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Petroleum, petrochemical and natural gas industries - Bulk material for offshore projects - Pipe support (ISO 24200:2022)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Petroleum, petrochemical and natural gas industries - Bulk material for offshore projects - Pipe support (ISO 24200:2022)

Industries pétrolière, pétrochimique et du gaz naturel -
Matériels de base pour les projets en mer - Supports de
tuyauterie (ISO 24200:2022)

Erdöl-, petrochemische und Erdgasindustrie -
Schüttgut für Offshore-Projekte (ISO 24200:2022)

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EN ISO 24200:2022 (E)

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European foreword

This document (EN ISO 24200:2022) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

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**Petroleum, petrochemical and natural
gas industries — Bulk material for
offshore projects — Pipe support**

*Industries pétrolière, pétrochimique et du gaz naturel — Matériels de
base pour les projets en mer — Supports de tuyauterie*



Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 12 *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document aims to provide a set of unified specifications for pipe supports for offshore projects, responding to the current lack of recognized specifications for such pipe supports in terms of shape, dimensions, material and application area.

Company specific standards from owners, engineering companies and shipbuilders have therefore been prevailing for specifications related to pipe support types, shapes, sizes and dimensions. There are big variations in specifications from project to project, because of lack of internationally recognized specifications within this area.

Thus, individual pipe support items have often failed to be compatible across different projects. A suggested solution is to apply one unified approach for design, material selection, shape and application, etc. This will also significantly reduce engineering hours and lead times and improve the fabrication efficiency. Other expected benefits are improved practice for design and application of pipe support types related to design life, maintainability and integrity. The ultimate goal is to reduce the overall cost in general offshore projects and lead time while increase the efficiency, interoperability and safety.

In the lack of common industrial specifications for pipe supports, an assessment has been conducted to compare the pipe supports designs and application areas used in past offshore projects. Based on the supports design examples of those projects, a set of unified specifications have been established, which are described in this document.

The main factors considered to arrive at an optimal design of pipe supports are pipe load endurance, weight and material cost. Those three factors have been considered when reviewing pipe supports from past projects and ultimately defining the requirements described in this document.

The requirements including design and dimensions specified in this document are based on the use of H-beam or plate that are commonly used as sections. When an unlisted material or section is used, the designer is responsible for demonstrating the validity of the allowable stress and other limits used in design.

This document can be used as a baseline for suppliers and engineering companies that do not already have a more comprehensive and usable standard for both greenfield and brownfield projects.

Petroleum, petrochemical and natural gas industries — Bulk material for offshore projects — Pipe support

1 Scope

This document specifies the requirements for design including shape and dimensions, material as well as strength for pipe support. Applicable pipe size range varies depending on support types. This document covers topside systems for fixed or floating offshore oil and gas projects. This document is applicable to design temperature of support within the range between -46 °C up to 200 °C .

This document is limited to metallic pipes, covering the following pipe supports:

- clamped shoe;
- welded shoe;
- U-bolt;
- U-strap;
- bracing for branch connection;
- trunnion and stanchion;
- guide support (guide, hold-down, guide and hold-down, line stop).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM A193, *Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications*

ASTM A194, *Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both*

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