

ICS 23.040
CCS J 74



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

GB/T 32270-2024

Replacing GB/T 32270-2015

Pressure piping code-Power piping

压力管道规范 动力管道

Issued on: April 25, 2024

Implemented on: April 25, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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 32270-2015 "Pressure Piping Specification - Power Piping": Compared with GB/T 32270-2015, except for the structural adjustment In addition to the integration and editorial changes, the main technical changes are as follows:

- Added some terms and definitions (see 3:28, 3:29, 3:30, 3:31, 3:32);
- Deleted some terms and definitions (see 3:21 and 3:22 of the:2015 edition);
- Deleted pipeline classification (see Chapter 4 of the:2015 edition);
- Changed the use regulations of straight seam electric fusion welded steel pipes and corresponding pipe fittings (see 4:3:1:2, 5:3:1:2 of the:2015 edition);

- Changed the relevant provisions of pipe support and hanger materials (see 4:3:2, 5:3:2 of the:2015 edition);
- Added relevant provisions for the use of chromium-containing steel materials (see 4:3:4:1);
- Deleted the "GD category" requirements for design pressure (6:1:1:2, 6:1:1:3 of the:2015 edition);
- Changed the selection requirements for pipeline components other than those listed in the standards (see 5:2:1:3, 6:2:1:3 of the:2015 edition);
- Increased the minimum wall thickness requirements for welded pipe fittings (see 5:2:1:6);
- Added material selection requirements for oil and gas pipelines within the power plant (see 5:2:2:5~5:2:2:7);
- Changed the type and size standards of flange covers (see 5:2:7:2, 6:2:7:2 of the:2015 edition);
- Changed the valve type selection provisions (see 5:2:8:5, 6:2:8:5 of the:2015 edition);
- Changed the flange type selection provisions (see 5:2:9:1, 6:2:9:1 of the:2015 edition);
- Changed the selection requirements of compensators (see 5:2:10:1, 6:2:10:1 of the:2015 edition);
- Added the requirement that "the thickness of the pipeline components should not be less than the minimum wall thickness of the straight pipe" (see 5:3:1:2);
- Changed the requirements for the value of the pipe outer diameter in the calculation formula for the minimum wall thickness of the pipe (see 5:3:2:1, 6:3:2:1 of the:2015 edition);
- Changed the branch connection form applicable to the area reinforcement method (see 5:3:4:2, 6:3:4:2 of the:2015 edition);
- Added branch pipe connection forms applicable to the pressure area method (see 5:3:4:3);
- Added the calculation formula for the elliptical shape coefficient of the ellipsoidal head and the calculation of the wall thickness (see 5:3:7:1);
- Deleted the value diagram of the correction factor K when the elliptical shape factor of the ellipsoidal head is 2 (see Figure 9 of the:2015 edition);
- Added pipeline conditions for pipeline stress calculation and accidental loads to be taken into account (see 5:4:1);
- Added the calculation method of the thrust or torque of the pipeline on the equipment or end point (see 5:4:3);

- Added the load distribution principle of the upper and lower supports of vertical pipes (see 5:5:2:3);
- Added the requirements for reserved expansion gaps for limit devices and guide devices (see 5:5:3:4~5:5:3:6);
- Added access permit requirements for production and installation units (see 6:1:3);
- Changed the requirements for acceptance of materials before fabrication or installation (see 6:2:1, 7:2:1 of the:2015 edition);
- Added the welder qualification requirements for stamping and signing the quality certificate (see 6:2:2:3, 6:4:1:3);
- Added requirements for ordering welding materials (see 6:4:2:2);
- Changed the requirements for the number of weld repairs (see 6:4:8:3, 7:4:8:3 of the:2015 edition);
- Added measurement requirements for temperature measuring instruments (see 6:5:1:5);
- Changed some residual heat methods (see 6:5:3:1, 7:5:3:1 of the:2015 edition);
- Increased insulation width requirements (see 6:6:5:1);
- Added requirements for pipeline installation, pipeline cleaning, purging and cleaning (see 6:7, 6:8);
- Changed some requirements for progressive inspection (see 7:2:1, 8:1:3 of the:2015 edition);
- Changed the batching principle for sampling inspection (see 7:2:2:1:2, 8:2:1:2 of the:2015 edition);
- Changed the requirements for the metallographic structure of weld metal and pressure test substitution (see 7:2:2:6, 7:4:2, 8:3:5:1, :2015 edition 8:5:2);
- Added requirements for non-destructive testing methods (see 7:2:3:3);
- Changed the dimension of chloride ion concentration in the test water for austenitic stainless steel (see 7:4:4, 8:5:4 of the:2015 edition);
- Changed the basic provisions for pipeline insulation and pipeline corrosion protection (see 9:1:1, 9:2:1, 10:1:1, 10:2:1 of the:2015 edition);
- Changes to the insulation materials, moisture-proof layer materials, insulation layer materials, and insulation layer thickness calculation regulations (see 9:1:2:1~9:1:2:3, 9:1:3:2, 10:1:2:1~10:1:2:3, 10:1:3:2 of the:2015 edition);
- Changed the atmospheric corrosivity and soil corrosivity classification standards (see 9:2:2:1, 9:2:2:2, 10:2:2:1, :2015 edition 10:2:2:2);

- Changed the provisions for the selection of anti-corrosion coatings (see 9:2:3:2, 10:2:3:2 of the:2015 edition);
- Changed the design requirements of the anti-corrosion layer system and the coating thickness requirements (see 9:2:4:1, 9:2:4:3, 10:2:4:1, :2015 edition 10:2:4:3);
- Changed the inspection and acceptance regulations for anti-corrosion projects (see 9:2:4:5, 10:2:4:5 of the:2015 edition);
- Changed the allowable stress of some materials (see Appendix A, Appendix A of the:2015 edition);
- Increased the allowable stress of 10Cr9MoW2VNbBN material and straight seam electric fusion welded steel pipe (see A:1);
- The flexibility coefficient and stress increase factor have been changed (see Appendix C, Appendix C of the:2015 edition);
- Added piping layout (see Appendix D):

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 Boilers and Pressure Vessels (SAC/TC262):

This document was drafted by: China Electric Power Planning and Design Association, China Electric Power Engineering Consulting Group Northeast Electric Power Design Institute Co., Ltd., Xi'an Thermal Engineering Research Institute Co., Ltd., China Electric Power Engineering Consulting Group Central South Electric Power Design Institute Co., Ltd., China Special Equipment Testing and Research Institute, China Electric Power Engineering Consulting Group East China Electric Power Design Institute Co., Ltd., Huadian Electric Power Research Institute Co., Ltd., China Petroleum and Chemical Exploration and Design Institute China Electric Power Design Association, China Energy Engineering Group Guangdong Electric Power Design Institute Co., Ltd., China Electric Power Engineering Consulting Group Southwest Electric Power Design Institute Co., Ltd., Henan Huadian Jinyuan Pipeline Co., Ltd., PowerChina Hebei Engineering Co., Ltd., Jiangsu Electric Power Equipment Co., Ltd., China Energy Zhejiang Electric Power Design Institute Co., Ltd. of China Energy Engineering Group, Henan Electric Power Survey and Design Institute Co., Ltd. of China Power Engineering Group, China Energy Engineering Group Jiangsu Electric Power Design Institute Co., Ltd., China Nuclear Power Planning and Design Institute Co., Ltd., Harbin Boiler Plant Co., Ltd., Germany New Steel Pipe (China) Co., Ltd. and Shanghai Feiting Pipe Manufacturing Co., Ltd:

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