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

GB/T 20659-2017

**Petroleum and natural gas industries -- Aluminium alloy drill
pipe**

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(English Translation)

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Foreword

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

This standard replaces GB/T 20659-2006 "oil and gas industry aluminum alloy drill pipe," compared with GB/T 20659-2006, the main the technical changes are as follows.

- Added some terms and definitions, and modified part of the symbol and its meaning;
- Increased and modified part of the tube size and structure;
- Increasing the chemical composition of the test methods;
- Increased the tube straightness of the specific detection methods and illustrations;

--- Modify the basic test method in Appendix B of the theoretical formula and test methods.

This standard uses the redrafted law to amend the use of ISO 15546:2011 "oil and gas industry aluminum alloy drill pipe." this standard and ISO 15546:2011 technical differences and the reasons are as follows.

--- In the scope of the first chapter increased the applicability of the content to meet the requirements of China's standard-setting;

--- Modify the transition zone in Table 3, the length of the tolerance value of L1, so that the structure of the transition tube body is more reasonable;

--- Modify the value of the transition zone length L2 in Table 4 and the tolerance value, so that the pipe body transition zone structure is more reasonable.

Please note that some of this document may be patentable. The issuing agencies of this document do not bear the responsibility of identifying these patents.

This standard by the National Standardization Technical Committee of Oil and Gas (SAC/TC355) and focal point.

This standard drafting unit. CNPC Oil Pipe Engineering Technology Research Institute, China Petroleum Tarim Oilfield Company, Zibo Si Zhuang Aluminum Limited.

1 Scope

This standard specifies the oil and gas industry drilling and production operations with or without steel pipe joints aluminum alloy drill pipe delivery technology Operating conditions, manufacturing processes, material requirements, shape and size, inspection and test procedures.

The standard provides a typical drill pipe structure, showing its main parameters and length (see Figure 1 to Figure 4), and provides the steel grade the main dimensions and weight of the drill pipe.

This standard does not consider the use of drill pipe performance.

Note 1: The details of the drill pipe joint thread refer to ISO 10424-2 and ISO 27627;

Note 2 drill pipe performance with reference to ISO 20312;

Note 3: Refer to ISO 27627 for the thread connection between drill pipe body and connector.

This standard applies to oil, natural gas and other drilling engineering aluminum alloy drill pipe manufacturing and acceptance.

2 Consistency

In this standard, the data is expressed in terms of both the SI system and the US customary unit system.

The data in the body of this standard are expressed in international units, which are indicated in Appendix A in the United States. This standard, The figures in all figures are expressed in terms of the two system of units of the International System of Units and the system of customary units of the United States, the brackets after the data of the SI units the figures are for the units of the United States' preferred unit system, except for Figure 11, which is shown in Figure A.1 in Figure 11, which is expressed in the United States system of customary units.

For a particular order item, only one unit system is required, and no data in other units is required.

Products manufactured according to the norms indicated by any of these unit systems shall be considered as equivalent and may be exchanged. Therefore, consistent with A unit system that the standard requirements of the product must also meet the requirements expressed in another unit system.

The data expressed in the SI system uses a comma as the decimal separator and a space as the thousands separator. Use the U.S. customary chart the data shown points as a decimal separator, spaces as a thousand separator.

Note: Appendix E gives the conversion of the US IAS to the SI system.

3 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 19830-2017 Oil and gas well casing or tubing for oil and gas pipelines (ISO 11960:2014, IDT) ISO 6506 (all parts) Metallic material Brinell hardness test (Metalicmaterials-Brinelhardnesstest) ISO 6892 (all parts) Tensile test of metallic materials (Metalicmaterials-Tensiletesting) ISO 10424-2 Rotary drilling equipment for the oil and natural gas industry - Part 2 - Machining and measurement of rotary shoulder connections (Petroleumand naturalgasindustries-Potarydrilingequipment-Part 2: Threadingandgaugingof rotaryshoulderedthreadconnections) ISO 10893-10 Non-destructive testing of steel tubes - Part 10 - Radial and transverse imperfections of seamless pipes and tubes (except submerged arc welding) Automatic Peripheral Ultrasound Detection [Non-destructivetestingofsteeltubes-Part 10: Automatedfulperipheralul-trasonic testing of seamless and welded (except submerged arc-welded) steeltubes for the detection of