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

GB/T 42605-2023

Guidelines for repair of transportable pressure equipment

移动式压力容器修理导则

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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: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed and managed by the National Standardization Technical Committee of Boilers and Pressure Vessels (SAC/TC262): This document is drafted by: China Special Equipment Inspection and Research Institute, Xinxing Energy Equipment Co., Ltd., CRRC Yangtze River Vehicle Co., Ltd., Changzhou Lanyi Aircraft Equipment Manufacturing Co., Ltd., Zhangjiagang CIMC Sanctum Cryogenic Equipment Co., Ltd., Shijiazhuang Enric Gas Machinery Co., Ltd: Division, Jingmen Hongtu Special Aircraft Manufacturing Co., Ltd., Guangdong Special Equipment Inspection and Research Institute, Guangdong Special Equipment Inspection and Research Institute Zhongshan Testing Institute, Zhongte Inspection Group Co., Ltd., Zhejiang University: The main drafters of this document: Bo Ke, Zhao Jirui, Li Jun, Cui Wentian, Guan Jian, Zhu Jiandou, He Yuanxin, Wei Dongqi, Lu Qian, Xia Quan, Li Junwang, Fei Jinhua, Liu Sufeng, Li Wei, Lu Liming, Huang Jun, Xu Guangming, Hua Zhengli, Wang Hongxia, Kang Haoyuan, Guo Jingqian: Guidelines for Repair of Portable Pressure Vessels

1 Scope

GB/T 42605-2023 covers the repair of transportable pressure equipment - road tankers, tank containers, gas cylinders and the pipework and loading fittings that go with them. Repairing a pressure vessel is a different proposition from repairing a machine: the item is a certified piece of equipment whose approval rests on its material, its wall thickness and the integrity of its welds, and a repair alters all three. Doing it without a defined method can leave a vessel that looks sound, passes a visual inspection, and has a heat-affected zone

or a wall thinned below the design minimum in a place nobody will look again. That these vessels then travel on public roads full of hazardous product is why the guidance matters beyond the operator. This document specifies the repair methods for transportable pressure vessel tanks, gas cylinders, pipelines and loading and unloading accessories, together with the post-repair inspections and tests and the requirements for the repair records and reports. Under ICS 23.020.30 and CCS J74, it is written for the repair workshops, for the operators of tanker fleets and cylinder pools, and for the inspection bodies that return equipment to service.

This document specifies the repair methods, post-repair inspections and tests and repair methods for portable pressure vessel tanks, gas cylinders, pipelines and loading and unloading accessories: management reports and other requirements: This document applies to tanks, gas cylinders, piping and Repair of unloaded accessories: This document does not apply to:

- a) The working pressure of the tank during normal transportation and use is less than 0.1MPa (including the momentary pressure in the loading and unloading medium greater than or equal to 0.1MPa) portable pressure vessel repair;
- b) Repair of portable pressure vessels whose tank body or gas cylinder is made of non-metallic materials;
- c) The repair of the moving device components of the mobile pressure vessel;
- d) Repair of vehicle-mounted fuel and vehicle-mounted power gas cylinders attached to mobile pressure vessels;
- e) Transformation of portable pressure vessels:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 1031 Product Geometric Specifications (GPS) Surface Roughness Parameters and Their Values by Surface Structure Profile Method

GB/T 3077 Alloy structural steel

GB/T 3375 Welding Terminology

GB/T 30583 Post-weld heat treatment procedures for pressure equipment

GB/T 42595 Basic Requirements for Repair of Pressure Equipment

GB/T 42606 Repair Guidelines for Stationary Pressure Vessels NB/T 47013:2-2015
Non-destructive testing of pressure equipment Part 2: Radiographic testing NB/T
47013:3-2015 Non-destructive testing of pressure equipment Part 3: Ultrasonic testing
NB/T 47013:4-2015 Non-destructive testing of pressure equipment Part 4: Magnetic particle
testing NB/T 47013:5-2015 Non-destructive testing of pressure equipment Part 5: Penetrant
testing NB/T 47013:11-2015 Non-destructive testing of pressure equipment Part 11: X-ray
digital imaging testing NB/T 47013:14-2016 Non-destructive testing of pressure equipment
Part 14: X-ray computer-aided imaging testing NB/T 47014 Welding procedure qualification
for pressure equipment NB/T 47015 Welding Rules for Pressure Vessels NB/T 47018 (all
parts) Order technical conditions for welding consumables for pressure equipment

3 Terms and Definitions

The following terms and definitions defined in GB/T 3375 apply to this document: