



MALAYSIAN STANDARD

MS ISO 4548-5:2005

METHODS OF TEST FOR FULL-FLOW LUBRICATING OIL FILTERS FOR INTERNAL COMBUSTION ENGINES - PART 5: COLD START SIMULATION AND HYDRAULIC PULSE DURABILITY TEST (ISO 4548-5:1990, IDT)

ISO 4548-5:1990 is endorsed as Malaysian Standard with the reference number MS ISO 4548-5:2005.

ICS: 27.020; 43.060.01

Descriptors: internal combustion engines, lubrication systems, oil filters, tests, starting test, hydraulic tests

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Committee representation

The Road Vehicles Industry Standards Committee (ISC L) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Automobile Association of Malaysia
Department of Environment Malaysia
Department of Standards Malaysia
Jabatan Pengangkutan Jalan
Malaysian Automotive Association
Ministry of International Trade and Industry
Motosikal dan Enjin Nasional Sdn Bhd
Perodua Manufacturing Sdn Bhd
Perusahaan Otomobil Nasional Berhad
Polis DiRaja Malaysia
Proton Vendor Association
Universiti Putra Malaysia
Universiti Teknologi Malaysia

The Technical Committee on Vehicle Powertrain which recommends adoption of the ISO Standard consists of representatives from the following organisations:

Angkatan Tentera Malaysia
Automobile Association of Malaysia
Jabatan Pengangkutan Jalan
Malaysian Automotive Association
MZ Motorrad Sdn Bhd
Perodua Manufacturing Sdn Bhd
Perusahaan Otomobil Nasional Berhad
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
UMW Auto Parts Sdn Bhd
United Autofilters Industries (M) Sdn Bhd
United Filters Sdn Bhd
Universiti Teknologi Malaysia

NATIONAL FOREWORD

This adoption of the ISO Standard was recommended by the Technical Committee on Vehicle Powertrain under the authority of the Road Vehicles Industry Standards Committee.

This Malaysian Standard is identical with ISO 4548-5:1990, *Methods of test for full-flow lubricating oil filters for internal combustion engines – Part 5: Cold start simulation and hydraulic pulse durability test*, published by the International Organization for Standardization (ISO). However, for the purposes of this Malaysian Standard, the following apply:

- a) inclusion of Table A.1 designation "Pressure and number of cycles in the cold start simulation test and the hydraulic pulse durability test for the chosen category of filter" in Annex A;
- b) in the source text, "this International Standard" should read "this Malaysian Standard";
- c) the comma which is used as a decimal sign (if any), to read as a point; and
- d) reference to an International Standard should be replaced by an equivalent Malaysian Standard as follows:

Referenced International Standards

ISO 4548-1, *Methods of test for full-flow lubricating oil filters for internal combustion engines – Part 1: Differential pressure/ flow characteristics*

Corresponding Malaysian Standards

MS ISO 4548-1, *Methods of test for full-flow lubricating oil filters for internal combustion engines – Part 1: Differential pressure/ flow characteristics*

MS 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 8: *Inlet anti-drain valve test (Withdrawn)*
- Part 9: *Inlet and outlet anti-drain valve test*

NATIONAL FOREWORD *(continued)*

- Part 10: *Life and cumulative efficiency in the presence of water in oil* (Cancelled)
- Part 11: *Self-cleaning filters*
- Part 12: *Particle retention ability and contaminant holding capacity using particle counting*

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

INTERNATIONAL STANDARD

ISO
4548-5

First edition
1990-12-01

Methods of test for full-flow lubricating oil filters for internal combustion engines —

Part 5:

Cold start simulation and hydraulic pulse
durability test

*Méthodes d'essai des filtres à huile de lubrification à passage intégral
pour moteurs à combustion interne —*

*Partie 5: Essais de simulation de démarrage à froid et de résistance aux
impulsions hydrauliques*



Reference number
ISO 4548-5:1990(E)

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.

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.

International Standard ISO 4548-5 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

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: Pressure drop/flow characteristics*
- *Part 2: Element by-pass component characteristics*
- *Part 3: Resistance to high pressure drop 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 8: Inlet anti-drain valve test*
- *Part 9: Outlet anti-drain valve tests*
- *Part 10: Presence of water in oil*

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