

Translated English of Chinese Standard: SH/T0682-1999

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

SH

PETROCHEMICAL INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

ICS 75.100

SH/T 0682-1999

Standard test method for oil separation from lubricating grease during storage

润滑脂在贮存期间分油量测定法

Issued on: September 01, 1999

Implemented on: April 01, 2000

Issued by: National Petroleum and Chemical Industry Bureau

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms	4
4 Method summary	5
5 Significance and use	5
6 Instruments and materials	5
7 Sample	7
8 Preparation	8
9 Test steps	8
10 Calculation	8
11 Precision	9
12 Report	9

Standard test method for oil separation from lubricating grease during storage

SH/T 0682-1999

1 Scope

1.1 This Standard specifies the test method for oil separation from lubricating grease during storage. This method is only applicable to the lubricating grease of which the consistency is greater than 0.

1.2 This standard does not address all safety issues that may be related to the use of this method. Before use, an appropriate safety and health operation procedure shall be established and the scope of use shall be determined.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SH 005, *Solvent Oil for Paint Industry*

GB/T 6003.1, *Test sieves of metal wire cloth*

3 Terms

For the purposes of this document, the following terms apply.

3.1 lubricating grease

Semi-fluid with thickener added to liquid lubricant to solid product.

3.2 thickener in lubricating grease

Constructional material that has good physical dispersion, is dispersed in base oil to form product structure.

3.3 oil separation

The phenomenon of separating the liquid part from the lubricating component.

4 Method summary

4.1 Install the lubricating grease on a 75 μ m strainer. At 25°C $\pm$ 1°C, under 1.72kPa $\pm$ 0.07kPa air pressure, after continuous test for 24h, weigh the mass of oil that is separated and added into the oil containing dish.

5 Significance and use

5.1 The lubricating grease has oil separation. The consistency of remaining components increases, which shall affect product performance.

5.2 The test results of this methods are directly related to the oil separation of the lubricating grease that is stored in the 15.88kg barrel.

5.3 This method does not describe the stability of lubricating grease under dynamic working conditions.

6 Instruments and materials

6.1 Instruments

6.1.1 The test instrument is composed of the following components: tightly matched cups and lids, strainers, funnels and oil dishes. Figure 1 is the split photo of type A pressure oil separation test instrument. Figure 2 is the detailed structure diagram of type A test instrument, where:

Cover: equipped with an air inlet to introduce compressed air;

Cup: there is a hole in the side to prevent back pressure;

Funnel: hold the strainer and collect the separated oil;

Strainer: 75 μ m (No. 200) stainless-steel strainer, marked as Φ 104.8 $\times$ 12.7-0.075/0.053-GB/T 6003.1-1997, in accordance with the requirements of GB/T 6003.1.

Oil containing dish: glass dish that contains the separated oil, 20mL.

6.1.2 Pressure system: supply and regulate air pressure, equipped with pressure gauge or other suitable pressure indicating instrument and pressure reducing valve to prevent pressure fluctuation. Compressed air shall be purified to be oil-free and water-free.

6.2 Materials

8 Preparation

8.1 Use solvent oil to carefully clean the strainer, funnel and oil containing dish. Dry with air.

8.2 Check whether the strainer shall affect the passage of the separated oil before installation. The strainer must be smooth and free of any irregularities on the surface (such as wrinkles, bumps, breaks). Once found, it must be replaced.

8.3 The funnel must be clean, otherwise the residue shall affect the flow of the separated oil.

8.4 Check the covers and cups. Any unevenness or distortion shall affect the tight sealing of the combined surface between the parts.

8.5 When the O-ring is worn out, it must be replaced in time.

9 Test steps

9.1 Place the strainer on top of the funnel. Weigh the combined piece (m_1), to the nearest of 0.05g. Use a spatula to completely fill the space in the strainer with lubricating grease. The depth of filled lubricating grease is 12.7 ± 0.3 mm. Avoid unnecessary work to prevent mixing of air. Use the straight edge of the spatula to scrape off excess lubricating grease and smooth the surface. Avoid applying the lubricating grease over the strainer. Weigh the combined piece after sample loading (m_2), to the nearest of 0.05g.

9.2 Weigh the cleaned and dry oil containing dish (m_3), to the nearest of 0.05g. Place the oil containing dish on the receiving tray in the center of the cup. And equip the instrument as shown in Figure 1. Use a rubber tube of appropriate length to connect the compressed air to the air inlet on the cover.

9.3 Before the test, place the instrument and sample at $25^\circ\text{C} \pm 1^\circ\text{C}$. Regulate the air pressure at $1.72\text{kPa} \pm 0.07\text{kPa}$. Continue testing 24h at this temperature and pressure.

9.4 After test, weigh the oil containing dish (m_4), to the nearest of 0.05g.

10 Calculation

The oil separation amount of lubricating grease, x , % (m/m), is calculated according to formula (1):

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----