Pressure Vessels Part 4 Fabrication Inspection And

This Part of GB/T 35974 specifies design requirements for vessel pressure components. This Part is applicable to the design of internal pressure-bearing plastics and lining pressure vessels.

ENGINEERS' DATA BOOK A completely revised and expanded fourth edition of this best-selling pocket guide. Engineers' Data Book provides a concise and useful source of up-to-date essential information for the student or practising engineer. Updated, expanded edition Easy to use Handy reference guide Core technical data Clifford Matthews is an experienced engineer with worldwide knowledge of mechanical engineering.

This book provides comprehensive coverage of stress and strain analysis of circular cylinders and pressure vessels, one of the classic topics of machine design theory and methodology. Whereas other books offer only a partial treatment of the subject and frequently consider stress analysis solely in the elastic field, Circular Cylinders and Pressure Vessels broadens the design horizons, analyzing theoretically what happens at pressures that stress the material beyond its yield point and at thermal loads that give rise to creep. The consideration of both traditional and advanced topics ensures that the book will be of value for a broad spectrum of readers, including students in postgraduate, and doctoral programs and established researchers and design engineers. The relations provided will serve as a sound basis for the design of products that are safe, technologically sophisticated, and compliant with standards and codes and for the development of innovative applications.

All English-translated Chinese codes are available at: www.codeofchina.com

This Part of GB/T 16508 specifies the requirements for fabrication, inspection and test, delivery information and nameplate of stationary shell boilers. This Part is applicable to the shell boilers defined within the scope of GB/T 16508.1.

This document provides the comprehensive list of Chinese National Standards - Category: GB Series.

This document provides the comprehensive list of Chinese National Standards - Category: GB; GB/T, GBT.

This document provides the comprehensive list of Chinese National Standards and Industry Standards (Total 17,000 standards).

This Part of GB 150 specifies the designation and the standard of steels that may be used for the pressure components of pressure vessels, the additional technical requirements of steels, and the application scope (temperature and pressure) and allowable stress of steels. This Part is applicable to the pressure vessels with design temperature during -253?~800? and design pressure no larger than 35MPa. Inapplicable scope of this Part: inapplicable scope specified in GB 150.1; vessels in refrigeration industry and papermaking industry; enamelled vessels and simple pressure vessels; scope specified in Article 1.4 of TSG R0004.

This Part of GB/T 18442 specifies the technical requirements for material, design, manufacture and inspection of the inner vessels of static vacuum insulated cryogenic pressure vessels (hereinafter referred to as the inner vessels) that are manufactured by pressure strengthening technology.

1.1 This standard specifies the construction requirements of metal pressure vessels (hereinafter referred to as "Vessels"). This standard specifies the general requirements for the materials, design, fabrication, inspection and testing, and acceptance of metal pressure vessels (hereinafter referred to as "Vessels"). 1.2 Applicable design pressure of this Standard 1.2.1 For steel vessels, the design pressure shall not exceed 35MPa; 1.2.2 For vessels made of other metal materials, the applicable design pressure shall be determined according to the corresponding reference standards. 1.3 Applicable design temperature range of this Standard 1.3.1 Design temperature range: -269?~900?. 1.3.2 For steel vessels, the design temperature shall not exceed the allowable operating temperature range of the materials listed in GB 150.2 1.3.3 For vessels made of other metal materials, the design temperature shall be determined according to the allowable operating temperature of the materials listed in the corresponding reference standards of this Part. 1.4 Applicable structure forms of this Standard 1.4.1 The structure forms of the steel vessels to which this Standard is applicable shall be in accordance with the corresponding provisions of this Part and GB 150.2 ~ GB 150.4. 1.4.2 As for the vessels with specific structures and the vessels made of aluminum, titanium, copper, nickel and nickel alloy, as well as zirconium to which this Standard is applicable, the structure forms and applicable scope shall meet the corresponding requirements of the following standards: a) GB 151 Tubular Heat Exchangers; b) GB 12337 Steel Spherical Tanks; c) JB/T 4731 Steel Horizontal Vessels on Saddle Support; d) JB/T 4710 Steel Vertical Vessels Supported by Skirt; e) JB/T 4734 Aluminim Welded Vessels; f) JB/T 4745 Titanium Welded Vessels; g) JB/T 4755 Copper Pressure Vessels; h) JB/T 4756 Nickel and Nickel Alloy Pressure Vessels; i) NB/T 47011 Zirconium Pressure Vessels. 1.5 The following vessels are not within the applicable scope of this Standard: a) Vessels with design pressure lower than 0.1MPa and vacuum degree lower than 0.02MPa; b) Vessels under "Supervision Regulation on Safety Technology for Transportable Pressure Vessel"; c) Among equipment, the pressure chambers (such as pump casing, outer casing of compressors, outer casing of turbines, hydraulic cylinders etc.) which can be its own system or as components in swiveling or reciprocating movement machinery; d) Vessels subject to the neutron radiation damage failure risk in nuclear power plants. e) Vessels heated by direct flame; f) Vessels with inner diameter (for non-circular sections, refers to the maximum geometric dimensions of the inner boundaries of the sections, such as: diagonals of rectangles and major axes of ellipses) less than 150mm; g) Enamelled vessels and the vessels with other national standards or professional standards in the refrigeration and air conditioning industry. 1.6 Vessels scope 1.6.1 Connection between the vessel and the external pipe: a) The groove end face of the first pass of girth joints with welded

connection; b) The first threaded connector end surface of screwed joint; c) The sealing surface of the first flange with flanged connection; d) The first sealing surface of special connecting piece or pipe fittings connection. 1.6.2 Bearing headers, flat covers and their fasteners of connection pipe, manhole and handhole, etc. 1.6.3 Attachment welds between non-pressure components and pressure components. 1.6.4 Non-pressure components such as support and skirt directly connected to the vessels. 1.6.5 Excessive pressure relief device of vessel (see Appendix B).

This Part of GB/T 35974 specifies the fabrication, technical requirements, testing and exit-factory requirements of pressure vessels with plastic lining. This Part is applicable to pressure vessels with plastic lining, which are fabricated through the processing procedures of welding, rotational molding and winding sintering.

1.1 This Part specifies the requirements for the fabrication, inspection and testing, and acceptance of steel pressure vessels within the applicable scope of GB 150. The requirements for the fabrication, inspection and testing, and acceptance of pressure vessels made of other materials shall be in accordance with the relative standards. 1.2 This Part is applicable to the structures of pressure vessels as follows: single-layer welded pressure vessels, forged-welded pressure vessels, and layered pressure vessels (including concentric wrapped, integrated wrapped, flat steel ribbon wound, and shrink fit pressure vessels). 1.3 For low temperature pressure vessels made of austenitic steels (at design temperature lower than -196?), the requirements for the fabrication, inspection and testing, and acceptance specified according to the negotiation of the parties participating in the fabrication shall be specified in design documents by the design organization.

This Part of GB/T 35974 specifies the fabrication, technical requirements, testing and exit-factory requirements of plastic pressure vessels.

This document provides the comprehensive list of Chinese National Standards - Category: GB, GB/T Series of year 2011.

This book is the first monograph focusing on ellipsoidal heads, which are commonly used as an end closure of pressure vessels in chemical, petroleum, nuclear, marine, aerospace and food processing industries. It provides a comprehensive coverage of stress, failure, design and fabrication of ellipsoidal heads. This book investigates in detail buckling/plastic collapse behaviors of ellipsoidal heads using nonlinear finite element methods and experiments. Buckling/plastic collapse experiments are performed on 37 ellipsoidal heads which cover various geometric parameters, material and fabrication methods. In particular, modern measurement technologies, such as 3D laser scanning, are used in the experiments of these ellipsoidal heads including large heads with a diameter up to 5 metres. Moreover, this book presents new formulas for accurate prediction of buckling/plastic collapse pressures of ellipsoidal heads. Using elastic-plastic theory, this book proposes a new failure mechanism-based method for design of ellipsoidal heads. Compared to other methods in current codes and standards based on elastic or perfectly plastic theory, the new design method can fully develop the head’s load-carrying capacity, which reduces head thickness and thus cost. Also, this book studies control on fabrication quality of ellipsoidal heads, including shape deviation, forming strain and forming temperature. It is useful as a technical reference for researchers and engineers in the fields of engineering mechanics, engineering design, manufacturing engineering and industrial engineering.

Chemical Engineering Design is one of the best-known and most widely adopted texts available for students of chemical engineering. It completely covers the standard chemical engineering final year design course, and is widely used as a graduate text. The hallmarks of this renowned book have always been its scope, practical emphasis and closeness to the curriculum. That it is written by practicing chemical engineers makes it particularly popular with students who appreciate its relevance and clarity. Building on this position of strength the fifth edition covers the latest aspects of process design, operations, safety, loss prevention and equipment selection, and much more. Comprehensive in coverage, exhaustive in detail, and supported by extensive problem sets at the end of each chapter, this is a book that students will want to keep to hand as they enter their professional life. The leading chemical engineering design text with over 25 years of established market leadership to back it up; an essential resource for the compulsory design project all chemical engineering students take in their final year A complete and trusted teaching and learning package: the book offers a broader scope, better curriculum coverage, more extensive ancillaries and a more student-friendly approach, at a better price, than any of its competitors Endorsed by the Institution of Chemical Engineers, guaranteeing wide exposure to the academic and professional market in chemical and process engineering.

This part specifies the basic safety device requirements of the static vacuum insulated cryogenic pressure vessel. The application scope in this part is the same as that in Part 1 of this standard.

This Part of GB/T 35974 specifies the terms and definitions; general requirements of materials, design, fabrication, inspection and testing for plastics and plastic lining pressure vessels.

This document provides the comprehensive list of Chinese National Standards - Category: GB, GB/T Series of year 2019.

This document provides the comprehensive list of Chinese National Standards - Category: GB, GB/T Series of year 2018.

This comprehensive sister volume to Cliff Matthews’ highly successful Handbook of Mechanical Works Inspection gives a detailed coverage of pressure equipment and other mechanical plant such as cranes and rotating equipment. Key features: Accessible source of information Lavishly illustrated with numerous diagrams, photographs, and tables A wealth of valuable information Detailed, comprehensive coverage Written in easily accessible style A ‘must buy’ reference book The Handbook of Mechanical In-Service Inspection is a vital source of information for: plant owners and operators maintenance engineers inspection engineers from insurance companies and ‘competent bodies’ who perform in-service inspection health and safety operatives

engineers operating pressure systems and mechanical plant all those concerned with the safe and efficient operation of machinery, plant, and pressure equipment. All engineering pressure systems and other types of mechanical equipment must be installed, operated, and maintained properly. It must be safe and comply with standards, regulations, and guidelines. In-service inspection is more formally controlled by statutory requirements than other types of inspection. The Handbook of Mechanical In-service Inspection puts a good deal of emphasis on the ‘compliance’ aspects and the ‘duty of care’ requirements placed on plant owners, operators, and inspectors. The book is suitable for those who operate pressure systems, lifting equipment, and similar mechanical plant are subject to rigorous inspection from external bodies as a matter of course. All operators have a duty to conduct in-service checks and internal inspection procedures to ensure the safe, reliable, and economic running of their equipment.

This document provides the comprehensive list of Chinese National Standards - Category: GB/T; GBT.

This part specifies the basic fabrication requirements of Static Vacuum Insulated Cryogenic Pressure Vessel. The application scope in this part is the same as that in part 1 of this standard.

This part specifies the basic requirements for the inspection and test of the static vacuum insulated cryogenic pressure vessel. The application scope in this part is the same as that in Part 1 of this standard.

Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

This standard specifies the classification and marking, requirements, test methods, inspection rules, product markings and accompanying documents, packaging, transportation and storage of aluminum windows and doors. This standard is applicable to windows and pedestrian doors for exterior walls and interior partition walls of manual opening and closing operations, as well as vertical roof windows.

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This Standard specifies the scope, normative references, terms and definitions, technical requirements, test methods, inspection rules, packaging, transportation, and storage of liquefied natural gas dispenser for vehicle. This Standard applies to the design, manufacture, and acceptance of liquefied natural gas dispenser for vehicle.

GB 150.3 specifies the design requirements for the basic pressure parts of pressure vessels. This part is applicable to the design calculation of cylinders and spherical shells under internal pressure, cylinders and spherical shells under external pressure, head, openings and reinforcements, and flanges.

Plant Design and Operations, Second Edition, explores design and operational considerations for oil and gas facilities, covering all stages of the plant cycle, with an emphasis on safety and risk. The oil and gas industry is constantly looking for cost optimization strategies, requiring plant-based personnel to expand their knowledge base outside their discipline or subject. Relevant reference materials are scattered throughout various official standards, while staff lack the immediate hands-on knowledge to safely facilitate the full operational life cycle of the plant. This second edition is a complete source of solutions for major process projects including offshore facilities, chemical plants, oil refineries, and pipelines. This single reference provides insight for safer operations and maintenance best practices. It has been updated with more focus on safety in design and operations, standards, and compliance, and more detailed information on equipment and system/component design. Explores design and operational considerations for oil and gas facilities, covering all stages of the plant cycle, with an emphasis on safety and risk Includes updated new chapters covering principles of design, security regulations, and human factors Includes more relevant equipment information covering storage tanks, valves, and control systems Remains the only source to provide hands-on solutions for process plants in the refining and chemical industries