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CCS J15



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

GB/T 43079.1-2023

**Specification for selection and matching of steel pipe flanges,
gaskets and fasteners - Part 1: PN designated**

钢制管法兰、垫片及紧固件选用规定 第1部分：PN系列

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 1 of GB/T 43079 "Regulations on the Selection of Steel Pipe Flanges, Gaskets and Fasteners". GB/T 43079 has been released The following sections are included.

---Part 1: PN series;

2. Class Series. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Pipe Accessories (SAC/TC237). This document was drafted by: China Tianchen Engineering Co., Ltd., China National Machinery Productivity Promotion Center Co., Ltd., PetroChina East China Design Institute Co., Ltd. Company, Zhejiang Cathay Sealing Materials Co., Ltd., East China University of Science and Technology, Sinopec Engineering Construction Co., Ltd., Chaoda Valve Co., Ltd. Company, Zhejiang Zhoushan Zhengyuan Standard Parts Co., Ltd. The main drafters of this document. Liu Jianxin, Liu Hongfu, Feng Feng, Wu Yimin, Zhang Lanzhu, Zhao Yong, Qiu Xiaolai, Fu Renchao, Lin Zhongyue.

The selection of pipe flanges, gaskets and connection fasteners and the reasonable use of the three are important to avoid pipeline connection failures and prevent pipeline accidents The root of what happened. New concepts or new methods in flange connection failure analysis, performance matching, testing methods, etc. are constantly updated and improved. Flange, Standards for gaskets and fasteners are also being updated. This document is compatible with it and stipulates the selection and coordination rules of the three. Since pipe flange, gasket and fastener standards are divided into two series. PN and Class, to avoid confusion, this document is planned to be composed of two parts.

---Part 1: PN series. The purpose is to determine the selection and matching rules for flanges, gaskets and fasteners of the PN series.

2.Class Series. The purpose is to determine the selection and matching rules for flanges, gaskets and fasteners of the Class series. Regulations for the selection of steel pipe flanges, gaskets and fasteners Part 1: PN Series

1 Scope

GB/T 43079.1-2023 is about the combination rather than the parts. A bolted flange joint seals only if the flange, the gasket and the bolting work together: the gasket needs a minimum seating stress to seal and a maximum it can survive, the bolts have to supply the first without exceeding the second across the whole temperature and pressure range, and the flange has to be stiff enough not to rotate away from the gasket under load. Each of the three components has its own dimensional standard, and each of those standards is silent on the other two, which is where leaking joints come from. This document specifies the rules for selecting and matching PN-series steel pipe flanges, gaskets and fasteners that together form a sealing pair, working through flange selection, gasket selection and the fastener selection that must accompany them. It applies to the PN-series steel pipe flanges of GB/T 9124.1-2019 and to the gaskets and fasteners used with them. Under ICS 23.040.60 and CCS J15, it is the working reference for piping designers, for procurement assembling a bill of materials from three separate standards, and for the plant engineers who inherit the result.

This document specifies the rules for the selection of PN series steel pipe flanges, gaskets, and fasteners that form a sealing pair. This document applies to PN series steel pipe flanges specified in GB/T 9124.1-2019 and the gaskets and fasteners used in conjunction with them. firmware.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 4622.1 Wound gaskets for pipe flanges Part 1: PN series

GB/T 9124.1-2019 Steel pipe flanges Part 1: PN series

GB/T 9125.1 Fasteners for steel pipe flange connections Part 1: PN series

GB/T 9126.1 Non-metallic flat gaskets for pipe flanges Part 1: PN series

GB/T 9128.1 Metal ring gaskets for steel pipe flanges Part 1: PN series

GB/T 13404 Non-metallic polytetrafluoroethylene coated gaskets for pipe flanges

GB/T 15601 Metal-coated gaskets for pipe flanges

GB/T 17186.1 Calculation method for pipe flange connections Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 GC1 grade pressure pipeline gradeGC1piping According to GB/T 20801.1-2020, pressure pipes are classified as GC1 grade.

3.2 GC3 grade pressure pipeline gradeGC3piping In accordance with GB/T 20801.1-2020, pressure pipes classified as GC3.

4 Fabrication and installation

GB/T 38343 Technical regulations for installation of flange joints

GB/T 39245.1 Metal toothed combination gaskets for pipe flanges Part 1: PN series