

Road vehicles — Air filters for passenger compartments —

Part 2: Test for gaseous filtration

ICS 43.040.60

National foreword

This Draft for Development reproduces verbatim ISO/TS 11155-2:2002.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature because technology in this area is still being developed and this document provides a basis on which industry can work. It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the international organization responsible for the Technical Specification. A review of this publication will be initiated not later than 3 years after its publication by the international organization so that a decision can be taken on its status at the end of its 3-year life. Notification of the start of the review period will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into an international standard, to extend the life of the Technical Specification for another 3 years or to withdraw it. Comments should be sent in writing to the Secretary of BSI Subcommittee MCE/21/2, Air filters for air supply to I.C. engines and compressors – not on aircraft, at British Standards House, 389 Chiswick High Road, London W4 4AL, giving the document reference and clause number and proposing, where possible, an appropriate revision of the text.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Part 2: Test for gaseous filtration

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Partie 2: Essai pour le filtrage des gaz



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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.

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;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years with a view to deciding whether it should be confirmed for a further three years, revised to become an International Standard, or withdrawn. In the case of a confirmed ISO/PAS or ISO/TS, it is reviewed again after six years at which time it has to be either transposed into an International Standard or withdrawn.

Attention is drawn to the possibility that some of the elements of this part of ISO/TS 11155 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 11155-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

ISO/TS 11155 consists of the following parts, under the general title *Road vehicles — Air filters for passenger compartments*:

- *Part 1: Test for particulate filtration*
- *Part 2: Test for gaseous filtration*

Annex A forms a normative part of this part of ISO/TS 11155. Annexes B, C and D are for information only.

Road vehicles — Air filters for passenger compartments —

Part 2: Test for gaseous filtration

1 Scope

This part of ISO/TS 11155 specifies a test comprising several methods for measuring the dynamic gas adsorption of air filters in the passenger compartments of road vehicles. These laboratory test methods are applicable to air filters that improve air quality by reducing concentrations of gaseous, odorous or hazardous components from ambient or recirculated air, or both, in the vehicle cabin. They provide a means of measuring air pressure loss, as well as gas and vapour removal characteristics.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/TS 11155. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/TS 11155 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/TS 11155-1, *Road vehicles — Air filters for passenger compartments — Part 1: Test for particulate filtration*

ISO 11841-1, *Road vehicles and internal combustion engines — Filter vocabulary — Part 1: Definitions of filters and filter components*

ISO 11841-2, *Road vehicles and internal combustion engines — Filter vocabulary — Part 2: Definitions of characteristics of filters and their components*

3 Terms and definitions

For the purposes of this part of ISO/TS 11155, the terms and definitions given in ISO 11841-1 and ISO 11841-2, and the following apply.

3.1

test air flow rate

volume of air passing through the test duct per unit time

NOTE It is expressed in actual cubic metres per hour unit time.

3.2

pressure loss

difference in static pressure measured upstream and downstream of the filter at a specified flow rate

NOTE It is expressed in pascals.

3.3

contaminant

unwanted constituent dispersed in air

3.4

concentration

mass quantity of one constituent dispersed in another

NOTE It is generally expressed as the mass of contaminant/volume air in milligrams per cubic metre or volume contaminant/volume air in parts per million by volume. See annex D.

3.5

influent air

cleaned air used to dilute contaminants and produce the challenge gas

3.6

challenge gas

homogeneous mixture of influent air and contaminant used to challenge the filter

3.7

challenge gas concentration

ratio of the mass (or volume) of test contaminant per volume of influent air measured under specified conditions

NOTE It is expressed in milligrams per cubic metre or parts per million by volume. See annex D.

3.8

test gas mass

total mass of test contaminant (m_T) to which the filter is exposed

NOTE It is expressed in milligrams.

3.9

influent concentration

C_1
homogeneous challenge gas concentration measured before (upstream of) the filter

NOTE It is expressed in milligrams per cubic metre or parts per million by volume. See annex D.

3.10

effluent concentration

C_2
homogeneous challenge gas concentration measured after (downstream of) the filter

NOTE It is expressed in milligrams per cubic metre or parts per million by volume. See annex D.