



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

GB/T 29168.1-2021

**Petroleum and natural gas industries - Induction bends, fittings
and flanges for pipeline transportation systems - Part 1:
Induction bends**

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	3
4 Symbols and abbreviations	5
4.1 Symbol	5
4.2 Abbreviations	6
5 Logo	6
6 Design	7
6.1 Load	7
6.2 Criteria	7
6.3 Wall thickness of elbow	7
6.4 Unequal strength connection design	7
7 Information provided by the purchaser	7
7.1 General information	7
7.2 Additional information	7
7.3 Mother tube information	8
8 Materials	8
9 Manufacturing	9
9.1 General	9
9.2 Manufacturing process confirmation	10
9.3 Elbow pipe for evaluation test	10
9.4 Heat treatment after bending	12
9.5 Forming and sizing after bending	12
9.6 Pipe end	12
10 Performance requirements for elbows	12
10.1 Tensile properties	12
10.2 Charpy impact toughness	13
10.3 Hardness	15
10.4 Guided bending performance of submerged arc welding elbow pipe	17
10.5 Flattening test	17
10.6 Metallographic structure and grain size inspection	17
10.7 HIC test	17

10.8 SSC test	17
10.9 Dimensions, geometry and allowable deviations	17
11 Test and inspection	18
11.1 General	18
11.2 Test and inspection scope	19
11.3 Chemical composition	22
11.4 Mechanical performance inspection	22
11.5 Non-destructive testing	26
11.6 Size	28
11.7 Measurement	30
11.8 Hydrostatic pressure test	30
12 Check the file	30
13 Sign	31
14 Packaging and transportation	31
Appendix A (informative) Structural changes of this document compared with ISO 15590-1.2018	32
Appendix B (informative) Technical differences between this document and ISO 15590-1.2018 and their reasons	35
Appendix C (normative) Non-acid elbow pipe material	38
Appendix D (Normative) Manufacturing Process Specification	40
Appendix E (normative) PSL2S elbow under acidic medium	41
Reference	45

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 of Standardization Documents"

Drafting.

This document is Part 1 of GB/T 29168 "Induction Heating Elbows, Fittings and Flanges for Pipeline Transportation Systems in the Petroleum and Natural Gas Industry"

point. GB/T 29168 has released the following parts.

---Part 1. Induction heating elbow;

---Part 2. Pipe fittings;

---Part 3. Flange.

This document replaces GB/T 29168.1-2012 "Induction heating bends, fittings and flanges for pipeline transportation systems in the oil and gas industry

Part 1. Induction Heating Elbow. Compared with GB/T 29168.1-2012, this document has major technical changes except for editorial changes

as follows.

---The scope of application of the document has been revised, and the content has been supplemented and improved (see Chapter 1);

--- The consistency requirement has been deleted (see Chapter 2 of the 2012 edition);

--- Deleted part of the content of negotiating and repairing the defects of the base metal (see Chapter 10 of the 2012 edition);

---Added the requirements of GB 50251 and GB 50253 related documents, and added the requirements of unequal strength design clauses (see Chapter 6);

---The mechanical performance index of the material of the elbow mother tube has increased the index requirements for the acceptance of the induction heating elbow heat simulating simulation test sample

Requires clear requirements for the ultimate water pressure bearing capacity of the elbow pipe (see Chapter 8);

---Modified the outer diameter of the LSAW pipe in the tube type selection of the elbow pipe (see Chapter 9);

---Modified the specific techniques for sampling locations and machining methods of mechanical properties such as tensile test, Charpy impact toughness test, hardness, etc.

Technical requirements (see Chapter 10);

---Added the clause requirements for layered rectangular specimens of elbows with wall thickness greater than 25mm (see Chapter 10);

---Added the recommended test temperature requirements for the selection of buried and non-buried Charpy impact toughness test temperatures (see Chapter 10);

---The acceptance requirements for specific technical indicators of mechanical properties such as tensile test, Charpy impact toughness test and hardness have been added (see Chapter 10);

---Added the requirements for the sampling position of the longitudinal submerged arc welded elbow with the nominal wall thickness of the parent tube greater than 25mm, and increased the test and detection requirements (see

Chapter 10).

This document is revised and adopted ISO 15590-1.2018 "Induction heating elbows, fittings and flanges for pipeline transportation systems in the oil and gas industry"

Part 1. Induction Heating Elbow.

Compared with ISO 15590-1.2018, this document has more structural adjustments. Appendix A lists this document and ISO 15590-1.

2018 chapter number comparison list.

Compared with ISO 15590-1.2018, this document has technical differences.

The vertical single line (?) of the position is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

Introduction

Induction heating elbows, pipe fittings and flanges are indispensable and important reversing structural parts for the construction of long-distance pipelines and station valve chambers. They are standard stones.

The procurement and application of pipes for pipeline transportation systems in the oil and natural gas industry have formulated induction heating bends for pipeline transportation systems in the oil and gas industry.

A series of technical documents for pipes, fittings and flanges. In the formulation of this document, the relevant domestic and foreign standards such as ISO 15590-1 have been referred to, and the

In recent years, the research results and practical experience of applied basic research and technical standards for elbows used in the construction of oil and gas pipeline engineering. According to product category

Type, production process, geometry and inspection requirements and other factors, GB/T 29168 "Induction heating bend for pipeline transportation system in petroleum and natural gas industry"

Pipes, fittings and flanges are divided into 4 parts.

---Part 1. Induction heating elbow;

---Part 2. Pipe fittings;

---Part 3. Flanges;

---Part 4. Factory cold bend pipe.

In the process of pipeline construction, in order to meet the requirements of diversion, direction change and mitigation of the transmission medium, and to improve the pipeline