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

GB/T 12459-2025

Replacing GB/T 12459-2017

Steel butt welding piping fittings - Types and parameters

钢制对焊管件 类型与参数

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Types and Codes	1
5.Pressure design of pipe fittings	2
6.Pipe fitting dimensions	2
7 Surface profile	31
8 End bevel	31
9 Tolerance	32
10 Mark	35
41 References	68

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 replaces GB/T 12459-2017 "Types and Parameters of Forged Butt-Welded Pipe Fittings". Compared with GB/T 12459-2017, except for the following. Aside from the logical changes, the main technical changes are as follows:

- a) Added descriptions of key parts of the pipe fittings (see 5.2.2);
- b) Added instructions on adopting GB/T 28708 (see 6.1.2);
- c) The standard sizes have been revised, and sizes for some varieties have been added (see 6.1, 5.1 in the.2017 edition);
- d) Specific requirements for the flow area of pipe fittings have been added (see 6.2.1);
- e) The content on wall thickness tolerance and the tolerance of newly added specifications have been added, and the geometric tolerances are listed in a separate table (see Chapter 9);
- f) The content of the exception flag has been changed (see 10.4, 9.4 in the.2017 version);

g) The content of the design verification test has been changed, adding requirements for key components and for different basic shapes, different manufacturing methods, and... Test specifications for pipe fittings of different material categories (see Appendix A, Appendix A of the.2017 edition);

h) The design calculations for pipe fittings have been revised, and the minimum wall thickness for the shoulder of reducing tees and crosses has been added (see Appendix B,.2017). Appendix B of the edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Pipeline Fittings (SAC/TC237). This document was drafted by: Wuxi Xinfeng Pipe Industry Co., Ltd., Jiangyin Nanfang Pipe Fittings Manufacturing Co., Ltd., and China Machinery Productivity Promotion Center. Limited Liability Company, CNPC East China Design Institute Co., Ltd., China Tianchen Engineering Co., Ltd., Yangzhou Pipe Fittings Factory Co., Ltd., Hebei Canghai Nuclear Equipment Co., Ltd. Bei Technology Co., Ltd., Changzhou Wujin Power Pipe Fittings Co., Ltd., Zhejiang Jiuli Special Materials Technology Co., Ltd., Suzhou Yuli Pipe Industry Limited Liability Company, Sinopec Shanghai Engineering Co., Ltd., China Huanqiu Engineering Co., Ltd. Beijing Branch, Jiangsu Zhide Pipe Industry Co., Ltd., Hebei Huizhong Pipeline Equipment Co., Ltd., Hefei Shihua Pipe Fittings Co., Ltd., Hebei Hengtong Pipe Fittings Group Co., Ltd., Jiangsu Xinyang Pipe Industry Co., Ltd. Limited Liability Company, Zhengzhou Wanda Heavy Industry Co., Ltd., Jiangyin Jintong Petrochemical Equipment Co., Ltd., Jiangsu Haida Pipe Fittings Group Co., Ltd., Shanghai Feiting Pipe Manufacturing Co., Ltd., Jiangsu Fujit Pipe Industry Co., Ltd., Jiangyin Donglian High Pressure Pipe Fittings Co., Ltd., Beijing Guodian Futong Technology Development Co., Ltd. Exhibition Limited Liability Company, Tianjin Jinding Pipeline Co., Ltd., Xuancheng Yugang Steel Industry Co., Ltd., Jiangsu Longshan Pipe Fittings Co., Ltd., CNPC Pipeline Machinery Machinery Manufacturing Co., Ltd., Hebei Provincial Special Equipment Supervision and Inspection Institute, Jiangsu Provincial Special Equipment Safety Supervision and Inspection Institute, Yanqi Lake Basic Manufacturing Technology Research Institute (Beijing) Co., Ltd., Hebei Xinsheng Nuclear Equipment Technology Co., Ltd., Jiangyin Longteng Pipe Fittings Co., Ltd., Cangzhou Taichang Pipeline Equipment Co., Ltd., and Henan Xinkaiyuan Petrochemical Pipeline Co., Ltd. This document was drafted by: Guo Shunxian, Zhang Xiujie, Liu Hongfu, Liu Jianxin, Ying Daoyan, Feng Feng, Zhu Xiaofeng, Lu Hengping, Chen Qingbiao, and Meng Qingyun. Zang Zhiwei, Pang Dong, Zhang Xinbao, Meng Jiantao, Xu Yunfeng, Wang Liang, Chen Linyu, He Qing, Yao Minghua, Li Jian, Xu Hui, Li Naiming, Ma Yang, Cong Xiangzhou Xin He, Zhang Xinyue, Huang Qiang, Yan Lijun, Sun Zhanyuan, Ding Chunxiong, Chen Lisu, Wang Xiaojuan, Sun Qingxuan, Yang Tao, Yang Changsheng, Song Zeyu. This document was first published in.1990, revised for the first time in.2005, revised for the second time in.2017, and this is the third revision. Types and parameters of steel butt-welded pipe fittings

1 Scope

GB/T 12459-2025 is the Chinese national standard on steel butt welding piping fittings - types and parameters, in the field of fluid systems and general-purpose components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 23.040.60, CCS J15. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the types and codes of steel butt-welded pipe fittings ranging from DN8 to DN3400 (NPS1/4 to NPS136), as well as the pressure rating of the fittings. Requirements for pipe dimensions, surface profile, end bevels, tolerances, markings, and product quality certificates. This document applies to steel butt-welded seamless and welded pipe fittings. Butt-welded pipe fittings made of other metal materials can be used as a reference.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 9124.2 Steel pipe flanges - Part

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Types and Codes The types and codes of steel butt-welded pipe fittings (hereinafter referred to as fittings) are shown in Table 1. Table

1 Types and Codes of Pipe Fittings Variety type code name Seamless pipe fittings and welded pipe fittings 45° elbow Long radius 45EL W45EL 3D 45E3D W45E3D 90° elbow Long radius 90EL W90EL Long radius differential 90ELR W90ELR Short radius 90ES W90ES 3D 90E3D W90E3D 180° elbow Long radius 180EL W180EL Short radius 180ES W180ES Reducer (reducer) Tongxin RC WRC Eccentric RE WRE