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

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**Liquefied dimethyl ether cylinders
(English Translation)**

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1 Scope

This standard specifies the structural type, materials, design, manufacturing, test methods, inspection rules, marking, packaging, storage and transportation, design service life of liquefied dimethyl ether cylinders.

This standard applies to steel welded gas cylinders (hereinafter referred to as cylinders) that are used at normal ambient temperature ($-40\text{ }^{\circ}\text{C} \sim 60\text{ }^{\circ}\text{C}$), have a nominal working pressure of 1.6 MPa and a nominal volume of no more than 150 L, can be repeatedly filled with liquefied dimethyl ether (in accordance with GB 25035).

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 222 Permissible tolerances for chemical composition of steel products

GB/T 228.1 Metallic materials - Tensile testing - Part 1. Method of test at room temperature

GB/T 1804-2000 General tolerances - Tolerances for linear and angular dimensions without individual tolerance indications

GB/T 2651 Tensile test method on welded joints

GB/T 2653 Bend test methods on welded joints

GB 6653 Steel plates and strips for welded gas cylinders

GB 8335 Special threads for gas cylinders

GB/T 9251 Methods for hydrostatic test of gas cylinders

GB/T 12137 Methods for leakage test of gas cylinders

GB/T 13005 Terminology of gas cylinders

GB/T 15385 Method for hydraulic burst test of gas cylinder the production order, to perform 100% radiographic inspection on the girth welds. If unqualified, two more cylinders shall be sampled for inspection; if one cylinder is still unqualified, radiographic inspection shall be conducted on each cylinder.

9.1.4 For steel cylinders with longitudinal and girth welds, in addition to radiographic

inspection of not less than 20% of the length of the longitudinal and girth welds of each cylinder, radiographic inspection shall also be conducted on the intersection of the longitudinal and girth welds.

9.1.5 The radiographic inspection technology shall not be lower than AB level; the radiographic inspection results shall be evaluated according to NB/T 47013.2; if the weld defect level is not lower than level III, it is considered to be qualified.

9.1.6 The quality of welds that have not been radiographically inspected shall also comply with the provisions of 9.1.5.

9.2.1 General inspection

9.2.1.1

The appearance of the weld shall comply with the provisions of 8.4.3.2.

9.2.1.2

The surface of the cylinder shall be smooth and shall not have cracks, double skin, interlayers, pits with a depth exceeding 0.5 mm, damage and corrosion with a depth exceeding 0.3 mm.

9.2.1.3

The accessories of the cylinder shall comply with the requirements of 7.3.

9.2.1.4

The actual weight of the cylinder (including the cylinder valve) shall comply with the provisions of the product design drawings; the measured volume shall not be less than its nominal volume.

9.2.1.5

The inside of the cylinder shall be dry and clean.

9.2.2 Water pressure test

9.2.2.1

The water pressure test of the cylinder shall be carried out in accordance with the provisions of GB/T 9251. The water pressure test device shall be able to automatically record the cylinder number, time, test results in real time; each test cylinder shall correspond to a pressure gauge.

9.2.2.2

During the water pressure test, the pressure shall be slowly increased to 2.4 MPa and maintained for 1 min. Check that there is no leakage and macro deformation in the cylinder; the pressure gauge shall not have pressure drop.

9.2.2.3

The same cylinder shall not be subjected to continuous water pressure test.

9.2.3 Air tightness test

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