

ICS 75.120
CCS E39



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

GB 11118-2026

Replacing GB 11118.1-2011

Hydraulic fluids (L-HL, L-HM, L-HV, L-HS and L-HG type)

液压油 (L-HL、L-HM、L-HV、L-HS、L-HG)

Issued on: January 28, 2026

Implemented on: February 1, 2027

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

Foreword	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Classification and Marking	
5 Requirements and Test Methods	
6 Inspection Rules	
7 Marking, Packaging, Transport, Storage and Delivery Acceptance	
Annex A (Informative) Main technical changes between this document and GB 11118.1-2011	

Foreword

This document was issued on 28 January 2026 by the State Administration for Market Regulation and the Standardization Administration of the People's Republic of China, and takes effect on 1 February 2027.

It replaces GB 11118.1-2011, which remains in force until that date. Annex A of this document lists the main technical changes between the two editions.

Classification: ICS 75.120, CCS E39.

It is a GB standard without the /T suffix: compliance is mandatory in China.

1 Scope

This document specifies the classification and marking, requirements and test methods, inspection rules, and marking, packaging, transport, storage and delivery acceptance for L-HL, L-HM (high pressure), L-HM (ordinary), L-HV, L-HS and L-HG hydraulic oils.

This document applies to hydraulic oils used in hydrostatic hydraulic systems.

2 Normative References

The contents of the following documents constitute essential provisions of this document through normative reference. For dated references, only the edition cited applies. For undated references, the latest edition (including all amendments) applies.

GB/T 260 Petroleum products - Determination of water content - Distillation method

GB/T 261 Determination of flash point - Pensky-Martins closed cup method

GB/T 264 Petroleum products - Determination of acid number

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

GB/T 511 Petroleum, petroleum products and additives - Determination of mechanical impurities

GB/T 1884 Crude petroleum and liquid petroleum products - Laboratory determination of density - Hydrometer method

GB/T 1885 Petroleum measurement tables

GB/T 1995 Petroleum products - Calculation of viscosity index

GB/T 2433 Additives and lubricating oils containing additives - Determination of sulphated ash

GB/T 2541 Petroleum products - Tables for calculation of viscosity index

GB/T 3141 Industrial liquid lubricants - ISO viscosity classification

GB/T 3535 Petroleum products - Determination of pour point

GB/T 3536 Petroleum products - Determination of flash and fire points - Cleveland open cup method

GB/T 4756 Petroleum liquids - Manual sampling

GB/T 4945 Petroleum products and lubricants - Determination of acid and base number - Colour indicator titration method

GB/T 5096 Petroleum products - Corrosiveness to copper - Copper strip test

GB/T 6540 Petroleum products - Determination of colour

3 Terms and definitions

No terms and definitions need to be defined in this document.

4.1 Product classification

Hydraulic oil products are classified according to GB/T 7631.2 into six varieties: L-HL anti-oxidation and anti-rust hydraulic oil, L-HM (high pressure) anti-wear hydraulic oil, L-HM (ordinary) anti-wear hydraulic oil, L-HV low-temperature hydraulic oil, L-HS ultra-low-temperature hydraulic oil, and L-HG hydraulic guide way oil.

The viscosity grade classification of each variety of hydraulic oil product shall be carried out in accordance with GB/T 3141.

4.2 Product marking

Hydraulic oil marking is as follows: variety code viscosity grade product name standard number Examples:

L-HL 46 anti-oxidation and anti-rust hydraulic oil GB 11118.1

L-HM 46 (high pressure) anti-wear hydraulic oil GB 11118.1

L-HM 46 (ordinary) anti-wear hydraulic oil GB 11118.1

L-HV 46 low-temperature hydraulic oil GB 11118.1

L-HS 46 ultra-low-temperature hydraulic oil GB 11118.1

L-HG 46 hydraulic guide way oil GB 11118.1

5 Requirements and test methods

The technical requirements and test methods for each variety of hydraulic oil shall comply with the provisions of Tables 1 to 5.

6 Inspection Rules

7 Marking, Packaging, Transport, Storage and Delivery Acceptance

Annex A (Informative) Main technical changes between this document and GB 11118.1-2011

Hydraulic oils (L-HL, L-HM, L-HV, L-HS, L-HG)

WARNING - Products covered by this document may present hazards during production, storage, transport and use if appropriate precautions are not taken. This document is not intended to address all safety concerns associated with the product. It is the responsibility of the user of this document to establish appropriate safety and health measures prior to use and to determine the applicability of relevant regulatory restrictions.

6.1.1 Factory inspection

Factory inspection items include: density, kinematic viscosity, colour, appearance, viscosity index, pour point, acid number, water content, mechanical impurities, copper strip corrosion, liquid phase rust, foam characteristics, air release value, water separability, sulphated ash, flash point, saponification number, shear stability, seal compatibility index, wear scar diameter, hydrolytic stability, thermal stability, filterability, rotary pressure vessel oxidation stability test, stick-slip characteristics and gear machine test.

Among these, density, kinematic viscosity, colour, appearance, viscosity index, pour point, acid number, water content, mechanical impurities, copper strip corrosion, liquid phase rust,

foam characteristics, air release value, water separability and sulphated ash shall be subject to factory inspection on a batch?by?batch basis. For the nine test items of flash point, saponification number, shear stability, seal compatibility index, wear scar diameter, hydrolytic stability, thermal stability, filterability and rotary pressure vessel oxidation stability test, where there are no changes in raw materials or production processes that may affect product quality, testing shall be carried out at least once per year. For the three test items of oxidation stability test, stick?slip characteristics and gear machine test, where there are no changes in raw materials or production processes that may affect product quality, testing shall be carried out at least once every four years.

6.1.2 Type inspection

Type inspection items are all items specified in the technical requirements of Clause 5.

Type inspection shall be carried out under the following circumstances:

- a) When a new product is put into production or a product type is approved;
- b) When significant changes occur in raw materials, production processes, etc., that may affect product quality;
- c) When there is a large difference between factory inspection results and previous type inspection results.

6.2 Batch formation

Under the conditions of unchanged raw materials and production processes, each tank or kettle of product produced constitutes one batch.

6.3 Sampling

Sampling shall be carried out in accordance with GB/T 4756. The sample quantity shall be sufficient to meet the requirements for factory inspection or type inspection and for retained samples.

6.4 Determination rules

If the factory inspection and type inspection results comply with the technical requirements of Clause 5, the batch of product shall be judged as qualified.