BS ISO 17536-1:2015+A1:2021

BSI Standards Publication

Road vehicles — Aerosol separator performance test for internal combustion engines

Part 1: General

bsi.

National foreword

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Road vehicles — Aerosol separator performance test for internal combustion engines —

Part 1: General

Véhicules routiers — Essai de performance du séparateur d'aérosols pour les moteurs à combustion interne —

Partie 1: Généralités

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Foreword

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The committee responsible for this document is Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 34, *Propulsion, powertrain and powertrain fluids*.

ISO 17536 consists of the following parts, under the general title *Road vehicles — Aerosol separator performance test for internal combustion engines*:

— *Part 1: General*

— *Part 3: Method to perform engine gravimetric test* [Technical Specification]

The following parts are under preparation:

— *Part 2: Laboratory gravimetric test method* [Technical Specification]

— *Part 4: Laboratory fractional test method*

— *Part 5: Method to perform engine fractional test* [Technical Specification]

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Introduction

Engine crankcase blowby is composed of combustion exhaust gases which have escaped to the crankcase via piston ring seals and lube oil aerosols generated by thermal and mechanical action within the engine. These gases need to be vented from the crankcase to prevent a build-up of high pressure. The constituents of vented engine blowby gases are recognized as an undesirable contaminant and technology for their containment is therefore evolving.

The device used to separate oil aerosols from the blowby typically releases cleaned gases to atmosphere or alternatively returns the cleaned product to the combustion process by feeding into the engine air intake prior to the turbo compressor (if present). The latter has led to the requirement for a pressure control device to isolate the engine crankcase from air intake pressure.

The engine test methods presented in ISO 17536 are general guidelines for performing an engine test.

Annexes A to I specify general and common provisions for aerosol separator performance test.

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INTERNATIONAL STANDARD **ISO 17536-1:2015+A1:2021**

Road vehicles — Aerosol separator performance test for internal combustion engines —

Part 1: General

1 Scope

This part of ISO 17536 specifies general conditions, defines terms and establishes the basic principles for blowby oil aerosol separator performance tests by laboratory or engine and gravimetric or fractional test method.

2 Terms, definitions, symbols and units

2.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1.1
blowby
aerosol produced from engines and released through a crankcase vent

2.1.2
oil carryover
total amount of liquid oil captured in the downstream wall flow trap

2.1.3
filter element
replaceable part of the crankcase system, consisting of the filter material and carrying frame

2.1.4
crankcase ventilation system
device which separates oil and particles from the engine blowby before venting to either the engine (closed crankcase ventilation, CCV) or the environment (open crankcase ventilation, OCV)

2.1.5
differential pressure
difference in static pressure measured immediately upstream and downstream of the unit under test

2.1.6
pressure loss
measure of the loss of aerodynamic energy caused by an aerosol separator at the observed air flow rate due to different flow velocities at the measuring point:

Note 1 to entry: It is expressed as the differential pressure corrected for any difference in the dynamic head at the measuring points

Note 2 to entry: For further information, see Annex A.

2.1.7
wall flow trap
device to capture oil that is flowing along the walls

Note 1 to entry: The wall flow trap design is drawn in Figure I.2.

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