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**Methods of test for full-flow lubricating oil
filters for internal combustion engines —
Part 12:
Filtration efficiency using particle counting,
and contaminant retention capacity**

*Méthodes d'essai des filtres à huile de lubrification à plein débit pour les
moteurs à combustion interne —*

*Partie 12: Efficacité de filtration par comptage des particules et capacité de
rétention des contaminants*



Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 4548 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 4548-12 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, Subcommittee SC 7, *Tests for lubricating oil filters*.

ISO 4548 consists of the following parts, under the general title *Methods of test for full-flow lubricating oil filters for internal combustion engines*:

- *Part 1: Differential pressure/flow characteristics*
- *Part 2: Element by-pass valve characteristics*
- *Part 3: Resistance to high differential pressure and to elevated temperature*
- *Part 4: Initial particle retention efficiency, life and cumulative efficiency (gravimetric method)*
- *Part 5: Cold start simulation and hydraulic pulse durability test*
- *Part 6: Static burst pressure test*
- *Part 7: Vibration fatigue test*
- *Part 9: Inlet and outlet anti-drain valve tests*
- *Part 10: Life and cumulative efficiency in the presence of water in oil*
- *Part 11: Self-cleaning filters*
- *Part 12: Filtration efficiency using particle counting, and contaminant retention capacity*

Annexes A and C form a normative part of this part of ISO 4548. Annex B is for information only.

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Introduction

ISO 4548 establishes standard test procedures for measuring the performance of full-flow lubricating oil filters for internal combustion engines. It has been prepared in separate parts, each part relating to a particular performance characteristic.

Together the tests provide the information necessary to assess the characteristics of a filter, but if agreed between the purchaser and the manufacturer, the tests may be conducted separately.