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

GB/T 21410-2015

Replacing GB/T 21410-2008

**Petroleum and neutral gas industries -- Downhole equipment --
Lock mandrels and landing nipples
(English Translation)**

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 21410-2008 "Oil and gas industry downhole tool locking mandrel and positioning joint".

This standard compared with GB/T 21410-2008, the main changes are as follows.

- modified the introductory content (see introduction);
- modified the reference standard (see Chapter 2);
- the addition and modification of terms and definitions (see Chapter 3);
- modified the design confirmation (see Chapter 5);
- modified technical requirements (see Chapter 6);
- modified the contents of the design guidelines (see Chapter 6);
- modified the contents of the design verification (see Chapter 6);
- modify the contents of the design confirmation (see Chapter 6);
- modify the contents of the design changes (see Chapter 6);
- The optional confirmation test has been deleted (see Chapter 6);
- modified the contents of the manufacturer (supplier) document and data control (see Chapter 7);
- the quality confirmation level in the list of product data is deleted (see Chapter 7);
- increased design recognition level in the product logo (see Chapter 7);
- modified the quality control level content (see Chapter 7);
- modified the contents of the pressure measuring device in the calibration system (see Chapter 7);
- Some appendices have been deleted (see Appendix A).

This standard uses the re-drafting method to modify the use of ISO 16070.:2005 "oil and gas industry underground equipment locking mandrel and positioning Connector "(English version).

The technical differences between this standard and ISO 16070.:2005 are as follows.

--- on the normative reference documents, this standard has made a technical differences in the adjustment to meet China's technical conditions, adjust the situation the situation is reflected in Chapter 2, "Normative references", as follows.

Replace GB 2859-1 with equivalent GB/T 2828.1 with international standard;

- GB 641-1 instead of GB/T 3452.1 with international standard modification;

- GB/T 3452.2 instead of ISO 3601-3 with equivalent international standard;

Replace GB 6506-1 with GB/T 231.1 with international standard modification;

Replace GB 6507-1 with GB/T 4340.1 with international standard modification;

Replace GB 6508-1 with GB/T 230.1 with international standard modification;

Replace ISO 6892 with GB/T 228.1 with international standard modification;

- GB/T 9445 instead of ISO 97125 with equivalent international standards;

Replace ISO 13628-3 with GB/T 21412.3 with equivalent international standards;

- GB/T 20972.1 instead of ISO 15156-1 with equivalent international standard;

Replace GB 15156-2 with GB/T 20972.2 with international standard modification;

Replace GB 15156-3 with GB/T 20972.3 with international standard modification;

- replace APISpec5B with equivalent GB/T 9253.2 using international standards);

- Added ASME Boiler and Pressure Vessel Code, Part II, Metal Materials;

--- modified the contents of the instrument in the heat treatment furnace and the pressure measuring device in Chapter 7 in order to improve the accuracy of the relevant instrument.

This standard compared with ISO 16070.:2005, made the following editorial changes.

- the preamble of ISO 16070.:2005 was deleted, the preamble was added;

- the "note of the article" in ISO 16070.:2005 for the reference to the standard.

This standard is proposed by the National Petroleum Drilling Equipment and Tools Standardization Committee (SAC/TC96).

The drafting unit of this standard. Petroleum Industry Downhole Tool Quality Supervision and Inspection Center, China Petroleum Group Bohai Drilling Engineering Co., Ltd.

Technology Research Institute, Danuo (Beijing) Petroleum Technology Service Co., Ltd.

Introduction

This standard is developed by the user (purchaser) and the manufacturer (supplier) of the locking mandrel and the positioning joint, and is widely used in the whole world Sector of the oil and gas industry. This standard gives the requirements and correspondence of the selection, processing, testing and use of the locking mandrel and the positioning joint.

And specifies the minimum requirements for the manufacturer (supplier).

This standard is developed in order to classify the increased quality documents and design confirmation, and the user (purchaser) Choose the grade required for special use.

This standard for the user (buyers) to provide two design quality control level, the user (buyers) can be based on its special use requirements into Line selection. Quality control class Q2 is the lowest quality rating in this standard. Quality control level Q1 provides additional material files.

This standard provides three types of design confirmation for the user (purchaser). The user (purchaser) can choose according to its special requirements.

select. The design confirmation level V3 is the lowest level and equipment requirement determined by the manufacturer (supplier). Confirm the complexity and accuracy of the test High, the smaller the number of levels.

Users of this standard should be aware that the requirements of the above outline in this standard may be used for individual purposes. The purpose of this standard is not to limit the supply of the manufacturer (supplier), or to restrict the purchase of the user (purchaser), but to provide a choice on the equipment and engineering solutions.

This situation is particularly applicable to innovative or developing technology areas. In the case of other options, the manufacturer (supplier) should confirm with all differences in this standard and provide detailed instructions.

Oil and gas industry Downhole equipment locking mandrel and positioning joint

1 Scope

This standard specifies the locking of the fluid control parts or other tools in the production and injection of the oil and gas industry Bit connector requirements.

This standard applies to connections to fluid control components or other tools without covering connections to tubing.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 228.1 Tensile testing of metallic materials - Part 1. Test methods for room temperature (GB/T 228.1-2010, ISO 6892-1.

2009, MOD)

GB/T 230.1 Metallic materials - Rockwell hardness test - Part 1. Test methods (A, B, C, D, E, F, G, H, K, N, T) (GB/T 230.1-2009, ISO 6508-1.:2005, MOD) GB/T 231.1 Metallic