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Diesel engines — Fuel filters — Method for evaluating fuel/water separation efficiency

*Moteurs diesels — Filtres à carburant — Méthode d'évaluation de
l'efficacité des séparateurs carburant-eau*



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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 2.

The main task of technical committees is to prepare International Standards. 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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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

ISO/TS 16332 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

Annexes A and B form normative parts of this Technical Specification. Annexes C and D are for information only.

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Introduction

Modern fuel injection systems, installed in passenger cars, as well as in heavy duty or off-road vehicle applications, require high and stable separation efficiencies for all insoluble contaminants in the fuel to ensure a prolonged life. Beside solid contamination, undissolved water, in finely or coarsely emulsified form, can also reduce the lifetime of injection systems. Suitable fuel filters, having a high level water separation efficiency, are an absolute necessity for system longevity.

Factors found to affect the separation efficiency of undissolved water in the field are mainly due to the fuel quality, which is strongly influenced by the performance of additives in the fuel itself, as well as the actual characteristics of the fuel/water-emulsion, the specific flow rate of the system, the type of media in the filter element, as well as the size and design of the filter housing itself. To ensure laboratory test results are comparable, these various parameters have to be taken into account in the test method, in order to reduce their influence on the test results.

NOTE A variety of tests were investigated prior and parallel to the preparation of this Technical Specification to specify the required test conditions. Additional work is underway to validate, confirm and if necessary to modify the following parameters:

- test fuel (5.1.1);
- water concentration of 1 500 ppm (6.4);
- volume of fuel (6.1);
- total test duration t_{total} (6.6).

At the time of publication of this Technical Specification, interlaboratory tests are being organized to establish the repeatability and reproducibility of the results.