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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 7994.3-2022

Test method of glass-lined equipment - Part 3: Resistance to mechanical impact via the pistol test

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1.Structure and Drafting Rules for Standardization Documents"

drafting.

This document is part 3 of GB/T 7994 "Test methods for glass-lined equipment". GB/T 7994 has issued the following parts.

--- Part 1.Hydrostatic test;

--- Part 2.Air tightness test;

--- Part 3.Resistance to mechanical shock gunshot test.

This document is equivalent to ISO 4532.1991 "Gunshot test for the determination of mechanical shock resistance of glass-lined equipment".

A chapter "Terms and Definitions" has been added to this document.

The following minimal editorial changes have been made to this document.

--- In order to coordinate with the existing standards, the name of the standard is changed to "Test methods for glass-lined equipment Part 3.Resistance to mechanical shock gunshots

test".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

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GB/T 7994 "Test methods for glass-lined equipment" aims to accurately measure the performance data of glass-lined equipment, and consists of three parts.

--- Part 1.Hydrostatic test. The purpose is to test the pressure resistance of glass-lined equipment.

--- Part 2.Air tightness test. The purpose is to test the gas sealing reliability of glass-lined equipment.

--- Part 3.Resistance to mechanical shock gunshot test. The purpose is to test the mechanical impact resistance of the glass-lined layer of glass-lined equipment.

GB/T 7994 is the test method standard for the performance of glass-lined equipment, and its test object is glass-lined equipment. Hydrostatic test can check

The pressure resistance and tightness of glass-lined equipment ensure the reliability of equipment operation. The air tightness test can test the joints of glass-lined equipment

Check whether there is any leakage in the position to prevent medium leakage when the equipment is running. The mechanical shock resistance of glass-lined equipment is a very important

Technical index, the performance index comprehensively reflects the rationality of the firing process of glass-lined equipment and the accuracy of firing process control, glass-lined

The strength and wear resistance of the layer, etc., and its performance parameters are directly related to the quality of the glass-lined equipment and the length of its service life.

Test method for glass-lined equipment

Part 3.Resistance to mechanical shock gunshot test

1 Scope

This document describes the test method for the mechanical shock resistance of the glass-lined layer of glass-lined equipment.

This document applies to the quality control testing of glass-lined equipment manufacturers.

Note. The test method specified in this document is not applicable to the determination of the adhesion performance of the glass-lined layer.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is

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applicable to

this document.

ISO 2746.1973 High voltage test for enamel and enamels used under highly corrosive conditions (Vitreousand

test)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4 principles

The impact rod of the spring gun is linked with the spring. By adjusting the spring force of the spring device, the spherical end of the impact rod impacts the glass-lined sample.

The glass layer was evaluated for mechanical shock resistance at the point of impact.

The load value that the impact rod exerts on the glass-lined layer to cause visible impact damage is related to the sensitivity of the glass-lined layer to mechanical impact resistance of the glass-lined equipment.

degree is inversely proportional.

5 devices

The structure of the test device is shown in Figure 1.It is a spring gun with an impact rod. The end of the impact rod in contact with the sample is 5mm in diameter.

The spherical head of the ball head, the spring is linked with the impact rod, the free length of the spring is 100mm, the force released by the impact rod through the compressed spring is

The impact force is applied to the glass-lined layer of the glass equipment. The spring force can be continuously adjusted in the range of 0N~90N through the threaded adjustment sleeve.

Note. Due to the non-linear ratio between the spring force and its compression, the Newton-millimeter scale outside the test device is only used as a reference value, and the actual value and the value will be saved.

in error.

The spring is placed in a steel pipe with a spring constant of 20N/cm+/-0.5N/cm. After the spring is compressed, it is fixed by the positioning pin, and the impact

, pull the release lever (move out the positioning pin) to release the spring. During the test,

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in order to make the impact rod vertically impact the surface of the sample, the front end of the impactor can be fixed

Get a tripod stand. For concave samples, the front end of the impactor is convex. For samples with small radii, the impactor should be equipped with a cross groove.

Within the measurement range of the test device, the reading error should not be greater than 3%.

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