

ICS 75.180.10

CCS E 92



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

GB/T 44317-2024

Thermoplastics lined tubing

热塑性塑料内衬油管

Issued on: August 23, 2024

Implemented on: March 1, 2025

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

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms, definitions, symbols and abbreviations	1
3.1 Terms and Definitions	1
3.2 Symbols	2
3.3 Abbreviations	2
4 Product form	3
5 Material requirements	4
5.1 Base tube	4
5.2 Liner pipe	4
5.3 CB ring	4
6 Manufacturing process	5
6.1 Base tube preparation	5
6.2 Thread processing	5
6.3 Lining process	5
6.4 CB ring manufacturing and coupling screwing	5
6.5 Traceability	6
6.6 Purchaser Inspection	6
7 Technical requirements and inspection tests	6
7.1 Base tube	6
7.2 Liner pipe	6
7.3 Thermoplastic lined oil pipe	7
7.4 CB ring	10
7.5 Inspection frequency and judgment rules	10
8 Records	12
8.1 Information provided by the purchaser	12
8.2 Documents provided by the manufacturer	12
9 Marking, packaging, transportation, storage and use	12
9.1 Logo	12
9.2 Packaging	12
9.3 Transportation	13

9.4 Storage	13
9.5 Use	13
Appendix A (Informative) Maximum operating temperature and performance of typical thermoplastics	14
Appendix B (Informative) Test Method for Gas Permeability of Polymer Materials.....	23
Appendix C (Informative) Use of Thermoplastic Lined Oil Pipes	25
References	26

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 is required.

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 was proposed and coordinated by the National Technical Committee on Petroleum and Natural Gas Standardization (SAC/TC 355).

This document was drafted by: China National Petroleum Corporation Engineering Materials Research Institute Co., Ltd., Dongying Kechuang Petroleum Equipment Co., Ltd., Shaanxi Tai Heyuan Petroleum Engineering Technology Co., Ltd., China National Petroleum Corporation Tarim Oilfield Branch, China National Petroleum Corporation Changqing Oilfield Branch, Chang'an University, Shengli Oilfield Shengji Petroleum Equipment Co., Ltd., PetroChina Co., Ltd.

Liaoyang Petrochemical Company.

The main drafters of this document are: Li Houbu, Ding Xiuliang, Zhang Xuemin, Wang Yong, Tan Chuanjiang, Liu Guangsheng, Zhao Mifeng, Gan Qingming, Yang Haitao, Feng Xueguang, Kong Lushi, Lu Yulei, Zhang Xiqing, Zhu Wenfeng, Cai Xuehua, Wang Zexin, Li Zhenzhong, Fang Wei, Xu Ting, Zhao Jing. Thermoplastic lined oil pipe

1 Scope

This document specifies the product form, material requirements, manufacturing process, technical requirements and inspection tests, records, Marking, packaging, transportation, storage and use.

This document applies to the manufacture and inspection of downhole thermoplastic lined tubing for injection and production of oil, gas, water, hydrocarbon liquids and multiphase fluids.

2 Normative references

GB/T 2828.1

GB/T 8806

GB/T 9253

GB/T 17745

GB/T 19830

GB/T 20972.2

GB/T 21267

GB/T 23512

GB/T 34903.1

3.1 Terms and Definitions

The following terms and definitions apply to this document.

3.1.1 Backing pipe

For metal oil pipe lined with thermoplastic pipe (3.1.3).

3.1.2 Thermoplastics

It can be repeatedly heated to soften and cooled to harden within the entire characteristic temperature range, and can be molded, extruded or overmolded in the softened state.

Plastics that can be repeatedly molded into products through flow.

[Source. GB/T 2035-2008, 2 1057, 2 1058, with modifications]

3.1.3 Thermoplastic pipe

Pipes extruded with thermoplastics (3.1.2) as the main raw material.