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

GB/T 1730-2007

Replacing GB/T 1730-1993

**Procedures for fire protection standardization
(English Translation)**

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Foreword

This revised standard adopts ISO 1522:1998 "Paints and varnishes - Pendulum damping test" (in English).

This standard is based on ISO 1522. "Paints and varnishes - Pendulum damping test" redraft 1998.

The standard in the use of international standards complements these technical differences between a single vertical line identifies the page in terms of which they are involved Margin. It gives a list of the technical differences and their reasons in Appendix E for reference. ISO 1522:1998 in the technical survey Incorrect content is included in this standard, these errata content with vertical double identity in which they are involved in terms of margin.

This standard and ISO 1522. compared to 1998 (E), the main technical differences are.

--- Koenig and the Po Sazi pendulum damping test rod collectively referred to as "A Law"; the portion identical with ISO 1522:1998;

--- Increasing the "B method --- double pendulum rod damping test" (see Chapter 6 of this standard);

--- Added "Appendix D (normative) double pendulum calibration";

--- The test method used are used in existing national standards, some of which method to modify the system using the appropriate international standards;

--- Using identical with ISO 15528. the national standard GB 2000/T 3186-2006. ISO 15528:2000 is ISO 1512:1991 and ISO 842. 1984 revision merge together;

--- Deleted international standards foreword.

This standard replaces GB/T 1730-1993 "Determination of film hardness Pendulum damping test." this standard compared with GB/T 1730-1993, the main technical

differences are.

- A law explicitly Po Sazi pendulum damping time (430 ± 10) s;
- A method to increase the applicable range of substrates, such as metal plates;
- A method for calculating the coating canceled damping time;
- A method to increase the precision of the measurement results of the requirements;
- B method, the original standard double pendulum hardness defined content (4.1) included in 6.4.4;
- B standard in the original law on the instrument before testing the adjustment contents (4.4.1, 4.4.2, 4.4.4) included in Appendix D;
- B Law canceled pendulum initial position "5.5 °" requirement has more than 5 ° from the appropriate location to start;
- Press B clear determination, to be on the same parallel test board measured twice, take the average of the two measured values;
- Increasing the calibration of the instrument, namely Appendix B, Appendix C, Appendix D;
- Increased this standard and ISO 1522:1998 technical differences and their list of reasons, namely Appendix E.

The Standard Appendix A, Appendix B, Appendix C, Appendix D is a normative appendix, Appendix E is an information appendix.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee paint pigment.

This standard drafting units. China National Chemical Construction Corporation, Changzhou coating Chemical Research Institute.

Introduction

Koenig (Knig) swing, Posa Zi (Persoz) and double pendulum swing has the same principle --- pendulum contacting the softer surface coating its pendulum Amplitude attenuation faster, but in three dimensions, and swing cycle swings terms vary.

Interaction between the rocker and the film is complex and depends on the elastic and viscoelastic coating two properties, and the resulting three test methods Impossible to establish the relationship between the general result. Measuring the damping time prescribed only allowed to use one type of pendulum.

As to a specific purpose (use) the pendulum has the advantage, the following conditions

can be used as a guide.

a) on the lower surface friction coefficient, Posa Zi (Persoz) pendulum may skid, which would invalidate the results; however, paints and clear Paint occasions this situation rarely occurs.

b) It should be noted that the three instruments reflect the physical properties of the coating of the sensitivity of their environment, and therefore, the test should be in control of temperature and humidity, and under no flow. Film thickness and substrate properties may also affect the damping time.

Paints and varnishes - Pendulum damping test

1 Scope

This standard is one of the series of standard sampling and testing methods for paints, varnishes and related products.

This standard specifies the standard conditions Pendulum damping test on a single or multiple layers of paint, varnish coatings and related products.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 308 Rolling Ball (GB/T 308-2002, ISO 3290:1998, NEQ) GB/T 3186-2006 Paints, varnishes and raw materials for paints and varnishes - Sampling (ISO 15528:2000, IDT) GB/T 9271 Paints and varnishes - Standard panels for (GB/T 9271-1988, eqv ISO 1514. 1984) GB 9278 paint sample conditioning and testing temperature and humidity (GB 9278-1988, eqv ISO 3270. 1984, Paintsand varnishesandtheirrawmaterials-Temperaturesandhumiditiesforconditioningandtesting) GB/T 13452.2 Paints and varnishes - Determination of film thickness (GB/T 13452.2-1992, eqv ISO 2808. 1974) GB/T 20777-2006 Paints and varnishes examination and preparation of samples (ISO 1513:1992, IDT) ASTM D4366:1995 Pendulum damping test with organic coating Hardness Test Method

3 Supplementary information needed

For any particular application, the test methods specified in this standard needs to improve with additional information. Supplementary information in the accompanying content A record listed.

Principle 4

Static coating surface of the pendulum starts swinging, with a predetermined period measured in value represents the amplitude of the damping time decay. Block Nigeria shorter the time, the lower the hardness. This method is divided into A and B method, A method for the Koenig pendulum rod and Posa Zi damping test, B double pendulum method Rod damping test.

5 and Posa Zi Koenig pendulum rod damping test (A method)

5.1.1 Pendulum

Two kinds of pendulum described below are included opening frame with a rail connection in the bar below to embed two balls as a fulcrum, in Forming a bottom frame pointer. Two kinds of differences in the shape of the pendulum, the quality of the swing time and other details, see 5.1.1.1 and 5.1.1.2 Described.

Pendulum should avoid drafts and vibrations, it is recommended to use a protective cover.

1) HRC = Rockwell hardness.

2) HV = Vickers hardness was measured according to DIN50133.

5.1.1.1

Koenig pendulum (see Fig. 1) to the diameter (5 ± 0.005) mm, spacing of the balls (30 ± 0.2) mm, hardness HRC1) ($63 \pm$

3) or (1600 ± 32) HV302) two separate ball bearings being supported by the slide hammer and the vertical rod connected to the crossbar