet whether sealing protection;
- d) the cylinder surface paint is intact, without loss, peel or wear and so on.

4.2 cylinder having one of the following prohibition filling. It belongs among a), b) the terms of filling units should promptly report to the local technical supervision Departments and administrations.

- a) by the cylinder does not have a "cylinder manufacturing license," the unit of production;
- b) The installation of the cylinder valve does not meet the requirements of GB 17878 or cylinders possible to use other methods refillable;
- c) no cylinders and bulk product quality certification certificate;
- d) media containing labeled and loaded cylinder gas inconsistent;
- e) non-compliant cylinders mark, shedding illegible or defaced;
- f) cylinder bottles, bottle valve, safety relief valve defects, can not guarantee the safe use.

5 Filling

5.1

Non-refillable cylinders. To be filled cylinder should never be used in a new bottle filling.

5.2

filling unit should be established cylinder filling procedures. Cylinder filling should strictly comply with the rules of filling. Operators should Wear protective equipment as required.

5.3

cylinder filling should be precisely metered. Filling metering instrument shall meet the following requirements.

a) measurement scales of maximum load shall not exceed the actual weight cylinders (including the cylinder tare weight and liquid filling) three times, not less than 1.5 times;

Accuracy b) measurement scales for the accuracy level;

c) by the unit of measurement scales should be required to have qualified for regular checks. Measurement scales before use every day should be verified.

Filling amount of 5.4 cylinders shall meet the following requirements.

a) the amount of filling is not more than "maximum filling amount" mark on the cylinder;

Product b) is not greater than the actual filling of the cylinder and the filling factor of the actual volume.

5.5

low pressure liquefied gas filling factor of (1) calculated and determined according to the formula.

$$Fr = 0.97\rho_1 -$$

Where.

Fr --- low pressure liquefied gas filling factor, in kilograms per liter (kg/L);

p --- liquid medium at a density of under 60 °C, in kilograms per liter (kg/L);

C --- liquid density maximum negative deviation,%.

Filling amount of 5.6 cylinders should be strictly controlled, filling metering system should be set up to prevent excess filling automatic cutting device. Found overcharging Filled cylinders, fluid volume should be super loaded properly discharged.

5.7

prohibit the use of the following methods of measurement to determine the filling volume.

a) filling bottles, unified weighed average calculation filling volume;

b) to calculate the estimated amount of filling weight or the average weight of the cylinder manufacturing batches instead of actual weight bottles.

6 Product certification

Filling product inspection certificate include. product name, product weight, product batch number, manufacturing date and company name.

7 Check, after filling