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PEOPLE'S REPUBLIC OF CHINA**

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**Paints and varnishes - Determination of film hardness by pencil
test**

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Foreword

This document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1. Rules for the Structure and Drafting of Standardizing Documents.

This Document replaced GB/T 6739-2006 Paints and Varnishes - Determination of Film Hardness by Pencil Test. Compared with GB/T 6739-2006, the major technical changes of this

Document are as follows besides the structural adjustments and editorial modifications.

- a) Change the "Scope" (see Clause 1 of this Edition; Clause 1 of the 2006 Edition);
- b) Change the "Normative References" (see Clause 2 of this Edition; Clause 2 of the 2006 Edition);
- c) Delete the relevant content of "definition of defects" in the definition of the term pencil hardness (see Clause 3 of the 2006 Edition);
- d) Change the "Principle" (see Clause 4 of this Edition; Clause 4 of the 2006 Edition);
- e) Delete "Required supplementary information" (see Clause 5 of the 2006 Edition);
- f) Change the load exerted by the pencil port on the surface of the paint film (see 5.1 of this

Edition; 6.1 of the 2006 Edition); known applicable pencil models and manufacturers (see 5.2 of this Edition; 6.2 of the 2006 Edition); and add relevant contents that can also use the pencil lead in the pen holder (movable/automatic pencil) (see 5.2 of this Edition);
g) Delete the relevant content that can also use the drawing eraser to clean the template (see

6.5 of the 2006 Edition);

- h) Change the "Operating Procedures" (see Clause 8 of this Edition; Clause 9 of the 2006 Edition);
- i) Add "Defect Type" (see Clause 9 of this Edition);
- j) Change "Precision" (see Clause 10 of this Edition; Clause 10 of the 2006 Edition);
- k) Change the "Test Report" (see Clause 11 of this Edition; Clause 11 of the 2006 Edition);
- l) Change the content of "Required Supplementary Information" (see Appendix B of this Edition; Appendix A of the 2006 Edition).

This Document modified and adopted ISO 15184.2020 Paints and Varnishes - Determination

of Film Hardness by Pencil Test.

Compared with ISO 15184.2020, this Document made the following structural adjustments.

--- Appendix B corresponded to Appendix A in ISO 15184.2020.

Compared with ISO 15184.2020, this Document has many technical differences, and the involved clauses are marked with a vertical single line (|) in the outer margin of the page. A list

of these technical differences and their causes is provided in Appendix A.

This Document made the following editorial modifications.

--- Change the editorial error in Chapter 11 c) 1) of ISO 15184.2020.

Please note some contents of this Document may involve patents. The issuing agency of this

Document shall not assume the responsibility to identify these patents.

This Document was proposed by China Petroleum and Chemical Industry Federation.

This Document shall be under the jurisdiction of National Technical Committee on Paints and

Pigments of Standardization Administration of China (SAC/TC 5).

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This Document was first-time published in 1986; first-time revised in 1996; second-time revised in 2006, and third-time revised hereby.

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Pencil Test

IMPORTANT TIPS. The electronic version of this Document contains color content that is intended to assist in the correct understanding of this Document. Therefore, users should consider using a color printer to print this Document.

1 Scope

This Document specifies a method for determining the hardness of paint films by pushing a pencil of known hardness across the film.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates

indicated are applicable to this Document; for the undated documents, only the latest version

(including all the amendments) is applicable to this Document.

3 Terms and Definitions

For the purposes of this Document, the following terms and definitions given in ISO 4618 apply.