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

GB/T 8243.14-2020

**Methods of test for full-flow lubricating oil filters for internal
combustion engines - Part 14: Cold start simulation and
hydraulic pulse durability for composite filter housings**

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Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms, definitions and graphical symbols

3.1 Terms and definitions

3.2 Graphical symbols

4 Test working characteristics

5 Test equipment

Foreword

GB/T 8243 "Test method for full-flow oil filter of internal combustion engine" currently includes the following parts.

- Part 1. Differential pressure-flow characteristics;
- Part 2. Characteristics of filter element bypass valve;
- Part 3. High pressure resistance and high temperature resistance characteristics;
- Part 4. Original filtration efficiency, life and cumulative efficiency (gravity method);
- Part 5. Cold start simulation and hydraulic pulse endurance test;
- Part 6. Static pressure burst test;
- Part 7. Vibration fatigue test;
- Part 9. Inlet and outlet check valve test;
- Part 12. Determination of filtration efficiency and ash holding capacity by particle counting method;
- Part 13. Static pressure burst test of composite filter;
- Part 14. Cold start simulation and hydraulic pulse endurance test of composite filter;
- Part 15. Vibration fatigue test of composite filter.

This part is Part 14 of GB/T 8243.

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

The translation method used in this part is equivalent to ISO 4548-14..2016 "Test method for full-flow oil filters of internal combustion engines.

Composite material filter cold start simulation and hydraulic pulse endurance test.

The Chinese documents that have a consistent correspondence with the normatively cited international documents in this section are as follows.

--- GB/T 786.1-2009 Graphical symbols and circuit diagrams of fluid transmission systems and components. Part 1. For general purposes and data

Graphic symbols processed (ISO 1219-1..2006, IDT);

--- GB/T 8243.1-2003 Test method for full-flow oil filter of internal combustion engine Part 1. Pressure difference-flow characteristics (ISO 4548-1..1997, IDT).

This part is proposed by China Machinery Industry Federation.

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

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Introduction

The purpose of this part of GB/T 8243 is to specify. a cold start mode for measuring the performance of a full-flow oil filter for internal combustion engines made of composite materials

Standard test procedures for fitting the hydraulic pulse endurance test.

Test method for full-flow oil filter of internal combustion engine

Part 14. Cold start of composite filters

Simulation and hydraulic pulse endurance test

1 Scope

This part of GB/T 8243 stipulates that the determination of the full-flow oil filter of an internal combustion engine whose pressure-bearing shell is made of composite materials is subject to

The ability to withstand internal pressure fluctuations and periodic internal pressure changes at operating temperatures.

This section applies to spin-on composite oil filters and detachable composite oil filters that use disposable filter elements.

2 Normative references

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

Pieces. For the cited documents without date, the latest version (including all amendments) applies to this document.

ISO 1219-1 Graphical symbols and circuit diagrams of fluid transmission systems and components. Part 1. For general use and data processing

Graphic symbols

(Fluid powersystems and components-Graphicsymbols and circuit diagrams-Part 1.

Graphicsymbols for conventional use and data-processing applications)

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

ful-flowlubricatingoil filtersfor internal combustion engines-Part 1. Differential pressure/flow characteristics)

3.1 Terms and definitions

The terms and definitions defined in ISO 4548-1 apply to this document.

3.2 Graphical symbols

The graphical symbols defined by ISO 1219-1 apply to this document.

4 Test working characteristics

During the working process, the temperature and pressure fluctuation range of the filter is wide. The test method in Chapter 9 verifies the filter housing and

The ability of the sealing ring to resist high pressure fluctuations under the specified number of starting conditions or the number of cycles of pressure fluctuations. The test can be in the full test temperature range
get on.

5 Test equipment

At the specified test temperature, the test equipment and circuit should be able to generate and repeat the pressure cycle shown in Figure 1.