

ICS 27.020

CCS J 91



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

GB/T 8243.5-2018

**Methods of test for full-flow lubricating oil filters for internal
combustion engines -- Part 5: Test for cold start simulation and
hydraulic pulse durability**

Issued on: February 6, 2018

Implemented on: September 1, 2018

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions and graphic symbols

3.1 Terms and definitions

3.2 graphic symbols

4 test work characteristics

5 test bench

Foreword

GB/T 8243 "full-flow engine oil filter test method" now includes the following sections.

- Part 1. Differential pressure - flow characteristics;
- Part 2. filter bypass valve characteristics;
- Part 3. high pressure differential and high temperature characteristics;
- Part 4. The original filtration efficiency, life expectancy and cumulative efficiency (gravimetric method);
- Part 5. cold start simulation and hydraulic pulse durability test;
- Part 6. Static pressure bursting test;
- Part 7. Vibration fatigue test;
- Part 9. Import and export check valve test;
- Part 10. oil-bearing water life and cumulative efficiency;
- Part 11. Self-cleaning filter;
- Part 12. Particle counting method to determine the filtration efficiency and capacity ash;
- Part 13. Composite material filter static pressure bursting test;
- Part 14. composite filter cold start simulation and hydraulic pulse durability test;
- Part 15. Vibration fatigue test of composite filter.

This section GB/T 8243 Part 5.

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

This Part Replaces GB/T 8243.5-2006 "Full-flow engine oil filter test methods - Part 5. Cold start simulation and liquid

Pressure pulse durability test. " Compared with GB/T 8243.5-2006, in addition to editorial changes at the main technical changes are as follows.

- Increased the accuracy of instrumentation requirements (see Chapter 7);
- Modify the cold start simulation test and hydraulic pulse durability test pressure pulse waveform (see Figure 2,.2006 edition of Figure 2);
- Test report increased the test cycle rate, test fluid and test temperature (see Chapter 9).

This section uses the translation method is equivalent to using ISO 4548-5..2013 "Full-flow engine oil filter test methods - Part 5. Cold

Start-up simulation and hydraulic pulse durability test. "

The documents of our country that are in conformity with the corresponding international documents that are normative references in this part are as follows.

- GB/T 786.1-2009 Fluid power systems and components Graphical symbols and circuit diagrams - Part 1. For general use and number

According to the processing of graphic symbols (ISO 1219-1..2006, IDT)

- GB/T 8243.1-2003 Internal combustion engine full flow oil filter test methods - Part 1. Differential pressure - flow characteristics

(ISO 4548-1..1997, IDT)

This part is proposed by China Machinery Industry Federation.

This part of the National Internal Combustion Engine Standardization Technical Committee (SAC/TC177) centralized.

This section is drafted. Shanghai Internal Combustion Engine Research Institute, Zhejiang Weitai Auto Parts Co., Ltd., Shenyang Ziwei Electrical Equipment Co., Ltd., Linhai City

Jiangnan internal combustion engine annex plant, Guangxi Huayuan Filter System Co., Ltd., Hangzhou Specialty Paper Co., Ltd., Hangzhou Fuyang North wood pulp limited

Company, Shanghai Automotive Group Co., Ltd. Commercial Vehicle Technology Center, Hangzhou Xinxing Paper Co., Ltd., Linhai Jiangnan filter limited

the company.

Drafters of this section. Shen Hongjie, Zhang Yu, Li Kunpeng, Jin Wenhua, Zhang Wen, Wu Anbo, Wu Qionghua, Qiao Liang Liang, Li Jianming, Feng Yihai,

Zhao Yubao.

This part of the standard replaces the previous editions are.

--- GB/T 8243.5-2006.

Introduction

GB/T 8243 (all parts) provides a unified test procedures for the determination of full-flow engine oil filter performance. This series of standard

The components are divided according to each part involved in a certain performance characteristics.

The entire test method provides the necessary information for assessing the characteristics of the filter, but if the user and the manufacturer agree that the entire test set

Act can also be used separately.

Full - flow engine oil filter test method

Part 5. cold start simulation and hydraulic pulse durability test

1 Scope

GB/T 8243 provisions of this part of the determination of the full-flow engine oil filter against internal pressure such as the engine at cold start

Fluctuation and in the course of work to withstand the ability of periodic changes in internal pressure test methods.

This test method is suitable for the maximum flow of not more than 100L/min spin-on filter and disposable filter disposable filter

Cleaner.

This test method is also applicable to other filters that the filter manufacturer and the buyer agree on.

Note. This test method can not replace the simulation environment test (for example, at ultra-low temperature). If the test is required, it shall be agreed between the supplier and the buyer.

2 Normative references

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

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

document.

ISO 1219-1 Hydraulic transmission systems and components - Symbols and circuit diagrams - Part 1. General purpose and data processing

Graphical symbols

(Fluid powersystems and components-Graphical symbols and circuit diagrams- Part 1.

Graphical symbols for conventional use and data-processing applications)

ISO 4548-1 Internal combustion engine full flow oil filter test methods - Part 1. Differential pressure - flow characteristics (Methodsof testfor

ful-flowlubricatingoil filtersforinternal combustion engines-Part 1. Differential pressure/flow characteristics

3.1 Terms and definitions

ISO 4548-1 defines the terms and definitions apply to this document.

3.2 graphic symbols

This part of the graphic symbols used in accordance with the provisions of ISO 1219-1.

4 test work characteristics

The filter is subjected to pressure fluctuations under cold start conditions. The test method specified in Chapter 8 is to verify the filter housing and seal

Ring Anti-Specified Number of Times Starting Condition High Pressure Fluctuation Ability.

In normal work process, the filter must also withstand the cyclic pressure changes, the test method specified in Chapter 9 is to verify the filter housing and the dense

Seal against the ability to cycle pressure cycles.

5 test bench

The test rig shall include the following components, as well as the necessary piping, fittings and brackets (see Figure 1).