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

GB/T 11144-2007

Replacing GB/T 11144-1989

**Standard test method for measurement of extreme-pressure
properties of lubricating fluids (Timken method)**

润滑油极压性能测定法 梯姆肯法

(English Translation)

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Foreword

This standard is modified by the American Society for Testing and Materials Standard ASTM D2782-01 "Lubricating Fluid Extreme Pressure Performance Test Method (Temken law)".

This standard was redrafted in accordance with ASTM D2782-01.

For comparison purposes, a checklist of the numbering of this standard chapter number and the ASTM D2782-01 chapter number is listed in Appendix G.

In order to be more suitable for China's national conditions, this standard has been modified when ASTM D2782-01 is adopted. This standard and ASTM the main differences of D2782-01 are as follows.

--- Removed the standard that is not directly quoted by this standard in the reference standard of ASTM D2782-01, and the adopted standard adopts China.

Corresponding current standards.

For ease of use, the following editorial changes have been made to ASTM D2782-01.

--- The textual representation of the repeatability and reproducibility of ASTM D2782-01 has been modified according to the customs of our country;

--- ASTM D2782-01 Appendix X2.3 "Repetition and Reproducibility Limits" into the body of Chapter 12 "Precision";

--- omitted the description of the precision in ASTM D2782-01;

--- omitted the 13th chapter "Keywords" in ASTM D2782-01.

This standard replaces GB/T 11144-1989 "Test method for extreme pressure performance of lubricating oil (Temken test machine method)".

The main differences between this standard and GB/T 11144-1989 are as follows.

---The standard name has changed, from "Lubricating Oil Extreme Pressure Performance

Measurement Method (Timken Test Machine Method)" to "Lubricating Fluid Extreme Pressure Performance Measurement Method" Timken Act;

--- This standard is suitable for measuring the viscosity at 40 ° C is not higher than 5000mm²/s at the test temperature of 37.8 ° C ± 2.8 ° C Sample; GB/T 11144-1989 version is suitable for the determination of the sample at 37.8 ° C viscosity not higher than 5400mm²/s;

--- The precision of the test method of this standard is. when the OK load is not lower than 66.7N (15lbf), the repeatability is not more than the average value.

30%, the reproducibility is not more than 74% of the average value; the precision of GB/T 11144-1989 version is. the repeatability is not more than 2 at the load level, the reproducibility is no more than 4 load levels.

Appendix A, Appendix B and Appendix C of this standard are normative appendices, and Appendix D, Appendix E, Appendix F and Appendix G are informative appendices.

This standard was proposed by China Petrochemical Corporation.

This standard is under the jurisdiction of the National Petroleum Products and Lubricants Standardization Technical Committee (SAC/TC280).

This standard is mainly drafted by. China National Petroleum Corporation Lubricant Research and Development Center.

1 Scope

1.1

This standard specifies the method for determining the bearing capacity of lubricating fluids using the Timken Extreme Pressure Tester. This standard applies to the evaluation of lubricating fluid Extreme pressure performance.

Note: This standard is suitable for the determination of samples with a viscosity below 40mm²/s at 40 °C. For samples with higher viscosity, refer to Note 2 in 9.1.

1.2

The International System of Units is used in this standard. However, the equipment used in this standard is in English units, so when it comes to test equipment and the test piece, the English unit was retained.

1.3

This standard covers certain hazardous materials, operations and equipment, but is not intended to advise on all safety issues related to this.

Therefore, users should establish appropriate safety and protective measures before using this standard, and determine the applicable management system. See Appendix C for

details.

2 Normative references

The terms in the following documents become the terms of this standard by reference to this standard. All dated references, followed by all Modifications (not including errata content) or revisions do not apply to this standard, however, parties to agreements based on this standard are encouraged to study is it possible to use the latest version of these files? For undated references, the latest edition applies to this standard.

GB/T 686 chemical reagent acetone SH0114 Aviation washing gasoline SH/T 0203 Grease extreme pressure performance test method (Temken test machine method)

3 Terms and definitions

The following terms and definitions apply to this standard.

It can react with the contacted metal surface to form a high-melting inorganic film to prevent sintering, chipping (or seizure) under high load, Scratch or scratching additives.

A substance that is added between two opposing moving surfaces to reduce friction and reduce wear.

In the process of determining the bearing capacity of the lubricant, when the lubricant film is broken, the surface of the test piece is wide and deep in the sliding direction.

Bad phenomenon.

Refers to the phenomenon that the surface material of the test piece is continuously lost or residual deformation is measured when the extreme pressure performance of the lubricant is measured.

Usually means that under the given test conditions, the lubricant can withstand surfaces that do not scratch, bite or melt between the surfaces of the metal.

The maximum load or pressure in the form of a knot or the like.

GB/T 11144-2007