



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

GB/T 20801-2020

Replacing GB/T 20801-2006

**Pressure piping code-Industrial piping (GB/T
20801.1-2020~GB/T 20801.6-2020)**

压力管道规范 工业管道 (GB/T 20801.1-2020~GB/T 20801.6-2020)

(English Translation)

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1.1

GB/T 20801 specifies the basic requirements for the design, fabrication, assembly, inspection, testing and safeguarding of industrial metal pressure piping.

1.2

This part of GB/T 20801 specifies the basic requirements for pressure piping, such as application scope and piping grading.

1.3

The industrial metal pressure piping (hereinafter referred to as "pressure piping") in this part includes the pressure piping for process devices, auxiliary devices and utility works within the battery limit.

This part is applicable to the piping with the following conditions:

a) The pressure piping with the maximum working pressure greater than or equal to 0.1MPa (gauge pressure) and a nominal diameter greater than or equal to 50mm, for which the medium may be gas, liquefied gas, steam or flammable, explosive, toxic and corrosive liquid with the maximum working temperature greater than or equal to the standard boiling point. The piping and equipment piping with a nominal diameter less than 150mm and the maximum working pressure less than 1.6MPa (gauge pressure) for conveying non-toxic, nonflammable and non-corrosive gases is excluded.

b) Pressure piping other than those listed in 1.5.

1.4

The exclusion scope of this part is as follows:

a) special requirements for reconstruction, examination, inspection, test, maintenance and

repair of in-service pressure piping;

b) piping with a nominal pressure greater than PN420;

c) non-metal piping or lining layers thereof.

1.5

The non-application scope of this part is as follows:

a) piping of military equipment and nuclear facilities;

b) piping of exploration and excavation devices for petroleum, natural gas, terrestrial heat, etc.;

1 Scope

This part of GB/T 20801 specifies the basic requirements of materials for pressure piping components, including requirements for the selection of materials, the service restrictions based on material properties, marking, inspection certificate, etc.

This part is applicable to the selection and use of materials for pressure piping components defined by GB/T 20801.1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 229 Metallic materials - Charpy pendulum impact test method

GB/T 1220 Stainless steel bars

GB/T 1348 Spheroidal graphite iron castings

GB/T 2882 Nickel and nickel alloy tube

GB/T 3077 Alloy structure steels

GB/T 3087 Seamless steel tubes for low and medium pressure boiler

GB/T 3091 Welded steel pipes for low pressure liquid transmission

GB/T 3098.1 Mechanical properties of fasteners - bolts, screws and studs

GB/T 3098.6 Mechanical properties of fasteners - Stainless steel bolts, screws and studs

GB/T 3624 Titanium and titanium alloy seamless tubes

GB/T 4334 Corrosion of metals and alloys - Test methods for intergranular corrosion of

stainless steels

GB/T 4437.1 Aluminium and aluminium alloy extruded tubes - Part 1: Seamless tubes

GB/T 5310 Seamless steel tubes and pipes for high pressure boiler

GB/T 6479 Seamless steel tubes for high-pressure for chemical fertilizer equipment

GB/T 6614 Titanium and titanium alloy castings

GB/T 6893 Aluminium and aluminium alloys cold drawn(rolled) seamless tubes

GB/T 8163 Seamless steel pipes for liquid service

GB/T 9439 Grey iron castings

GB/T 9440 Malleable iron castings

GB/T 9711 Petroleum and natural gas industries - Steel pipe for pipeline transportation systems

GB/T 9948 Seamless steel tubes for petroleum cracking

GB/T 12228 General purpose industrial valves - Specification of carbon steel forgings

GB/T 12229 General purpose industrial valves - Specification of carbon steel castings

GB/T 12230 General purpose industrial valves - Specification of stainless steel castings

GB/T 12771 Welded stainless steel pipes for fluid transport

GB/T 12778 Determination of Charpy impact fracture surface for metallic materials

GB/T 13295 Ductile iron pipes, fittings and accessories for water or gas applications

GB/T 13401 Steel butt welding pipe fittings - Technical specification

GB/T 14976 Seamless stainless steel pipes for fluid transport

GB/T 16253 Steel castings for pressure purposes

GB/T 18984 Seamless steel tubes for low-temperature-service piping

GB/T 20801.1-2020 Pressure piping code - Industrial piping - Part 1: General

GB/T 20801.3-2020 Pressure piping code - Industrial piping - Part 3: Design and calculation

GB/T 20801.4-2020 Pressure piping code - Industrial piping - Part 4: Fabrication and assembly

GB/T 20801.5-2020 Pressure piping code - Industrial piping - Part 5: Inspection and testing

GB/T 20801.6-2020 Pressure piping code - Industrial piping - Part 6: Safeguarding

GB/T 21832 (all parts) Welded austenitic-ferritic (duplex) stainless steel tubes and pipes

GB/T 21833 Seamless austenitic-ferritic (duplex) stainless steel tubes and pipes

GB/T 25137 Titanium and titanium alloy forgings

GB/T 26027 Aluminium and aluminium alloys drawn seamless tubes for large circumscribed circle diameter of cross section

GB/T 26030 Nickel and nickel alloy forgings

GB/T 26057 Titanium and titanium alloy welded tube

GB/T 26058 Extruded tube of titanium and titanium alloys

GB/T 27684 Seamless and welded fittings for titanium and titanium alloy

GB/T 29168.1 Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 1: Induction bends

GB/T 29168.2 Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 2: Fittings

GB/T 29168.3 Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 3: Flanges

GB/T 30059 Seamless corrosion-resisting alloy tubes for heat-exchanger

GB/T 31032 Welding and acceptance standard for steel pipings and pipelines

GB/T 32964 Welded stainless steel pipes for liquefied natural gas

HG/T 20537.3 Technical requirements of welded austenitic stainless steel pipes for chemical plants

HG/T 20537.4 Technical requirements of large-diameter welded austenitic stainless steel pipe for chemical plants

HG/T 20634 Bolting for use with steel pipe flanges (Class designated)

JB/T 5263 Specification for steel casting for power station valves

JB/T 7248 Technical specification for low temperature service steel casting for valves

NB/T 47008 Carbon and alloy steel forgings for pressure equipment

NB/T 47009 Alloy steel forgings for low temperature pressure equipment

NB/T 47010 Stainless and heat-resisting steel forgings for pressure equipments

NB/T 47013.2-2015 Nondestructive testing of pressure equipment - Part 2: Radiographic testing

NB/T 47013.3-2015 Nondestructive testing of pressure equipment - Part 3: Ultrasonic testing