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

GB/T 47189-2026

Test method for the elastic modulus of oil well cement slurry

油井水泥浆体弹性模量试验方法

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Building Materials Federation. This document is under the jurisdiction of the National Cement Standardization Technical Committee (SAC/TC184). This document was drafted by: China Building Materials Academy Co., Ltd., and Southwest Oil & Gas Field of China National Petroleum Corporation. Branch offices, Xiamen Aisiou Standard Sand Co., Ltd., Tianjin Zhongyou Boxing Engineering Technology Co., Ltd., China National Building Materials Zhongyan Yi Technology Co., Ltd. China National Petroleum Corporation Bohai Drilling Engineering Co., Ltd. First Cementing Company, China University of Petroleum (East China), Daqing Drilling Engineering Co., Ltd. Jiahua Special Cement Co., Ltd., Zhengzhou Shenglait Hollow Microsphere New Material Co., Ltd., and China Railway 19th Bureau Group Fifth Engineering Co., Ltd. Company, Jingzhou Jiahe Technology Co., Ltd., China National Testing & Inspection Holding Group Co., Ltd., Zibo Zhongchang Special Cement Co., Ltd., Liaoning Bei Srid Petroleum Equipment Manufacturing Co., Ltd. The main drafters of this document are. Gao Xianshu, Zheng Youzhi, Wen Zhajun, Duan Yingnan, Zeng Jianguo, Song Zhiqiang, Yan Chuanliang, Xu Yunlong, Wang Min, and Zhang Shuijian. Cai Yaowu, Zhao Jun, Wang Xufang, Bai Wei, Han Bin, Xia Yuanbo, Feng Wangsheng, Wang Xingqin, Lei Yuting, Fu Zhihua, Xu Mingbiao, Zeng Xueling, Huang Xiaoguang Gao Fei, Gu Anlin, Wei Fengqi, Zhou Jinghong, Zhang Kunyue, Huang Wen, Zhang Ye, Zeng Rongping, Wang Xueqiang, Feng Bin, Zhang Zuohong, Wang Yalan, Guo Xu, Guo Suihua Wang Jing, Liu Yun, Yu Yang, Tang Guanbao, Yao Guang, Shen Xin, Han Zhenyu, Sun Mingming. Test method for elastic modulus of oil well cement slurry

1 Scope

GB/T 47189-2026 is the Chinese national standard covering the stiffness of set oil well cement - a sheath that has to move with the casing as the well is pressured and heated over its life, and that cracks and loses zonal isolation if it is too rigid. First edition, in force since 1 September 2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, as a first edition. The document is under the responsibility of the China Building Materials Federation. 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 outlines the experimental principles, instruments, and materials for testing the elastic modulus of oil well cement slurry, and specifies the procedures for specimen molding and preparation. Elastic modulus test and allowable difference. This document applies to the determination of the elastic modulus of cement slurry used in cementing oil and gas wells.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to the specified date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 10238 Oil Well Cement

GB/T 19139 Oil Well Cement Test Methods

GB/T 40961 Verification Method for Triaxial Testing Apparatus for Rocks

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Experimental Principle Axial pressure is applied by the axial loading device of the triaxial stress testing machine, and confining pressure is applied by the confining pressure loading device. The measurement system realizes the parameter measurement. The measurement and control, data acquisition and processing system realizes the acquisition of mechanical data and the processing of stress-strain curves under test conditions, according to the...

The elastic modulus of the oil well cement slurry is obtained by calculating the relationship between force and strain.

5.1 Instruments

5.1.1 Balance The maximum range should be no less than 2000g, and the scale division should be no greater than 0.1g.

5.1.2 Mixing device It conforms to the requirements of GB/T 19139.

5.1.3 Maintenance equipment It conforms to the requirements of GB/T 19139. The curing equipment can be an atmospheric pressure curing chamber or a high pressure curing chamber capable of completely immersing the sample in water.