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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 19158-2025

Replacing GB/T 19158-2003

Fully wrapped carbon-fibre reinforced aluminum lined gas cylinders used on containers or skids for transportation or skids for fueling station of compressed hydrogen

集装及站用压缩氢气铝内胆碳纤维全缠绕气瓶

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 19158-2003 "Compressed Natural Gas Cylinders for Station Use". Compared with GB/T 19158-2003, in addition to the structural adjustment, In addition to the integration and editorial changes, the main technical changes are as follows.

a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2003 edition);

b) The structural type, parameters and model nomenclature of gas cylinders have been changed (see Chapter 4, Chapter 4 of the 2003 edition);

c) Added requirements for nominal volume, design cycle number, design life, etc. (see 5.1);

d) The material requirements for gas cylinders have been changed (see 5.2, 5.1 and 5.2 of

the 2003 edition);

e) The design requirements for gas cylinders have been changed (see 5.3, 5.3 of the 2003 edition);

f) The manufacturing requirements for gas cylinders have been changed (see 5.4, 5.4 of the 2003 edition);

g) The test methods and qualification criteria have been changed (see Chapter 6, Chapter 6 and Chapter 7 of the 2003 edition);

h) Changed the marking requirements for gas cylinders (see 9.1, 8.1 of the 2003 edition);

i) Deleted the requirements for coating of gas cylinders (see 8.2 of the 2003 edition);

j) Added requirements for electronic labels of gas cylinders (see 9.2);

k) Added "Additional requirements for gas cylinders for station use" (see Appendix A);

l) Added "Performance test method for gas cylinder seals" (see Appendix B);

m) Added "Type test methods and qualification indicators for stop valves and safety pressure relief devices" (see Appendix C);

n) Added "Interlaminar shear test method" (see Appendix D);

o) Added "Fire test method for gas cylinders in bottle-type containers" (see Appendix E).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Technical Committee for Standardization of Gas Cylinders (SAC/TC31).

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This document was first published in 2003 and this is the first revision.

Compressed hydrogen aluminum liner carbon fiber for container and station Fully wrapped gas cylinders

1 Scope

This document specifies the types, parameters, models, technical requirements, and test procedures of compressed hydrogen gas cylinders with aluminum liner and carbon fiber wrapped for container and station use.

Methods and qualification indicators, inspection rules, installation and protection as well as marking, packaging, transportation and storage.

This document is applicable to the design and manufacture of working temperature of -40°C~85°C, and is installed in bottle containers or cluster devices and other container storage and use Refillable gas cylinders for transportation (hereinafter referred to as container transport gas cylinders) and hydrogen refueling stations, as well as refillable gas cylinders used as fixed storage containers Refillable gas cylinders (hereinafter referred to as station gas cylinders).

a) Gas cylinders for bottled containers. nominal working pressure is 30MPa~52MPa, nominal volume is 150L~450L;

b) Gas cylinders for clustering devices. nominal working pressure not exceeding 35 MPa, nominal volume 40L~150L, gas cylinders on clustering devices The total volume is not more than 3000L;

c) Station gas cylinders. nominal working pressure not exceeding 70 MPa, nominal volume 150L~450L.

2 Normative references

GB/T 191

GB/T 192

GB/T 196

GB/T 197

GB/T 228.1

GB/T 230.1

GB/T 231.1

GB/T 232

GB/T 528

GB/T 533-2008

GB/T 1458

GB/T 1677

GB/T 2941-2025

GB/T 3191

GB/T 3246.1

GB/T 3246.2

GB/T 3362

GB/T 3452.2

GB/T 3512

GB/T 3634.2

GB/T 3880.1