

ICS 75.180.10

CCS E 92



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

GB/T 29169-2026

Replacing GB/T 29169-2012

**Petroleum and natural gas industries - Inspection and
classification of used drill stem elements**

石油天然气工业 在用钻柱构件的检验和分级

Issued on: March 31, 2026

Implemented on: July 1, 2026

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

Table of Contents

1 Scope
4 Symbols and Abbreviations
5 Consistency
5.1 Testing Basics
6 Quality Assurance
7 General Testing Procedures
7.2 Pre-testing procedures
7.3 Classification markings for drill pipe and drill pipe joints
7.3.2 Paint strips and letter markings
7.4 Procedure after detection
7.4.6 Inspection Mark

1 Scope

GB/T 29169-2026 is the Chinese national standard covering inspecting used drill pipe, collars and tool joints - the wall thickness, the wear on the tool joints, the cracks in the thread roots and the classification into premium, class 2 and scrap that decides whether a string goes back in the hole. At 87,500 words it is one of the largest documents in the 2026 batch, and the reason is that it is essentially a complete inspection manual. It replaces GB/T 29169-2012 and has been in force since 1 July 2026. It was issued on 31 March 2026 and has been in force since 1 July 2026, replacing GB/T 29169-2012. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the consistency, quality assurance, general testing procedures, testing equipment requirements, and inspection procedures for drill string components used in the oil and gas industry. Testing and grading, requirements for testing and material quality grading of drill pipe materials. This document applies to the inspection and testing of drill string components used in oil and gas drilling, including drill pipes, drill collars, heavy-duty drill pipes, angular drill pipes, and bottom hole assembly assemblies. Classification.

4 Symbols and Abbreviations

4.1 Symbols The following symbols apply to this document. ACS. Cross-sectional area, in

square millimeters (mm²); D. Average diameter, in millimeters (mm); Dcb. Diameter of the expanded taper hole, in millimeters (mm); DF. Chamfer diameter, in millimeters (mm); DFR. Diameter of the inner bore groove of the float valve, in millimeters (mm); DL. Root diameter of the external thread connector, in millimeters (mm); DLTorq. Low-torque reamer diameter, in millimeters (mm); DRG. Diameter of the stress dispersion groove, in millimeters (mm); Dtj. Outer diameter of drill pipe joint, in millimeters (mm); dtj. Drill pipe joint inner diameter, in millimeters (mm); L

5.1 Testing Basics

5.1.1 General Rules Manufacturers' testing requirements for drilling tools shall be in accordance with Appendix A. Each testing level shall be conducted in accordance with the requirements of Appendix B, and related... The data should meet the requirements of Appendix C, and these tests should fall into one of the following categories.

- a) The tests required by the standard testing standards constitute the minimum testing requirements for drill string component classification;
- b) When specified as medium-level testing, the tests required under medium-level testing constitute the minimum testing requirements for drill string component classification;
- c) When a test is designated as a critical test, the tests required in the critical tests constitute the minimum test requirements for drill string component classification;
- d) Inspections that are not mandatory may be determined by the owner based on the drilling conditions.

5.1.2 Appendix on Drill String Component Inspection and Classification The contents of the drill string components covered in Appendices E to K are as follows:

- See Appendix D for the selection of drill string component inspection levels;
- For testing of special drill string threaded connections, see Appendix E;
- See Appendix F for testing of special threaded connections on in-use tubing strings;
- The relevant data and methods for drill pipe material quality grading shall be in accordance with Appendix G;
- The low-magnification acid etching test method for drill pipe materials is given in Appendix H;
- See Appendix I for the inspection cycle of drill string components;
- Recommended practices for the inspection and evaluation of drill pipe internal coatings are detailed in Appendix J;
- Recommended practices for online wellhead inspection of drill string components are given in Appendix K.

6 Quality Assurance

6.1 General Requirements On-site inspection agencies should implement a complete quality assurance procedure. This procedure should be documented and should include... Written documents relating to testing methods, testing procedures and control points. The quality assurance procedures of the inspection body should specify the calibration requirements for the equipment, including the frequency, range, accuracy, and procedural steps and control requirements. Points and related documents. The quality assurance procedures of the inspection body should include records demonstrating the ability of the testing system to detect the required man-made defects. The system capability verification should be performed in accordance with

6.2 Verification and Operation Procedures The calibration procedures differ for different types of testing equipment. As a minimum requirement, the written calibration procedure should include minimal human error feedback. The required signal-to-noise ratio limits should be specified. Written operating procedures should provide the required steps, control settings, and parameter limits, such as those for specific electronic circuits. The use of specific detector arrays and scanning speed ranges. During the calibration process, it should be ensured that all equipment and materials used for testing are within acceptable limits. Use under the temperature and humidity conditions specified by the manufacturer.

6.3 Equipment Description The equipment used for testing should be described in detail to demonstrate that it meets the requirements.

6.4 Dynamic detection data demonstrating the system's ability to detect artificial defects The detection capability of a detection system can be demonstrated in several ways, such as the two described below.

a) Determine the capability of the testing system by applying statistical data to evaluate testing characteristics. This involves determining the system's commissioning parameters and human error. The reflection amplitude of the trap is used to establish data points for determining the echo amplitude distribution. These data points then become the basis for determining the capability of the detection system. Base.

b) Demonstrated by a control specimen with the required artificial defects. The testing system is calibrated according to written procedures, and the control specimen... The signal amplitudes of the same artificial defect at different positions in the circumferential direction are nearly identical.

6.5 Test Report The test report should include all system parameter settings, signal recordings, calibration traceability, verification and operating procedures, standard specimen drawings, and inspection data. Conclusions and information on testing personnel, etc.

7 General Testing Procedures

7.1 Site Requirements The inspection agency/operator should conduct the inspection in a suitable work area. Drill pipes, drill collars, or other components should be stored in a single layer or as a single piece. Place it, and ensure that it can rotate at least once during the testing process. The testing agency's work-related testing documents and reference documents, as well as supplementary documents for the certification of testing personnel, should be applicable. At the workplace.

7.2 Pre-testing procedures

7.2.1 Equipment Availability Before the testing work begins, the equipment should be debugged to meet the testing requirements.

7.2.2 Descriptive Comparison Before installing the equipment, the inspection agency should confirm that the drill string components to be inspected are the same as those required by the owner. This can be achieved through comparison. The work requirements and markings of the drill string components determine the characteristics, such as designation, size, inner diameter, quality code, steel grade, manufacturer, function, and threaded connection.

7.2.3 Numbering or Marking All inspections should be traceable, achievable through unique serial numbers or permanent identification marks on each drill string component. For drill pipe, this... A number or mark can be printed on the root of the external threaded connector. After a period of use, many drill string components are replaced or added. For these reasons, the permanent serial number on the joint should match the previous one. A permanent serial number is associated with the product. The permanent serial number marker and grading bar should be added after all testing work is completed.

Note. Currently, the most commonly used permanent serial numbers can usually identify the inspection level of the inspected component. The inspection level, inspection time, and other information are displayed via printed markings. The practices of testing agencies are a representative approach. Some drill string components, including drill pipe, are marked with a permanent serial number by the manufacturer or owner. This is agreed upon by the owner and the inspection agency. In certain circumstances, a permanent serial number identification system can be used in place of conventional numerical coding. With the owner's consent, any system without a permanent serial number... All components should be identified with a numerical code. It is advisable to avoid marking the new serial number in the old serial number position. The permanent serial number should be marked in a low-stress area where wear and other forms of damage are least likely to occur. Force location.

7.2.4 Downgrade All drill string components should only be graded after all necessary testing procedures required for the component have been completed. Grading may occur in