

ICS 75.100

CCS E 34



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

GB 5903-2011

Replacing GB 5903-1995

**Gear oils for industrial enclosed gear system
(English Translation)**

Issued on: December 5, 2011

Implemented on: June 1, 2012

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

Table of Contents

Foreword

1 Scope

2 Normative references

3 product variety and marking

3.1 product variety

3.2 Product labeling

4 requirements and test methods

5 Inspection Rules

5.1 classification test and inspection project

100 °C kinematic viscosity increase

5.2 Batching

5.3 Sampling

5.4 determine the rules

5.5 re-inspection rule

6 signs, packaging, transportation and storage

2.680 90

1 Cancel

2.680 85

32 ~ 100. -12 °C; 150 ~ 460. -9 °C;

680 ~ 1500. -5 °C

32 ~ 680. 50/0; 50/0; 50/0

1000 ~ 1500. 75/10; 75/10; 75/10

68 to 320. 1.0/2.0/60

460 ~ 680. 1.0/4.0/50

32 to 320. 2.0/1.0/80.0

460 to 1500. 2.0/4.0/50.0

68 to 680. 11 by the level of not less than

32 ~ 46. failure level not less than 10

68 ~ 150. the failure level of not less than 12

220 ~ 1500. failure level is greater than 12

68 ~ 100. -12 °C; 150 ~ 460. -9 °C;

680 ~ 1000. -5 °C

100 to 680 of the foam. 75/10; 75/10; 75/10

68 ~ 680. 50/0; 50/0; 50/0

1000 75/10; 75/10; 75/10

68 to 680. 2.0/1.0/80.0

1000 2.0/4.0/50.0

100 ~ 680. The level of not less than 11

68 ~ 150. the failure level of not less than 12

220 ~ 1500. failure level is greater than 12

Foreword

Section 3.2 and Chapter 4 standard is mandatory, the rest are recommended.

This standard was drafted in accordance with rules GB/T 1.1-2009 given.

Instead of the standard GB 5903-1995 "closed industrial gear oil."

The main changes in this standard compared with GB 5903-1995 See Appendix A.

This standard method using Reference redrafted ISO 12925-1.1996 (2001) "Closed System gear lubricant specifications" (English Edition), United States

Gear Manufacturers Association standard ANSI/AGMA9005-E02 "industrial gear lubrication" (in English) the preparation, and ISO 12925-1.1996 and

ANSI/degree of consistency AGMA9005-E02 is non-equivalent.

This standard petroleum products by the National Standardization Technical Committee Technical Committee petroleum fuels and lubricants and lubricant (SAC/TC

280/SC1) centralized.

Drafted by. China PetroChina Lubricating Oil Company, China Petroleum & Chemical Corporation petrochemical

Science and Engineering Research Institute, China Petroleum and Chemical Corporation lubricants branch.

1 Scope

This standard specifies the product variety L-CKB, L-CKC and L-CKD closed industrial gear oil, a mark, requirements, test methods, test

Rules, marking, packaging, transportation and storage.

This standard applies to highly refined mineral oil or synthetic base oil fractions, obtained

by addition of a modulation functional additives, industrial closed
Gear wheel for use in closed industrial gear oil.

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated paper

Pieces. For undated references, the latest edition (including all amendments) apply to this standard.

GB/T 260 Petroleum products - Determination of water content

GB/T 265 Petroleum products Determination of kinematic viscosity and calculation of dynamic viscosity

GB/T 511 Petroleum products Determination of mechanical impurities and additives (gravimetric method)

GB/T 1995 Viscosity Index Calculation Method petroleum products

GB/T 2541 petroleum products viscosity index Sheets

GB/T 3141 Industrial liquid lubricant ISO viscosity classification

GB/T 3142 Determination of carrying capacity lubricant (four-ball method)

GB/T 3535 Petroleum products - Determination of pour point

GB/T 3536 and a measured ignition flash point of petroleum products Cleveland open cup method

GB/T 4756 liquid petroleum manual sampling method

GB/T 5096 Petroleum products copper corrosion test method

GB/T 8022 demulsibility performance lubricants assay

GB/T 11143 Inhibited mineral oil in the presence of water antirust performance test method

GB/T 11144 lubricant extreme pressure properties assay (Timken Method)

GB/T 11145 Automotive cryogenic fluid lubricant viscometry (Brookfield viscometer)

GB/T 12579 Determination of foaming characteristics Lubricant

Determination of oxidation characteristics GB/T 12581 Inhibited mineral oil

SH/T 0123 extreme-pressure oxidation assay

SH0164 petroleum products, packaging, storage and delivery acceptance rules

SH/T 0189 assay lubricating abrasion resistance (four-ball machine method)

SH/T 0200-containing polymer lubricant Shear Stability Assay (Method gear unit)

SH/T 0306 Determination of carrying capacity lubricant (CL-100 Gear machine method)

3.1 product variety

This standard includes L-CKB, L-CKC L-CKD, and three varieties of industrial enclosed gear oil.

3.2 Product labeling

This product has a standard marker. product name viscosity grades cultivars code Standard

Example. L-CKC100 closed industrial gear oil GB 5903

4 requirements and test methods

L-CKB, L-CKC, technical requirements and test methods L-CKD closed industrial gear oil shown in Table 1, Table 2 and Table 3.

Table 1 Requirements and test methods of the L-CKB

project

Viscosity grade (GB/T 3141)

Quality Index

100150220320

experiment method

Kinematic viscosity (40 °C)/(mm²/s) 90.0 ~ 110 135 ~ 165 198 ~ 242 288 ~ 352 GB/T 265

Viscosity index of not less than 90 GB/T 1995a

Flash point (open)/°C no less than 180 200 GB/T 3536

Pour point/°C not higher than -8 GB/T 3535

Water (mass fraction) /% is not greater than trace GB/T 260

Mechanical impurities (mass fraction) /% is not greater than 0.01 GB/T 511

Copper Corrosion (100 °C, 3h)/stage is not greater than 1 GB/T 5096

Liquid rust (24h) no rust GB/T 11143 (B method)

Oxidation Stability

Total acid value of 2.0mgKOH/g time/h

Not less than 2,750,500